

### Fly-by-Light



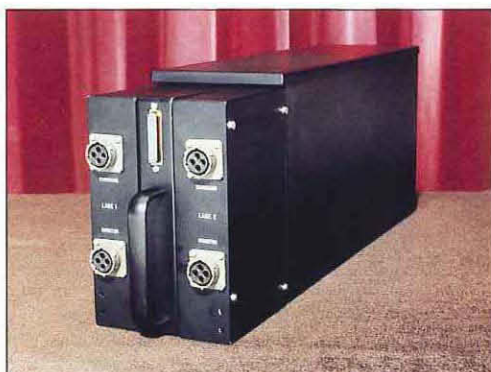
The Airship Industry SKYSHIP 600 represents the modernisation of a mature form of air transport. Incorporated in the Skyship 600 is an advanced technology flight control system which has established the feasibility of

#### “FLY-BY-LIGHT”

Fly-by-Light (FBL) has been pioneered by GEC Avionics and over the last 15 years has been developed as a logical progression from Fly-by-Wire (FBW). A FBL system has been successfully flown by Airship Industries with tried and tested control and monitoring computing principles being applied via fibre optic cables to control the surface actuator drive electronics.



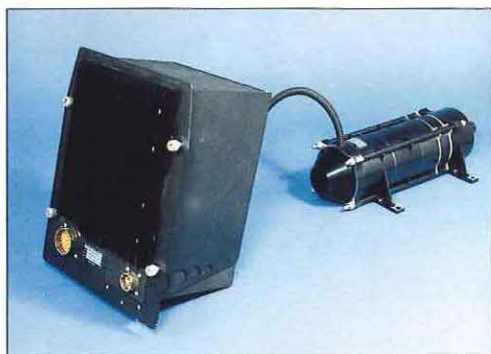
The pilot interface with the system is via a control column giving pitch and yaw control, the signals being processed to control the surface actuator drives in response to the pilot commands. A gondola mounted Pilot Monitor Panel provides lane selection commands to a digital computer and also acts as a status indicator of the automatic system.



FBL is implemented in the data transmission process between the digital computer and the control surface actuator electronics. Signals are initially processed in conventional digital shaping circuits and then converted into optical data signals suitable for transmission along fibre optic cables. Received optical signals are reconverted for processing either by the control surface actuator drive unit electronics or the flight control computer electronics. Multiplexing enables command data and monitor status to be transmitted along the same data path.

Fly-by-Light for Skyship provides the following advantages:

- a high immunity from lightning strike and other sources of electromagnetic interference, even without the protection of the more traditional “Faraday Cage”.
- a significant weight reduction in the requirements of the Flight Control System.
- elimination of alignment flexing associated with mechanical control runs.



As a logical extension of Skyship 600, the United States Navy is developing a much larger dirigible, termed the Operational Development Model (ODM), which utilises a more advanced version of the GEC Avionics Fly-by-Light system with full 3-axis stabiliser and multi-mode autopilot.

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# GEC AVIONICS



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