



**21-50-91, 21-50-92  
21-50-93  
Broadband Airborne Blade  
Antennas  
30 to 400 MHz**

## FEATURES

- **High Strength Broadband Blade Antenna**
- **Frequency Selective Matching Network**
- **Fully Foamed to Provide High Environmental Integrity**
- **Aluminum Alloy Retaining Collar Accepts High Side Loading**
- **Designed to AS-3191/A & AS-3793/A (MIL-DTL-85670B) Specification**
- **Drop-on Replacement for AT-1108**
- **Suitable for AN/ARC-182, AN/ARC-186 and Similar Multi-Mode Radios**
- **Complies with MIL-STD-810**
- **21-50-91 - NSN 5985-01-554-7183**
- **Meets Requirements of 5985-01-121-6315, 5985-01-321-6182 5985-01-081-0222 & 5985-01-316-8084**



The 21-50-91/92/93 are vertically polarized, omni-directional antennas, compatible with all popular airborne radios operating within the 30 to 400 MHz frequency range. These antennas can handle 100 Watts of power and require no external tuning.

These wideband, multi-function antennas developed by Cooper Antennas Ltd are particularly suited to tactical military communications. Rugged design ensures reliability in world wide conditions of service on aircraft operating at speeds up to Mach 1.0.

Use of a surface deposited radiating element optimizes efficiency. The element is DC grounded for lightning protection.

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# SPECIFICATIONS

## Cooper Antennas Model 21-50-91, 21-50-92, 21-50-93 Broadband Airborne Blade Antennas

### ELECTRICAL

Frequency	30 - 88 MHz, 108 - 174 MHz & 225 - 400 MHz
Gain	30 MHz ≥ -22.5 dBi 88 MHz ≥ -11.0 dBi 108 MHz ≥ -8.0 dBi 130 MHz ≥ -2.5 dBi 174 MHz ≥ 0 dBi 225 MHz ≥ +2.5 dBi 300 MHz ≥ +4.0 dBi 400 MHz ≥ +3.0 dBi
VSWR	≤ 2.5:1 30 - 88 MHz & 108 - 118 MHz ≤ 2.0:1 118 - 174 MHz & 225 - 400 MHz
Impedance (nominal)	50 Ohms
Power	50 Watts CW 30 - 88 MHz & 118 - 174 MHz 100 Watts CW 225 - 400 MHz
Polarization	Vertical
Radiation	Azimuth : Omni-directional Elevation : As stub
Antenna RF Connector	TNC Female

### MECHANICAL

Antenna Shell Type	High density foam filled epoxy/fiber glass shell set in aluminum alloy base collar
Height	14.65 inches (372mm) max
Weight	3.5 lbs (1.6kg)
Side Loading	≥8 psi ultimate
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

Antennas: 21-50-91 Urethane Lusterless Black/21-50-92 Urethane Gloss White/21-50-93 Urethane Olive Drab

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.