

GEC AVIONICS

Selected for
RAF Tornado

SPARTAN



... no need to tell them
you're dropping in...

SPARTAN

Terrain Reference

SPARTAN is a highly accurate, flight proven automatic navigation and terrain following system to enable low level covert operations.

SPARTAN reduces cockpit workload and greatly improves mission effectiveness.

Under development for over a decade and extensively flight trialled on a variety of low level aircraft, including Tornado, A6E

Intruder and F16 AFTI, SPARTAN has been selected by the Ministry of Defence (UK) for the RAF's Tornado mid life update.

The elevation profile of the terrain overflown is measured by a series of covert radar altimeter samples. This profile is compared with an on-board digital terrain database to provide rapid and continuous position fixes.



Ridge line enhanced Head Up Display ▲



▲ Covert Approach Display

▼ Tornado



Advanced Navigation and Terrain Following System

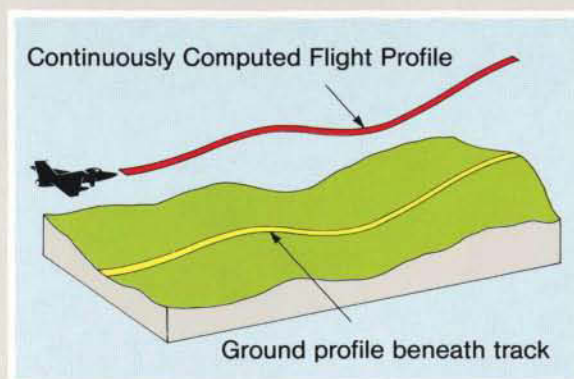
Once an accurate navigational position has been achieved, SPARTAN 'looks ahead' in the database and calculates a mission optimised terrain following flight path, which can be followed either manually, using the pilot's flight director, or automatically via the aircraft autopilot.

Simultaneous, comprehensive internal monitoring is carried out to ensure a high level of integrity is maintained at all times.

The SPARTAN system is available now for fixed and rotary wing aircraft and missile applications

SPARTAN offers the following:-

- Rapid accurate navigational fixing every 2 seconds
- Covert, passive terrain following
- High tolerance to database errors
- High resistance to ECM
- 24 hour all weather capability
- Ability to 'see' around curved tracks and through hills
- Automatic operation to reduce cockpit workload
- Rugged, solid state digital terrain database store
- Rapid first line database reprogramming capability
- Automatic ground proximity warning and avoidance
- Obstruction cueing and ridge line enhancement displays



▲ Calculation of the Terrain Following Flight Profile

▼ F16 AFTI

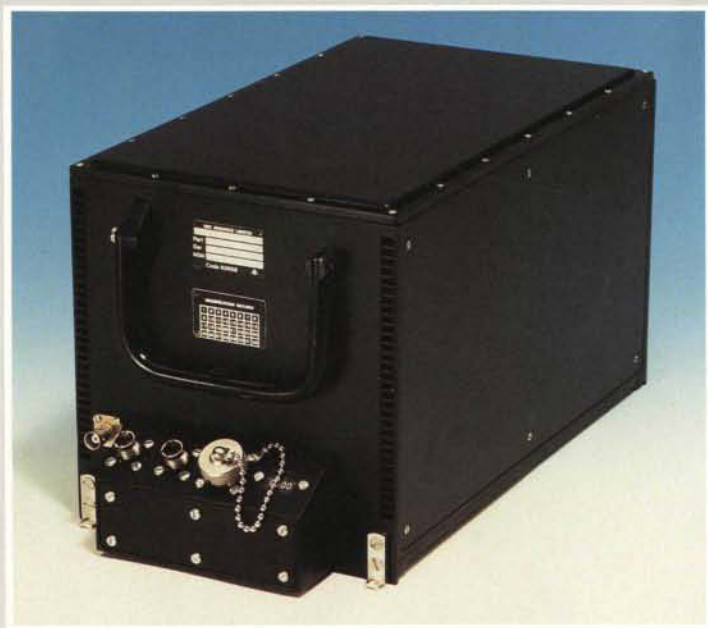


SPARTAN can be produced as a stand alone equipment. SPARTAN may be combined with the Digital Colour Map Generator to form GEC Avionics Digital Terrain System or alternatively it is available as an element of GEC's comprehensive Total Terrain Avionics (T²A) System.

The SPARTAN system pictured below is housed in a ¾ ATR short LRU and contains a digital terrain database in excess of 600,000 square kilometres.

High MTBF - in excess of 3000 hours

Low power consumption - less than 100 watts.



Systems can be tailored to individual customer specifications.

This document gives only a general description of the product(s) and shall not form part of any contract. From time to time changes may be made in the product(s) or in the conditions of supply.

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We are Europe's leading producer and exporter of aviation electronics, supplying the world's most demanding markets, notably the USA, with high technology systems. These serve seventy nations worldwide, at sea, on land and in the air.