

12-225

CHELTON

Low Profile V/UHF Antenna

The 12-225 Low Profile V/UHF Blade Antenna is designed for use with the ARC 210 radio in general subsonic applications. The antenna operates over the full VHF and UHF communications bands

30 MHz to 88 MHz, 108 MHz to 174 MHz and 225 MHz to 400 MHz.

When installed, the antenna is tuned by means of a Cobham Antenna Systems Logic Converter Unit (LCU).

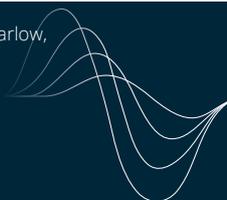
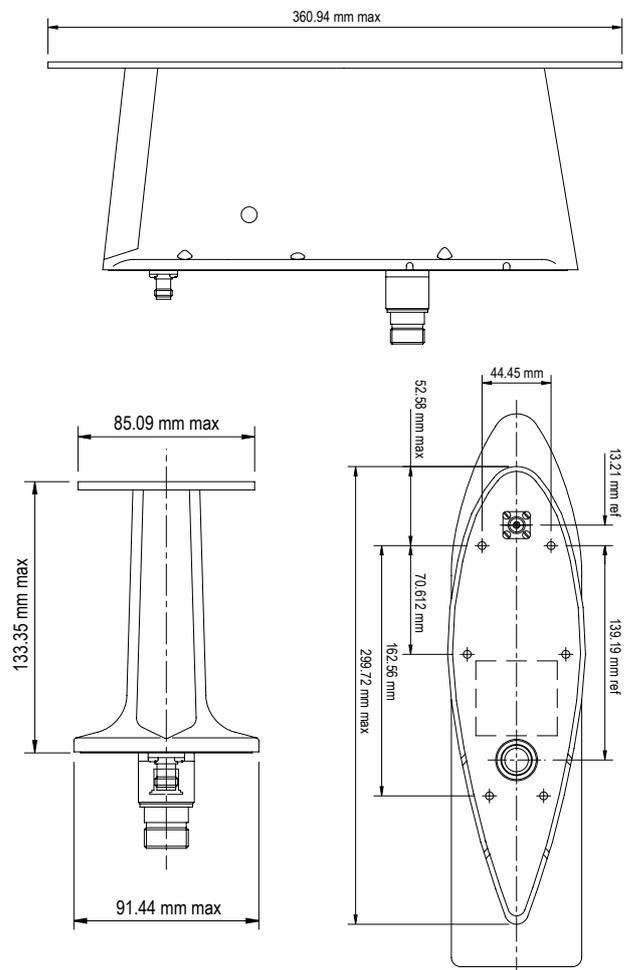
The **12-225** comprises two separate radiating structures, diplexed to a single RF connector:

The VHF functions are implemented by use of a PIN diode tuned radiating element.

The UHF performance is achieved by a pair of co-phased monopole elements on the outside of the blade.

The **12-225** comprises a moulded composite radome of aerofoil section surmounted by a flat plate which provides the tuning capacitance.

A complete **12-225** system comprises the antenna, an LCU of Type 7-163PIN160, 7-163PIN161 or 7-151/5, and a VHF transceiver such as an ARC-210.



Low Profile V/UHF Antenna

ELECTRICAL

| | | |
|--------------------------|---|-----------|
| Frequency | 30 MHz - 88 MHz 108 MHz - 174 MHz 225 MHz - 400 MHz | |
| Gain | dBi | MHz |
| | ≥ -15.0 | 30 |
| | ≥ -7.5 | 88 |
| | ≥ -3 average | 118 - 174 |
| | ≥ 0 average | 225 - 400 |
| Polarisation | Vertical (when mounted vertically) | |
| Power Handling | 23 W CW | |
| Impedance | 50 Ohms nominal | |
| VSWR | ≤ 2.5:1 all bands | |
| Radiation Pattern | Nominally omnidirectional in azimuth | |
| Connectors | RF: TNC Type Female DC: D38999 Series III | |

MECHANICAL

| | |
|---------------------------|-------------------------------------|
| Dimensions (LxWxH) | 360.94 x 133.35 x 91.44mm (maximum) |
| Weight | 1.8 kg (maximum) |
| Connector | 6 holes fixed location |



ENVIRONMENTAL

| | |
|----------------------------|--|
| Altitude | 21336 m at -54°C 15240 m at +60°C |
| Temperature | MIL-E-5400, Class 2 Operational: -54°C to +71°C Occasional: -54°C to +90°C Storage: -57°C to +95°C |
| Acceleration | MIL-STD-810D, Method 513.3, Procedure I (modified) 6 g (6 different directions) |
| Vibration | MIL-STD-810D, Method 514.3, Procedure I (modified) |
| Resonance Search: | 5 Hz - 500 Hz @0.5 g |
| Aeroplane Random: | 8 Hz - 500 Hz @ 0.02 g ² /Hz |
| Vibration Profile: | 15 Hz - 18.2 Hz @ 1.7 g pk (0.690 g ² /Hz) 30.9 Hz - 35.5 Hz @ 2.5 g pk (0.452 g ² /Hz) |
| Helicopter Random: | 8 Hz - 500 Hz @ 0.02 g ² /Hz15 |
| Vibration Profile: | 18.1 Hz - 21.6 Hz @ 2.0 g pk (0.579 g ² /Hz) 37.1 Hz - 42.1 Hz @ 2.5 g pk (0.631 g ² /Hz) |
| Shock | MIL-STD-810D, Method 516.3, Procedures I and VI |
| Humidity | MIL-STD-810D, Method 507.2, Procedure III |
| Rain | MIL-STD-810D, Method 506.2, Procedure I (modified) Rain Fall: 203.2 mm/hr (8 in/hr) Wind Speed: 72.42 kph (45 mph) |
| Dust and Sand | MIL-STD-810D, Method 510.2, Procedure II |
| Salt Fog | MIL-STD-810D, Method 509.2, Procedure I |
| Icing/Freezing Rain | MIL-STD-810D, Method 521.0, Procedure I (modified) Storage Temperature: -20°C |
| Solar Radiation | MIL-STD-810D, Method 505.2, Procedure I (modified) 5 cycles |
| Fungus | MIL-STD-810D, Method 508.3 |

