

The PA5495 Radar Altimeter provides height data on the shortest distance between the altimeter and the underlying terrain for heights from 0 to 5000 feet.

The altimeter uses a dual leading edge tracker to ensure tracking of the nearest object. Continuous automatic monitoring of the system ensures high reliability with accurate height indication down to 0 altitude.

RADAR ALTIMETERS

The PA5495 Radar Altimeter operates in mid J-Band (US Ku-Band) using microwave Field Effect Transistor (FET) technology. Software controlled signal processing techniques are used to enable reliable performance to be achieved to 5000 feet with a transmitter power of only 1 Watt. Surface mount technology is used to give a low volume, high reliability package. Separate antennas are provided to be compatible with existing C-Band installations.

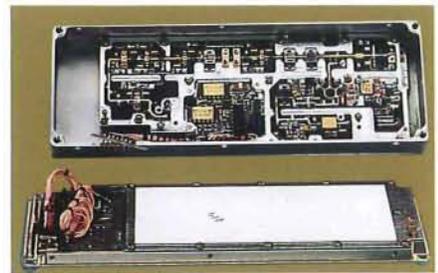
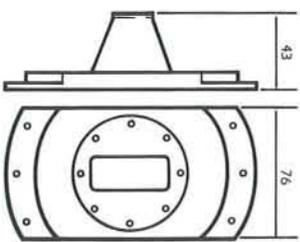
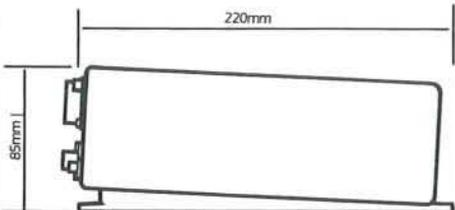
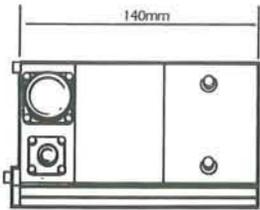
- **For advanced aircraft, helicopters, missiles, RPVs and drones**
- **Operates in J-Band (US Ku-Band)**
- **Slot-in replacement for C-Band Systems**
- **Superior accuracy and resolution 0 to 5000 ft**
- **Excellent hover performance**
- **Analogue output**
- **Adaptable design for specific requirements**
- **Low cost of ownership and installation**



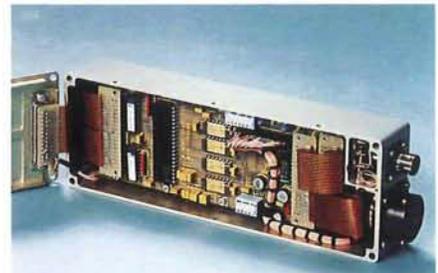
PA5495

Electronic Systems Division

(A Division of Marconi Defence Systems Limited)



Microwave module



Power Supply Module



Signal Processor Module

Advantages of J-Band

High antenna isolation
 Predictable installed performance
 No fading during low altitude hover
 Tracks top of snow and ice covered terrain
 Tracks terrain culture if required (tree tops, pylons, etc)

Advantages of Pulsed Systems

Track nearest object
 No averaging over the radar footprint
 Minimal slant range errors
 No height errors due to doppler shift
 Low average power

PA5495 Construction

Modular construction - three independent replaceable modules
 Ease of maintenance and logistic support
 High reliability Surface Mount Device (SMD) assemblies

PA5495 Interface

The output interface is contained on one printed circuit board (pcb) within the signal processor module. For different interfaces only this one pcb is replaced. Interfaces which can be implemented include:
 ARINC 429
 RS422/RS232
 Full analogue compatibility with standard indicators
 Analogue outputs for autopilots
 Discrete I/O for 'push-to-test', altitude warnings and special functions
 With the flexibility of software control, many special functions can be added including radio silence and height blanking for helicopter underslung loads.

PA5495 Installation

Can be installed as two low profile units with no RF feeders
 No installation adjustments
 Multiple altimeter installations
 Multiple antenna installations for extended roll

PA5495 Reliability and Flight Safety

5000 hours MTBF
 98% BITE coverage
 >99% coverage of flight safety failures
 RTCA DO - 178A software

SPECIFICATION SUMMARY (Average Terrain)

Height Range
 0 to 5000ft options (can be extended)

Warm-Up
 2 seconds including operational readiness test

Accuracy
 ± (3 + 3%h)ft

Pitch
 40° roll 40° pitch to 2000ft
 30° roll 30° pitch 2000 to 5000ft
 Extended with multiple antenna installation

Track Rate
 1500ft/sec ascent
 2000ft/sec descent

Search Rate
 6000ft/sec

Power Input
 Nominal 28V DC to MIL - STD - 704D
 Maximum Consumption 26W max

Transmitter Frequency
 Mid J-Band (Navigation Aids Band)
 15.65GHz

Peak Transmitter Power
 0.01W to 1W peak (power management)

Temperature Range
 -40°C to +70°C standard
 -55°C to +90°C optional

MTBF
 5000 hours

Dimensions (Excluding Flange and Connectors)
 Length: 140mm (5.5in)
 Depth: 220mm (8.7in)
 Height 85mm (3.3in)

Weight
 4.0kg (8.8lbs) max

Qualification
 MIL-STD-810D
 MIL-STD-461B



Electronic Systems Division

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