



**21-50-33**  
**NSN 5985-99-667-7184**  
**Wide-band VHF/UHF Airborne**  
**Blade Antenna**  
**30 to 600 MHz**

## FEATURES

- **High Strength Broadband Top-loaded Blade Antenna**
- **Frequency Selective passive Matching Network**
- **Requires no external tuning**
- **Fully Foamed for High Environmental Integrity**
- **Suitable for AN/ARC-231, AN/ARC-210 and Similar Multi-Mode Radios**
- **Design to MIL-STD-810 environmental**
- **DC Grounded**
- **Gain optimized in 30-88 MHz (SINCGARS) band**



The 21-50-33 is a vertically polarized, omni-directional antenna, compatible with all popular airborne radios operating within the 30 to 600 MHz frequency range. This antenna can handle up to 100 Watts of power UHF and 50 Watts VHF and requires no external tuning.

This wideband, multi-function antenna developed by Cooper Antennas Ltd is particularly suited to tactical military communications. Rugged design ensures reliability in world wide conditions of service on helicopters and subsonic aircraft.

Use of a top loading element optimizes efficiency in VHF and the antenna provides omni-directional radiation throughout the operating frequency range. The element is DC grounded for voltage transient protection. Unique element shaping preserves elevation pattern throughout the frequency band.

**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 21-50-33 Broadband Airborne Blade Antenna

### ELECTRICAL

Frequency	30 - 88 MHz, 108 - 174 MHz, 225 - 600 MHz
Gain (typical)	30 MHz ≥ -17 dBi 88 MHz ≥ -7 dBi 108-118 MHz ≥ -1 dBi average 118-137 MHz ≥ +0.5 dBi average 137-174 MHz ≥ -2 dBi average 225-512 MHz ≥ +1 dBi average 512-600 MHz ≥ 0 dBi average
VSWR	≤ 2.5:1 VHF ≤ 2.25:1 225 - 450 MHz ≤ 2.5:1 450 - 600 MHz
Impedance (nominal)	50 Ohms
Power	50 Watts CW VHF 100 Watts CW UHF
Polarization	Vertical
Radiation	Azimuth : Omni-directional Elevation : Similar to stub
Antenna RF Connector	TNC Female

### MECHANICAL

Antenna Shell Type	High density foam filled epoxy/fiber glass shell with aluminum alloy top-tube set in aluminum alloy base.
Height	14.75 inches (375mm)
Weight	5.25 lbs (2.38 kg)
Base Plate Shape	Tear drop
Fixing Holes	6 x Ø 0.234 inches (5.95mm) holes

### FINISH

Antenna	Urethane Lusterless Black
---------	---------------------------

**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.**