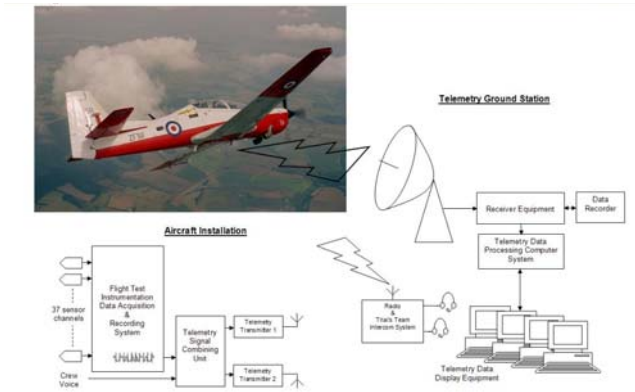
Telemetry Systems

- Aircraft & Test Vehicle Trials Support
- Data Viewing & Analysis in Real-Time
- Telemetry System Design
- Systems Configured to IRIG-106 Telemetry Standards

QinetiQ Telemetry Systems at MOD Boscombe Down has capability to provide radio telemetry design expertise and also a comprehensive telemetry ground station which is routinely used for military aircraft test and evaluation and test pilot training.

Telemetry enables the real-time transmission of data from a test vehicle to the ground. It allows users to conduct safe, effective and efficient tests by displaying and analysing data in real-time. The data is recovered, processed and recorded by the ground receiving station and may be displayed in many visual formats using the QinetiQ Graphical Data Analysis System (GDAS). Processed data may be easily exported, post test, in a portable file format.

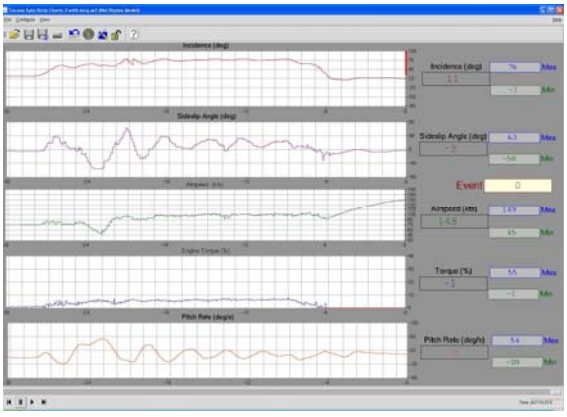


Facility Capabilities

Having an extensive range of test equipment, practical engineering experience and expertise Telemetry Systems can provide specialist support for configuration and commissioning of airborne and ground station telemetry systems.

The telemetry ground station comprises an air conditioned control room, laboratory/workshop and office accommodation together with a receiving aerial site. Installed at this site is a high gain 2.4 metre dish auto-track aerial system inside a protective radome along with other secondary aerial arrays.

The ground station has the capability to support analogue FM/FM, analogue/digital PCM/FM/FM or digital PCM/FM and uses NATO designated D and E radio spectrum band allocations. The telemetry equipment generally conforms to the US RCC IRIG-106 telemetry standard.



The volume of airspace available for telemetry operation on designated frequency channels cover ground level to 50,000 feet and a range of 100 nautical miles. A display feed from the airfield Secondary Surveillance Radar provides current flight information for the aircraft being monitored. The ground station system architecture has been designed to allow for long-term expansion and flexibility which is required to meet projected telemetry requirements for future aircraft projects and student training. An air conditioned mobile telemetry ground station is also available to meet trials requirements at detached flying locations.

Recent examples where telemetry has been used include monitoring of the Harrier Vectored-thrust Aircraft Advanced flight Control (VAAC) hover trials and coverage for Harrier extended cross-wind clearance, and also the Empire Test Pilots' School student flying exercises for aircraft spinning and helicopter lever delays.

Experience of configuring and supporting 'single shot testing' telemetry systems is also available and an example of this has been for airborne stores delivery trials.

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 video and audio recordings. 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.

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