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AD-27/DB-3512 Antenna rev A Product datasheet

Product Overview

The antenna AD-27/DB- 512 is a dual-band monopole mobile VHF/UHF antenna for use in the frequency range 30 to 108MHz and 225 to 512 MHz in heavy-duty mobile applications.

The special monopole design in the radiator eliminates the requirement for the VHF grounding, allowing the antenna to be alternatively installed on a mast. The antenna is composed of two main parts: an antenna base and a radiating element. The antenna base is made of aluminium and durable plastic materials. A high-grade stainless steel spring absorbs shocks and vibrations and protects the antenna against impact. Radiating elements are made of composite materials, designed for outstanding strength and ruggedness even in harshest conditions. The antenna base has built-in surge protection. The antenna base has four mounting holes equally spaced on a 4.5" (114.3 mm) circle, which complies with NATO standards. The antenna radiator is painted with military green (RAL-6014) two-component UV resistant paint. Other colours are available on request.

Technical Specification

Electrical Specifications

Frequency range	30 - 108 MHz & 225 - 512 MHz
Impedance	50 ohms
VSWR	< 2:5
Gain	See diagram
Polarization	Linear Vertical
Radiation Pattern	Omnidirectional
Maximum power	100 W CW
Connector	N female (optional BNC)

Mechanical Specifications

Design	Monopole (30 - 108 MHz) & Dipole (225 - 512 MHz)
Height	2230 mm
Weight - antenna	4.5 kg
Max. high voltage rating	6 kV
Wind rating	45 m/s (160 km/h)
Colour	MIL Green

Electrical Specifications – GPS

Frequency range	L1: 1575.42 +/- 10 MHz or L1/L2 1575.42 / 1227.60 MHz
Impedance	50 ohms
VSWR	<2
LNA Gain / Voltage / Current	18 dB (+/- 2 dB) / 5 V / 19 mA 16 dB (+/- 2 dB) / 3.5 V / 13 mA 10 dB (+/- 2 dB) / 2 V / 7 mA
Polarization	RHC
Noise fig.	<1.5 dB
Connector	SMA female

Environmental Specifications

High Temperature - Storage	MIL-STD-810G; Method 501.5; Proc. I; +75 oC for 96h
High Temperature - Operating	MIL-STD-810G; Method 501.5; Proc. II; +65 oC for 16h
Low Temperature - Storage	MIL-STD-810G; Method 502.5; Proc. I; -55 oC for 96h
Low Temperature - Operating	MIL-STD-810G; Method 502.5; Proc. II; -40 oC for 16h
Humidity	MIL-STD-810G; Method 507.5; 10 cycles of 24 h; 95%
Solar radiation	MIL-STD-810G; Method 505.5; Proc. I; 3 cycles
Rain	MIL-STD-810G; Method 506.5; Proc. III
Icing/Freezing Rain	MIL-STD-810G; Method 521.5
Sand and Dust	MIL-STD-810G; Method 510.5; Proc. I and II
Vibration	MIL-STD 810G, Method 514.6; Proc. I
Shock-Transit Drop	MIL-STD-810G, Method 516.6, Procedure IV
Contamination by Fluids	MIL-STD-810G, Method 504.1, Procedure II (Fuels, Hydraulic Oils and Lubricating Oils acc.the Table 504.1-I.)
Oak-beam test	20 hits on 100 mm oak beam at speed 25 km/h
EMP Protection	MIL-STD 461E RS105

VERSIONS:
AD-27/DB-3512-N: VHF/UHF antenna with N female connector
AD-27/DB-3512-G-N: combined VHF/UHF (N female) and GPS L1 (SMA female) antenna
AD-27/DB-3512-G2-N: combined VHF/UHF (N female) and GPS L1/L2 (SMA female) antenna
AD-27/DB-3512-BNC: VHF/UHF antenna with BNC female connector
AD-27/DB-3512-G-BNC: combined VHF/UHF (BNC female) and GPS L1 (SMA female) antenna
AD-27/DB-3512-G2-BNC: combined VHF/UHF (BNC female) and GPS L1/L2 (SMA female) antenna

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