12-226

CHELTON

Low Profile V/UHF Antenna

The Type 12-226 is a high gain V/UHF antenna, of very low height, that provides for extremely efficient AM/FM communications (including secure speech frequency-hopping modes), while satisfying the twin requirements of low observability and low ground clearance as exists on a number of airborne platforms.

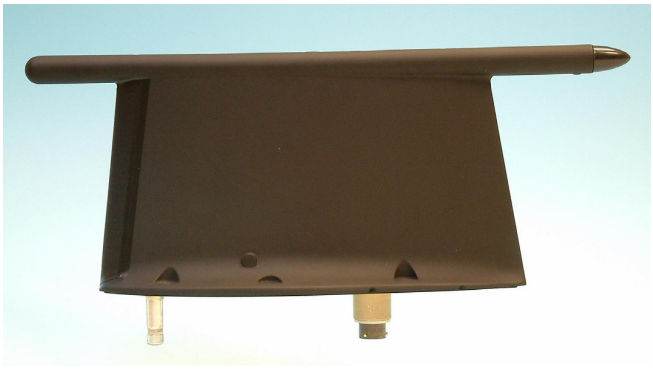
Designed and built to meet worldwide conditions of military service, the antenna is suitable for all helicopters and fixed wing aircraft operating up to MACH 1, and subject to side loading, for supersonic flight.

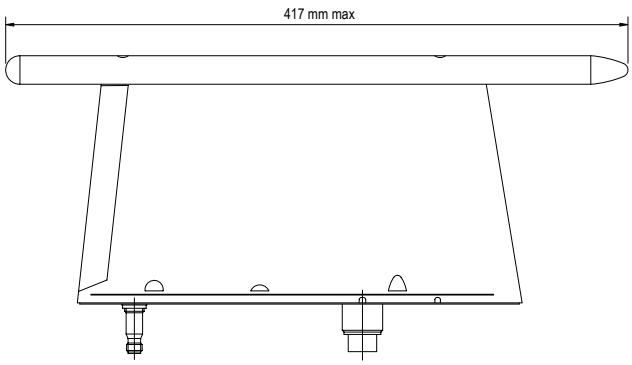
The 12-226 operates over the full VHF and UHF communications frequency bands 30 MHz to 88 MHz, 108 MHz to 174 MHz and 225 MHz to 400 MHz.

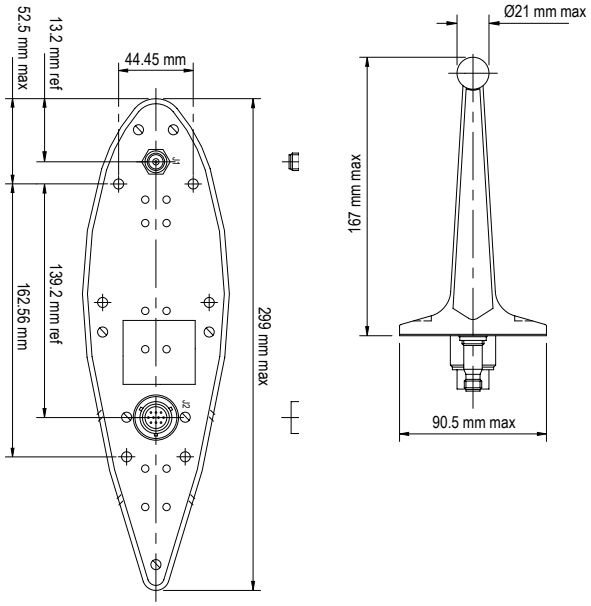
When installed, the antenna is tuned by means of a Cobham Antenna Systems Logic Converter Unit (LCU).

The antenna uses PIN diode tuning technology to maximize both gain selectivity and total operating bandwidth.

Construction uses a rugged one-piece moulded composite shell surmounted by a stainless steel top loading element. An aluminium alloy base plate provides for fixing the antenna to the airframe, and careful design of internal ribs and base-to-shell load transfer ensures very high side loading acceptance.







A complete system comprises the 12-226 antenna, an LCU, such as Type 7-AS182-22 or 7-13PIN26, and a multi-mode V/UHF transceiver, such as an ARC-182 or ARC-210.

The Chelton Centre, Fourth Avenue, Marlow,
Buckinghamshire, SL7 1TF, UK
T: +44 (0)1628 472072
E: info@chelton.com
W: chelton.com

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ELECTRICAL

Frequency	30 MHz - 88 MHz 108 MHz - 152 MHz 225 MHz - 400 MHz
Gain	dBi MHz ≥ -14 30 ≥ -7 88 ≥ -3 average 118 - 174 ≥ 0 average 225 - 400
Polarisation	Vertical (when mounted vertically)
Power Handling	15 W CW
Impedance	50 Ohms nominal
VSWR	≤ 2.5:1 all bands
Radiation Pattern	Nominally omnidirectional in azimuth
Connectors	RF: TNC Type Female DC: PT12-10P

MECHANICAL

Dimensions (LxWxH)	417 x 167 x 90.5mm (maximum)
Weight	1.35 kg
Connector	6 holes fixed location

ENVIRONMENTAL

Altitude	4572 m
Temperature	MIL-STD-810C, Method 504.1, Procedure I, Category 6 (modified) Operational: -54°C to +71°C Intermittent: +95°C Storage: -62°C to +95°C
Temperature Shock	MIL-STD-810C, Method 503.1, Procedure I (modified) -57°C to +95°C
Acceleration	MIL-STD-810D, Method 513.3, Procedure I (modified) 6 g (6 different directions)
Vibration	MIL-STD-810C, Method 514.2, Category c, Procedure I (modified) Resonance Search: 5 Hz - 2000 Hz @1 g 8 Hz - 14 Hz @ 0.02 ins pk-pk Vibration Test: 14 Hz - 33 Hz @ 2 g 33 Hz - 52 Hz @ 0.0036 ins pk-pk 52 Hz - 2000 Hz @ 5 g
Shock	MIL-STD-810C, Method 516.2, Procedures I and III
Humidity	MIL-STD-810C, Method 507.1, Procedure II
Rain	MIL-STD-810C, Method 506.1, Procedure I
Magnetic Effect	RTCA DO-160C, Section 15, Category Z Less than 1 degree at 300 mm

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