



21-20-13  
VHF-FM “Unicorn” Whip  
Antenna  
30-88 MHz

## FEATURES

- **Unique “unicorn” design for high vibration acceptance**
- **High gain over full SINCGARS frequency band**
- **No external tuning required**
- **50 Watts power handling**
- **Designed MIL-STD-810 environmental requirements**
- **Fully sealed for long term reliability**



This antenna provides a unique solution for a high gain, VHF-FM SINCGARS antenna that may be subject to extreme vibration level, such as experienced atop a helicopter tail fin.

The “unicorn” structure is produced as a thin, tapered one piece, glass-fibre moulding having carefully graded and controlled glass loading over the entire length of the antenna. Its three-dimensional shape also provides excellent gain over the SINCGARS band and electrical design is an end fed monopole that uses very efficient proprietary matching techniques.

The basic design is capable of slight modification to its length in order “tune-out” specific vibration resonant frequencies, should this be required.

The complete antenna is fully sealed and filled with closed cell foam to prevent moisture ingress and provide long term reliability.

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# SPECIFICATIONS

## Cooper Antennas Model 21-20-13 VHF-FM “Unicorn” Whip Antenna

### ELECTRICAL

Frequency	30 MHz to 88 MHz
Impedance (nominal)	50 Ohms
VSWR	2.5:1 max
Gain (typical)	-8 dBi 30 MHz -1 dBi 88 MHz
Radiation	As monopole but will depend on mounting structure
Power Handling	50 Watts CW
Antenna RF Connector	TNC Female
Temperature Range	-55C to +85C
Vibration	MIL-STD-810G Method 514.6 Proc I

### MECHANICAL

Height	1400 mm (55 inches) max
Weight	1.7kg (3.7 lbs)
Mounting Holes	6 holes to except 10:32 UNF or similar bolts

### FINISH

Antenna	Urethane Lusterless Black
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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.