

Digital Colour Map

GEC AVIONICS



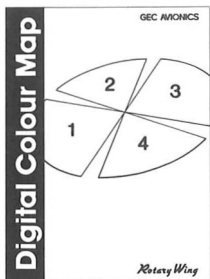
Rotary Wing

Digital Colour Map for rotary wing aircraft

The Digital Colour Map Unit (DCMU) as part of an onboard navigation mission system reduces pilot workload and increases mission effectiveness. Displayed on a colour Head Down Display or Helmet Mounted Display the image rotates and scrolls smoothly relative to the helicopter's movements.

Facilities:-

- Instant scale change
- Zoom
- Display freeze
- Mark points of interest
- Look ahead/slew modes
- Night/day colour palettes
- Declutter
- Mission and Intelligence overlay
- Dynamic relative height information
- Threat position and intervisibility
- 2D and perspective displays
- Route planning



Front:
Examples of DCMU output
from the various data sources.

- 1 Digitised Chart
- 2 Vector Data
- 3 Digitised Chart with Overlay
- 4 Perspective Display (DTED)



Slope Angle Shading ▲

Database Sources

These can be vector or pixels or a mixture of both eg

- DMA's DTED, DFAD, ADRG
- UK's SRP1 (2), PAC(E)
- Digitised feature planes/paper charts
- Satellite imagery
- Photographs, computer graphics
- Any other vector or pixel database

Storage Medium

The DCMU comprises a map manipulator and mass memory. The memory medium can be: solid state (ie UVEPROMS, EEPROMS, QPROMS), optical disc, magnetic disc or customer memory unit.

The DCMU is tailored to meet customer requirements eg

- Single ½ ATR LRU containing map manipulator and database
- Weight 18.5 lbs (8.4 Kgms)
- Power consumption 60W
- Area of coverage 250 sq ft of chart
- On line update of database
- Rugged, reliable

If required the database may be held on a remote mass memory unit eg optical disc.

The DCMU can interface with MIL-STD 1553B, STANAG 3910 or ARINC 429 etc, and provide a video output of 525 lines 60Hz or 625 lines 50Hz.

The database may be shared with other terrain referenced avionics eg Terrain Referenced Navigation, Passive Terrain Following, Threat Avoidance/Terrain Avoidance which together with the map form the GEC Avionics Digital Terrain System (DTS).

The above functions may be treated independently or combined in a single ¾ ATR using a common external mass memory unit. DTS forms part of GEC Avionics Total Terrain Avionics (T²A) concept. See separate leaflets.

Successful extensive flight trials of the DCMU in fixed and rotary wing aircraft in the USA and UK have led to GEC Avionics winning the production contract for the RAF's Harrier GR7 digital map. In particular the DCMU has been successfully operating in a Wessex helicopter at the Royal Aerospace Establishment Bedford since 1984 as part of their mission system. It has exhibited high reliability in the severe helicopter environment. GEC Avionics also have the production contract to supply the DCMU for the British Army's Phoenix RPV Ground Station.

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