GEC AVIONICS
Combat Aircraft Controls Division

PHOENIX

Battlefield Surveillance and Target Acquisition System

The Phoenix System

Phoenix Air Vehicle

Ground Data Terminal

Ground Control Station

Phoenix has been selected for the British army. It brings an advanced real time surveillance system to operational reality. Phoenix has been developed by GEC Avionics, leading a team of multi-disciplined subcontractors, in response to a Ministry of Defence contract for a Battlefield Surveillance and Target Acquisition system.

Phoenix provides the following features:

- **24 hour real-time thermal imagery with zoom capability.**
- **Simple system operation - no piloting skills required.**
- **Greater than 50km radius of operation.**
- **Endurance exceeding 4 hours.**
- **Accurate target location.**
- **Comprehensive Built In Test (BIT) facilities and Integrated Logistic Support package.**
- **Fully mobile system for rapid response and operational flexibility.**

Principle operational units of the system comprise:

Recoverable Air Vehicle

- **Separate taxi and mission pod providing alternative role capabilities.**
- **High vehicle survivability through low detectable signatures.**
- **Programmable/autonomous flight control and navigation.**
- **Modular construction for rapid assembly and disassembly.**
- **Accurate parachute recovery.**

Ground Data Terminal (GDT)

Provides a mobile two-way high security data link between the Air Vehicle and Ground Control Station. The GDT can be located up to 1km from the GCS to provide optimum positioning for maximum coverage.

Ground Control Station (GCS)

The GCS provides full environmental crew and equipment protection against EMP and NBC threats. Workstations are provided for: Mission Control, Air Vehicle Control, and Sensor Image Analysis. All workstations are interchangable and have optimised menu driven displays for simplicity and minimised workload in high stress situations. Multi-scale digital maps are available to all workstations showing Air Vehicle and target location.

Air Vehicle control is simplified by using autonomous and commanded flight modes requiring no piloting skills. The sensor is controlled directly from the GCS and has several automatic sensor pointing modes to further simplifiy the task of target detection, recognition and identification.

The Ground Control Station utilises a MIL-STD-1553B data bus supported by 32 bit processors and customised operational software to provide a robust and flexible system architecture.

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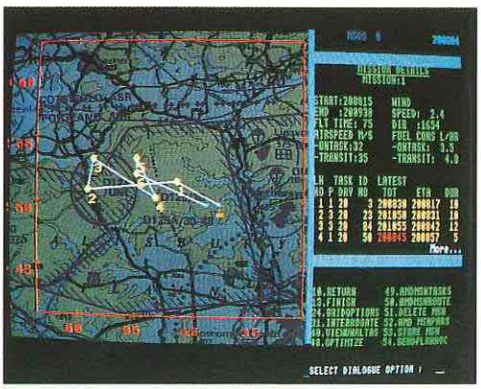
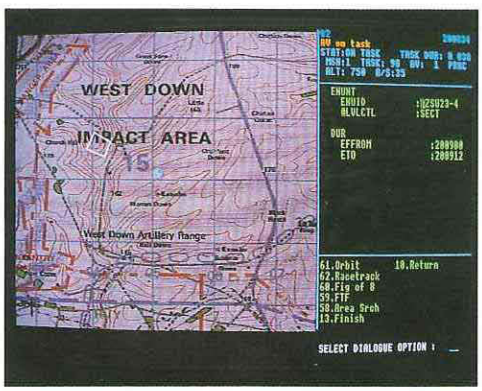
Mobile Launcher



Mission Control Workstation Display



Air Vehicle Controller workstation display

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Launch and Recovery

The Air Vehicle is launched from a mobile hydraulic/pneumatic launcher to provide maximum operational flexibility. Operated by a crew of two, the Air Vehicle can be assembled, tested, loaded and launched in a short time.

During the mission planning stage the landing site is pre-programmed and can be changed at any time during the mission

Parachute recovery is used for maximum survivability to the payload pod. A crushable shock absorber on the Air Vehicle further reduces landing forces. The landing point can be determined to within a few tens of metres, after which the Air Vehicle is dismantled and loaded into two purpose built cradles housing the taxi and pod.

After transportation back to the launch site the Air Vehicle can be quickly reassembled, checked and refuelled ready for the next flight.

Support Equipment

Battlefield support is provided by a Launch Support Vehicle carrying spare air vehicle taxis, mission pods and operational replacement spares such as the shock absorbers and parachutes. Air Vehicles are stored in battlefield containers and can be tested in position before assembly.

A mobile Forward Maintenance Facility supports all subsystems ensuring rapid repair and maintenance of all major elements of the system. Support Publications and Special-to-Type Test Equipment provide comprehensive support at both Organisational and Field level.

Phoenix Roles

The primary role for Phoenix is surveillance and target acquisition. The current Thermal Imager provides the optimum sensor for this task providing a true day and night capability. This configuration makes the system suitable for civilian roles including:

- ❑ **Border patrol/surveillance**
- ❑ **Coastal Patrol**
- ❑ **Forestry patrol**

The flexibility of the separate mission pod enables the Air Vehicle to carry a large range of different payloads giving the system a multi-role capability. Alternative payloads include: TV, Low Light TV, Radar, Laser designator, EW suites.

Alternative roles for Phoenix could include:

- ❑ **Laser Target designation**
- ❑ **Communications relay**
- ❑ **Battle damage assessment**
- ❑ **Electronic warfare**
- ❑ **Radar surveillance**

This brochure is intended only to give a general impression of the products and services which are available and none of the descriptions contained herein shall form part of any contract.

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