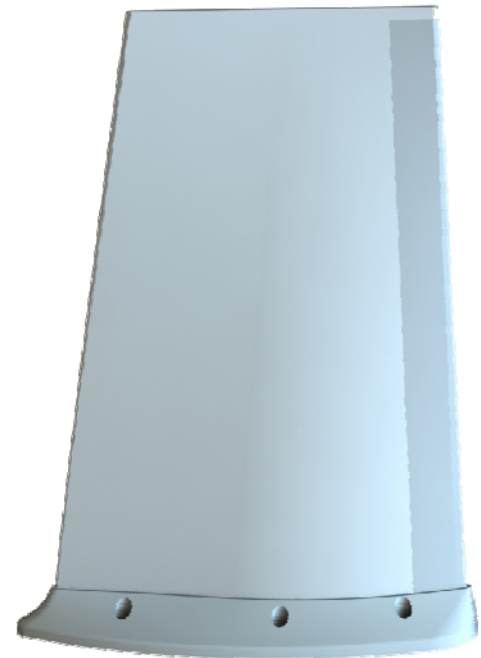




**21-50-56-4**  
**Combined VHF/L-Band**  
**Blade Antenna**  
**118-137 MHz & 1025-1095 MHz**

## FEATURES

- **Suitable for VHF ATC and IFF/SSR-ATC**
- **Passive design - requires no external tuning**
- **Isolated VHF and L-Band outputs**
- **Fully sealed internally foamed high strength blade design**
- **Drop on replacement for AT-1108 and AS3191 mounting hole pattern**
- **Environmental design to DO160/MIL-STD-810, -55°C to +85°C, 50,000 feet**



The 21-50-56-4 is a combined VHF/L-Band blade antenna suitable for use with VHF ATC and IFF systems fitted to helicopters and fixed wing aircraft operating up to Mach 0.9. Construction comprises a high strength, glass epoxy radome set into an aluminum alloy base collar with internal 'foamed-in-place' radiating, matching and filtering elements. RF design insures good azimuthal omnidirectivity and minimal interaction between VHF and IFF-SSR elevation patterns.

This antenna has DC grounded elements for P-Static and indirect lightning strike effects protection.

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# SPECIFICATIONS

## Cooper Antennas Model 21-50-56-4 Combined VHF/L-Band Blade Antenna

### ELECTRICAL

|                             |   |
|-----------------------------|---|
| <b>Frequency</b>            | 118 - 137 MHz and 1025 - 1095 MHz                                       |
| <b>Gain</b>                 | 118-137 MHz $\geq 0$ dBi average<br>1025-1095 MHz $\geq +3$ dBi average |
| <b>VSWR</b>                 | $\leq 2.25:1$ 118 - 137 MHz<br>$\leq 1.5:1$ 1025 - 1095 MHz             |
| <b>Impedance (nominal)</b>  | 50 Ohms   |
| <b>Power</b>                | VHF     50 Watts CW<br>L-band   1 kW Peak                               |
| <b>Isolation</b>            | $\geq 50$ dB (L-Band to VHF)<br>$\geq 25$ dB (VHF to L-Band)            |
| <b>Polarization</b>         | Essentially vertical (when mounted vertically)                          |
| <b>Radiation</b>            | Nominally omni-directional in azimuth and Co-sinusoidal in elevation    |
| <b>Antenna RF Connector</b> | VHF - TNC Female<br>L-Band - N Female                                   |

### MECHANICAL

|                           |  |
|---------------------------|--|
| <b>Antenna Shell Type</b> | High density foam filled epoxy/fiber glass shell set in aluminum alloy base collar         |
| <b>Height</b>             | 14.75 inches (375mm)   |
| <b>Weight</b>             | 3.75 lbs (1.7kg)   |
| <b>Side Loading</b>       | $\geq 8$ psi ultimate  |
| <b>Base Plate Shape</b>   | Tear drop  |
| <b>Fixing Holes</b>       | 6 x $\varnothing$ 0.200 inches (5mm) holes, counter bore $\varnothing$ 0.39 inches (9.9mm) |

### FINISH

21-50-56-4

FED-STD 595 17925 Gloss White

Other finish options are available. Please specify required finish 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.