



21-50-20-1
Supersonic Broadband
Airborne Blade Antenna
30 to 400 MHz

FEATURES

- **High Strength Broadband Blade Antenna**
- **Passive Frequency Selective Matching Network**
- **Fully Foamed to Provide High Environmental Integrity at Supersonic Speeds**
- **Requires no external tuning**
- **Footprint Equivalent to AS-3191/A & AS-3793/A**
- **Suitable for AN/ARC-182, AN/ARC-186 and Similar Multi-Mode Radios**
- **Designed to meet MIL-STD-810 Environmental Requirements**



The 21-50-20-1 is a vertically polarized, omni-directional antenna, suitable for subsonic and supersonic aircraft, compatible with all popular airborne radios operating within the 30 to 400 MHz frequency range. The 21-50-20-1 antenna can handle 50 Watts of power and requires no external tuning.

The 21-50-20-1 is a wideband, multi-function antenna developed by Cooper Antennas Ltd and is particularly suited to tactical military communications. Rugged design ensures reliability in world wide conditions of service on aircraft operating at speeds of up to Mach 2.5+.

Use of a surface deposited radiating element optimizes efficiency. The element is DC grounded for lightning protection. Physical construction is from high temperature glass epoxy pre-preg with internal elements foamed in place with closed cell structural foam.

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SPECIFICATIONS

Cooper Antennas Model 21-50-20-1

Supersonic Broadband Airborne Blade Antenna

ELECTRICAL

Frequency	30 - 88 MHz 108 - 174 MHz 225 - 400 MHz
Gain	30 MHz ≥ - 23.0 dBi 88 MHz ≥ - 11.0 dBi 108-174 MHz -3.0 dBi average 225-400 MHz +3.0 dBi average
VSWR	≤ 2.5:1 VHF ≤ 2.0:1 UHF
Impedance (nominal)	50 Ohms
Power	50 Watts CW
Polarization	Vertical
Radiation	Azimuth : Omni-directional Elevation : As stub
Antenna RF Connector	BNC Female

MECHANICAL

Antenna Shell Type	High density foam filled epoxy/fiber glass shell with aluminium alloy surface coating. Internal circuitry uses high integrity components all within a fully sealed-up structure.
Height	14.6 inches (371mm)
Weight	4 lbs (1.82kg)
Side Loading	≥8 psi Operating limit load over -70 to +135°C (+155°C short term)
Base Plate Shape	Tear drop
Fixing Holes	6 x Ø 0.234 inches (5.9mm) holes, counter bored top side Ø 0.39 inches (9.9mm)

FINISH

Antenna	Lusterless Black Urethane
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Other finish options are available. Please specify finish required when ordering.

Note: Cooper Antennas Ltd has a policy of continuous product improvement and data herein is therefore subject to change.
Please check with Cooper Antennas Ltd that this data sheet is at latest issue before initiating contract activity.