

# *Optical Helmet Tracking System*

- *No cockpit mapping*
- *No user boresighting or calibration*
- *Unaffected by sunlight and artificial lighting*
- *High accuracy (<6 mrad rms)*
- *High resolution (1 mrad rms)*
- *Fast update rate (200Hz)*
- *Low latency (<10 mS)*
- *6 degrees of freedom*
- *Unlimited angular range*
- *Large head motion box*



**GEC-Marconi**

## Optical Helmet Tracking System

The GEC-Marconi Avionics Optical Helmet Tracking System is now specified for the EF2000 Integrated Display Helmet. Tracking is fast, accurate and is neither affected by metal structures, nor by ambient light (including full sunlight).

The installation of the system is flexible and can be readily adapted to the available locations for the optical sensors in any cockpit. No cockpit mapping is necessary and aircraft to aircraft tolerances of the sensor mountings can be compensated if required.

### Tracker Operation

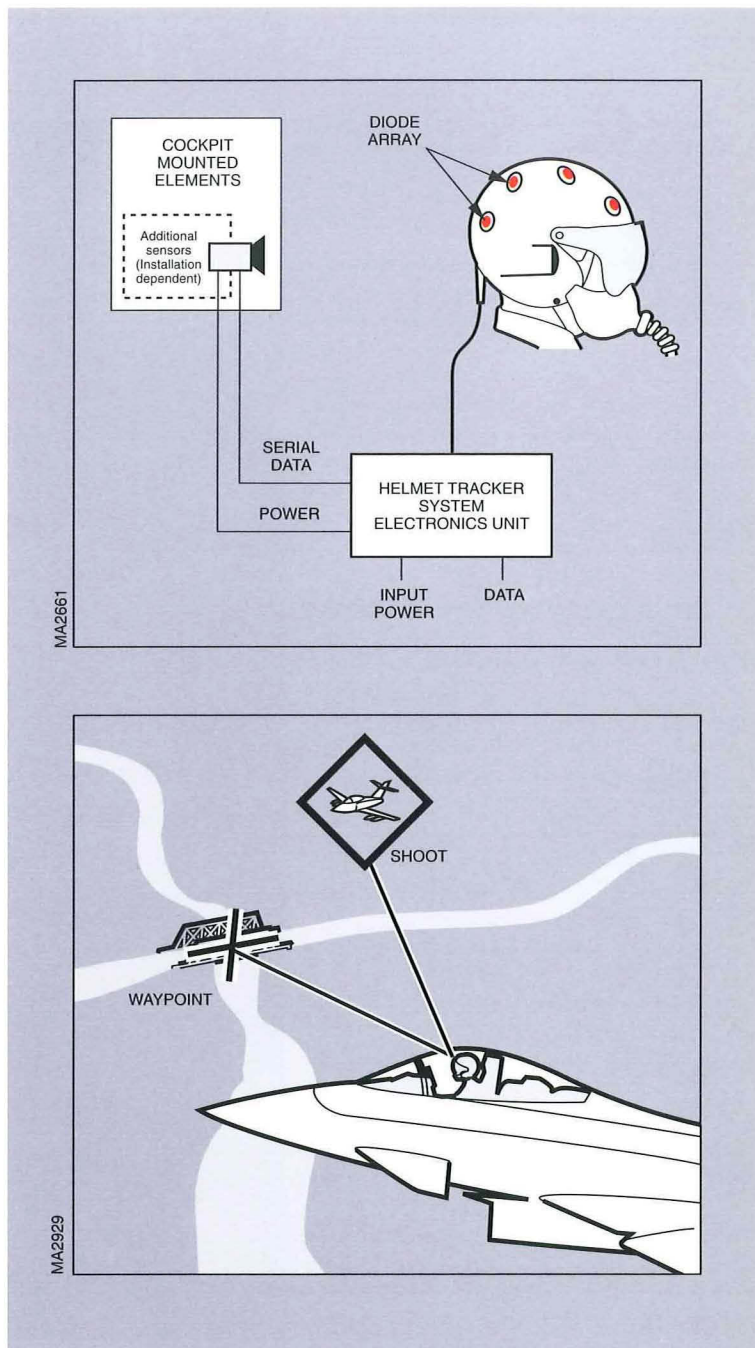
One or more optical sensors located rigidly on the aircraft structure detect the position of a group of miniature infra red emitting diodes (IREDs) mounted on the surface of the helmet. The system controls energisation of the IREDs and their relative positions are used to calculate helmet orientation. No alignment or boresighting is required after initial installation of the system into the aircraft.

### Tracker Electronics

The system electronics can be supplied as a stand alone unit (for example packaged as a  $\frac{1}{4}$  ATR box) or as a card set for integration into an existing electronics unit or host computer.

### Other Applications

The Optical Tracker may also be used in applications where high precision, rapid tracking of an object is required in both military and civil environments.



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