



21-50-43-3
VHF / UHF
Airborne Blade Antenna
108 to 174 MHz & 225 to 512 MHz

FEATURES

- **Suitable for sub-sonic and super-sonic aircraft.**
- **Covers standard civil and military Communications Air Band.**
- **Designed to MIL-STD-810 environment.**
- **Single 'N-type' connector.**
- **Rugged Aluminum Alloy construction.**
- **Foot print replacement for AT-256 UHF blade.**
- **Diamond shape for low RCS and low drag.**



The 21-50-43-3 is a dual band VHF/UHF communications antenna intended for use on high speed aircraft . Its construction is from precision machined aluminium alloy with high strength glass/epoxy inserts. Having a low profile diamond shape raked blade structure minimizes drag for high speed applications and presents a low Radar Cross Section (RCS). The aluminium structure also lends itself to the application of certain types of 'stealth' radar absorbing material.

The electrical design comprises a UHF sleeved unipole, the upper element of which acts as a "choke" enabling a capacitive horizontal rod to operate as a top loaded VHF monopole, decoupled from the UHF section.

Designed and constructed to meet MIL-STD-810 environmental conditions, the 21-50-43-3 is a drop-on footprint replacement for UHF blade type AT-256, having a single N-type Female connector. The antenna is normally finished in lusterless grey urethane paint.

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SPECIFICATIONS

Cooper Antennas Model 21-50-43-3

Airborne Blade Antenna

ELECTRICAL

Frequency Range	108 - 174 MHz 225 - 512 MHz
Gain	108 - 174 MHz -2 dBi min 0 dBi average 225 - 512 MHz 0 dBi min +2 dBi average
VSWR	108 - 118 MHz \leq 3.0:1 118 - 174 MHz \leq 2.5:1 225 - 450 MHz \leq 2.5:1 451 - 512 MHz \leq 3.0:1
Impedance (nominal)	50 Ohms
Power	30 Watts max
Polarization	Vertical
Radiation	Nominally omni directional in azimuth plane
Antenna RF Connector	N Female

MECHANICAL

Antenna Shell Type	Diamond shaped aluminium alloy with fibre glass inserts
Height	12.42 inches (315 mm)
Weight	2.2 lbs (0.99 kg)
Base Plate Shape	Diamond shape drilled to replace AT-256
Fixing Holes	6 x \varnothing 0.200 inches (5mm) holes, counter sunk at 100° \varnothing 0.39 inches (9.9mm)

FINISH

Antenna	Urethane Lustreless Grey
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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.