Type 17-225

Low Profile VHF/UHF Tunable Antenna
30 MHz - 88 MHz / 118 MHz - 174 MHz / 225 MHz - 512 MHz

17-225-DS Issue 1

The most important thing we build is trust

The **17-225** is a low profile, VHF/UHF tunable antenna that operates in the frequency bands 30 MHz to 88 MHz, 118 MHz to 174 MHz and 225 MHz to 512 MHz. It is designed for use in rotary wing applications.

The antenna is configured as two separate radiating elements.

The VHF function is fulfilled by a PIN diode tuned structure. Top loading on the radome provides a capacitance which is tuned to produce a high-efficiency structure with a degree of selectivity, particularly at low FM frequencies.

The UHF element is a top loaded, broadband fan monopole positioned so as to minimise corruption from the VHF element.

The VHF and UHF antennas are combined by a contiguous diplexer exhibiting a Tchebyscheff response to a single RF connector.

The **17-225** comprises a moulded radome that incorporates metallised top loading for the VHF element, and an aluminium alloy baseplate.

Drainage holes are included to prevent the retention of moisture.

Electrical Specification

Frequency	30 MHz - 88 MHz 118 MHz - 174 MHz 225 MHz - 512 MHz
Gain	≥ -18 dBi 30 MHz ≥ -11 dBi 88 MHz -6 dBi * 118 MHz - 174 MHz 0 dBi * 225 MHz - 512 MHz * average minimum
Radiation	Nominally omnidirectional in azimuth
Power Rating	25 W max over all frequency bands
Impedance	50 ohm nominal
VSWR	< 2.5:1 over all frequency bands
Tuning Time	≤ 60 µsec to 90% tuned ≤ 100 µsec fully tuned
Polarisation	Essentially vertical when mounted vertically
Connectors	
DC	12-10P
VHF/UHF	TNC Female

Mechanical Specification

Dimensions (mm)	92.5 x 540 x 340 (maximum)
Weight (kg)	2
Mounting	20 holes fixed location

Environmental Specification

High Temperature	MIL-STD-810E, Method 501.3, Procedures I and II Continuous Operational: +55°C Intermittent Operational: +71°C Storage +85°C
Low Temperature	MIL-STD-810E, Method 502.3, Procedures I and II Operational: -40°C Storage -57°C
Altitude	MIL-STD-810E, Method 500.3, Procedures I and II Operational: 4572 m Storage 15240 m
Shock	MIL-STD-810E, Method 516.4, Procedures I and V Operational: 20 g, 11 ms, sawtooth Crash Hazard: 40 g, 11 ms, sawtooth
Vibration	MIL-STD-810E, Method 514.4, Procedure I, Category 6 F_1 = 5.4 Hz A_1 = 0.2 g peak F_2 = 21.7 Hz A_2 = 2.2 g peak F_3 = 43.4 Hz A_3 = 2.2 g peak F_4 = 65.1 Hz A_4 = 1.5 g peak W_0 = 0.001 W_1 = 0.01 f_t = 500 Hz
Temperature Shock	MIL-STD-810E, Method 503.3
Rain	MIL-STD-810E, Method 506.3, Procedure I Normal operation when exposed to driving rain
Humidity	MIL-STD-810E, Method 507.3, Procedure III 95% relative humidity at 60°C
Salt Fog	MIL-STD-810E, Method 509.3, Procedure I 48 hours exposure to 5% salt solution
Magnetic Effect	Less than 1% deflection at 300 m

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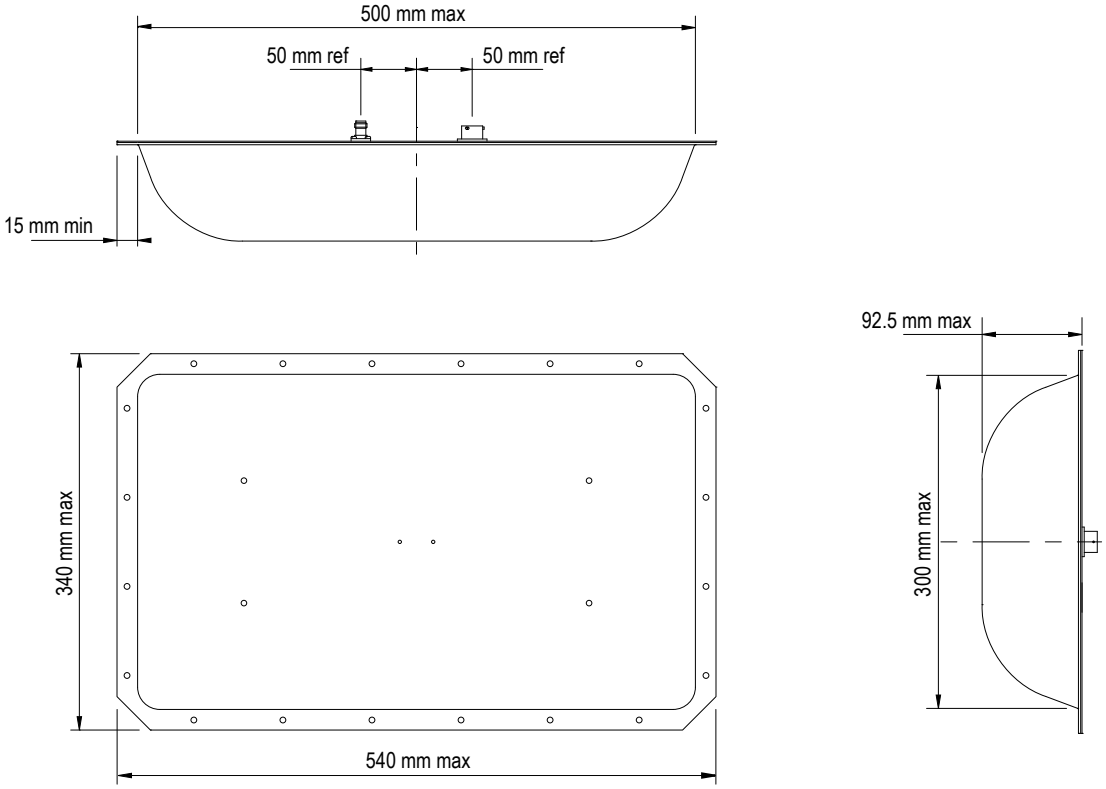

For further information please contact:

Cobham Antenna Systems
The Cobham Centre
Fourth Avenue, Marlow,
Buckinghamshire, SL7 1TF England
Tel: +44 (0)1628 472072
Fax: +44 (0)1628 482255
Email: antennasystems.marlow.marketing@cobham.com