## 21-4

# CHELTON

### VHF Whip Antenna

The 21-4 antenna is a linearly polarised, monopole antenna with wide band frequency characteristics intended for general communication and homing applications.

Being of semi-rigid form, it is suitable for external fitting upon helicopters and fixed wing aircraft with a performance up to 350 kts EAS, and other similar applications. Electrical design consists of a single broad band radiating element coupled via matching circuitry to a single coaxial connector.

The **21-4** consists of a tapered glass fibre sleeve supporting a light aluminium alloy radiating element. The element assembly is fitted to a metal body carrying the coaxial connector. This arrangement allows the antenna to be installed by single hole fixing and allows orientation of the coaxial connector through 360°. The antenna can be mounted true or raked using the angled spacers provided.

#### ELECTRICAL

Frequency Range (MHz)	118 MHz - 152 MHz
Impedance	50 ohm (nominal)
VSWR	≤ 2.5:1
Radiation	Omnidirectional in azimuth (nominal) As monopole in elevation (nominal)
Gain	2 dBi (average)
Polarisation	Linear (vertical when mounted vertically)
Connector	BNC Type Female



#### **MECHANICAL**

Overall Length	562 mm (maximum)
Width of Body Base	23.37 mm (maximum) A/F
Diameter of Whip	13.2 mm (maximum)
Weight	140 g (maximum)
Mounting	Single hole self-fixing

#### **ENVIRONMENTAL**

Temperature	RTCA DO-160C, Section 4, Category B2		
and Altitude	Storage:	-55°C to +85°C	
	Operational:	-40°C to +70°C	
	Altitude:	7620 m	
Temperature Variation	RTCA DO-160C, Section 5, Category A		
Vibration	RTCA DO-160C, Section 8, Categories L, Y		
Shock	RTCA DO-160C, Section 7		
	Operational:	6 g	
	Crash Safety:	15 g	
Humidity	RTCA DO-160C, Section 6, Category C		
	Up to 95% RH up to 55%		
Magnetic Influence	RTCA DO-160C, Section 15, Class Z 0.3 m		
Waterproofness	RTCA DO-160C, Section 10, Category R		
Fluid Contamination	RTCA DO-160C, Section 11, Category F		

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