



**21-50-44**  
**VHF / UHF**  
**Airborne Blade Antenna**  
**30 to 88 MHz, 108 to 174 MHz**  
**and 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 type N, Female Connector.**
- **Rugged Aluminum Alloy construction.**
- **Foot print replacement for AT-256 UHF blade.**
- **Diamond shape for low RCS and low drag.**
- **Interchangeable with NSN 5985-01-467-9924.**



The 21-50-44 is a tri band VHF/UHF communications antenna intended for use on high speed aircraft, suitable for use with multi-mode radios such as AN/ARC-210. 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 with selective resistive matching to operate as a top loaded VHF monopole, decoupled from the UHF section. A small in-line passive matching unit (part number 21-80-50), supplied with the antenna matches VSWR in the low VHF band.

Designed and constructed to meet MIL-STD-810C environmental conditions, the 21-50-44 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.

**Cooper Antennas Ltd for non-USA customers**  
Thames Industrial Estate, Unit K, Fieldhouse Lane,  
Buckinghamshire SL7 1TB, UK  
Tel: +44 (0) 1628 482 360  
Email: sales@cooperantennas.com  
www.cooperantennas.com



**Australian Representatives**  
**ROJONE, PTY LTD.**  
Tel: 02 9829 1555  
E: sales@rojone.com.au  
www.rojone.com.au

# SPECIFICATIONS

## Cooper Antennas Model 21-50-44

### Airborne Blade Antenna

#### ELECTRICAL

Frequency Range	30 - 88 MHz 108 - 174 MHz 225 - 512 MHz
Gain	30 - 88 MHz    -23 dBi rising to -8 dBi 108 - 174 MHz   -5 dBi min   +1 dBi average 225 - 512 MHz   +1 dBi average
VSWR	30 - 88 MHz    ≤ 2.5:1 108 - 117 MHz   ≤ 3.0:1 118 - 174 MHz   ≤ 2.5:1 225 - 450 MHz   ≤ 2.5:1 451 - 512 MHz   ≤ 5.0:1
Impedance (nominal)	50 Ohms
Power	25 Watts CW
Polarization	Vertical
Radiation	Omni directional in azimuth
RF Connectors (on antenna and in-line matching unit)	N Female

#### MECHANICAL

Antenna Shell Type	Diamond shaped aluminum alloy with fiberglass inserts
Height	12.42 inches (315 mm)
Weight	3.5 lbs (1.59kg) (including 21-80-50 matching unit)
Base Plate Shape	Diamond shape drilled to replace AT-256
Fixing Holes	6 x Ø 0.200 inches (5mm) holes, counter sunk at 100° Ø 0.39 inches (9.9mm)

#### FINISH

Antenna	Urethane Lusterless Grey
Matching Unit	Urethane Lusterless Black

Other antenna 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.