

INSTALLATION & USE INSTRUCTIONS

APR18

8 BAND HF RADIAL KIT

for

10, 12, 15, 17, 20, 30, 40 & 80 Meters



951345587

APR18 Assembly and Installation Instructions

The APR18 is designed for use with the Cushcraft AP8 eight band vertical; however, it works nicely with any HF quarter wavelength vertical amateur band antenna. The APR18 effectively combines 24 radials into 3 sets of 2 radial wires attached to an easy to use connector lug, making this a quick and convenient way to get the most out of your $\frac{1}{4}$ wavelength HF vertical.

WARNING: THIS ANTENNA GROUND RADIAL SYSTEM IS AN ELECTRICAL CONDUCTOR, CONTACT WITH POWER LINES OR OTHER ELECTRICAL SOURCE CAN RESULT IN DEATH, OR SERIOUS INJURY. DO NOT INSTALL THIS ANTENNA GROUND RADIAL SYSTEM WHERE THERE IS ANY POSSIBILITY OF CONTACT WITH OR HIGH VOLTAGE ARC-OVER FROM POWER CABLES OR SERVICE DROPS TO BUILDINGS. THE ANTENNA, SUPPORTING MAST AND/OR TOWER MUST NOT BE CLOSE TO ANY POWER LINES DURING INSTALLATION, REMOVAL, OR IN THE EVENT PART OF THE SYSTEM SHOULD ACCIDENTALLY FALL. FOLLOW THE GUIDELINES FOR ANTENNA INSTALLATIONS RECOMMENDED BY THE U.S. CONSUMER PRODUCT SAFETY COMMISSION AND LISTED IN THE PAMPHLET THAT CAME WITH YOUR ANTENNA. VERY HIGH VOLTAGES ARE DEVELOPED IN THE ANTENNA AND RADIAL SYSTEM DURING USE. TO PREVENT THE POSSIBILITY OF SHOCK INSTALL THE ANTENNA AND RADIAL KIT SUCH THAT PEOPLE AND ANIMALS WILL NOT BE ABLE TO COME IN CONTACT WITH IT WHILE YOU ARE TRANSMITTING. IF THE ANTENNA IS MOUNTED AT GROUND LEVEL, IT AND ANY EXPOSED RADIALS SHOULD HAVE PROMINENT ELECTRICAL HAZARD WARNING LABELS.

INSTALLATION AND USE

Assemble and install the antenna as described in your antenna instruction manual.

Attach the APR18 radial kit to the antenna base using the connector lugs and the radial mounting hardware provided with your antenna. The radial kit to base connection for the Cushcraft AP8 is shown in figure 1. If your antenna doesn't have clamps to connect the radial kit, use the hardware provided and attach the radial kit as shown in figure 2.

After attaching the radial kit, evenly space the radials alternating long and short radials around your antenna, approximately 60 degrees apart. (see figures 3 & 4) Figure 3 shows the radial and identifies the high and low frequency sections. Figure 4 is an aerial view of the spaced radial kit after installation.

Figure 5 & 6 show typical installations. Ground mounting is shown in figure 5. Figure 6 shows pole or roof top mounting.

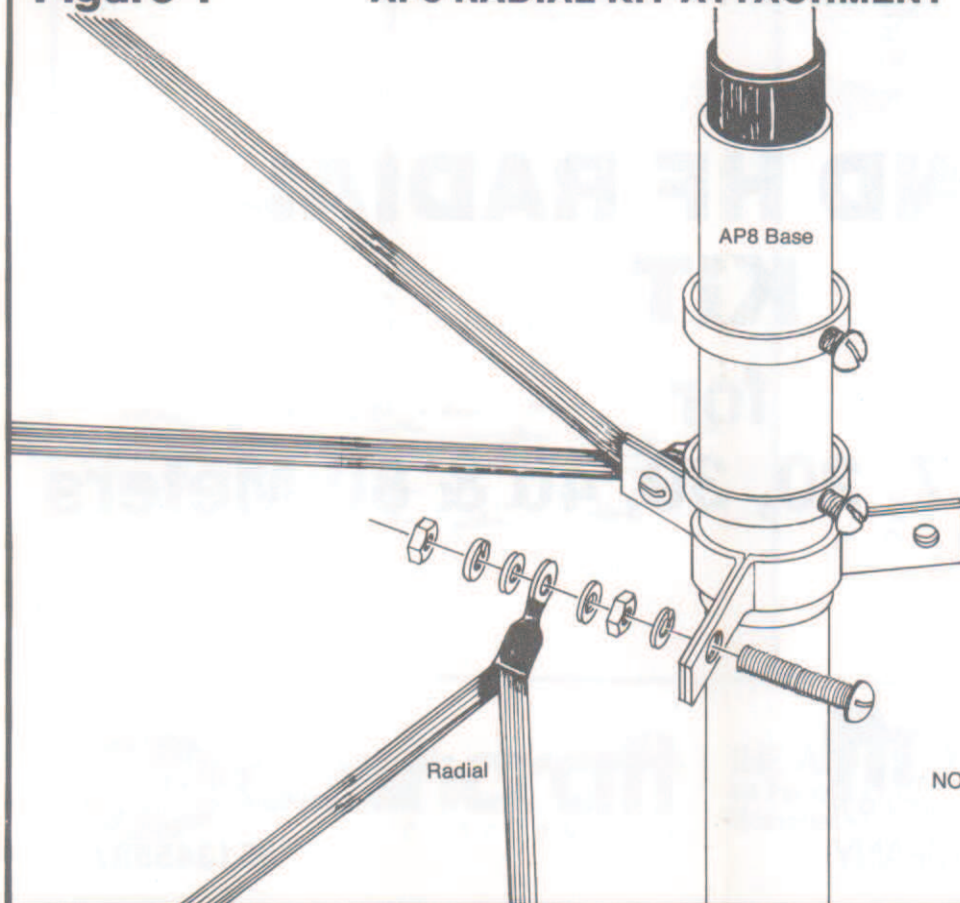
If space is not available completely around your vertical, equally space the ground radials in the available area. If space is limited in one direction gradually curve the radial and run it in another direction. Sharp bends will cause some detuning of that ground radial. DO NOT CUT THE RADIALS, they are pre-tuned at the factory.

Although they will work when placed above ground, burying the ground radial 1 inch under the ground will increase the coupling to the earth ground and give some improvement to the system. It will also prevent them from being tripped over, accidentally cut or broken, and reduce the hazards from electrical shock.

For both ground or elevated mounting, a ground wire to a ground stake should be used for lightning protection. Connect the ground wire to the ground stake by either soldering or clamping it firmly. For added security of equipment we recommend using lightning arresters. Cushcraft offers many different models to accommodate your needs, such as the LAC-1, LAC-2, LAC-3, or the LAC-4 series.







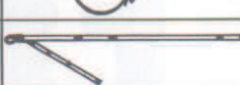
Figure 1

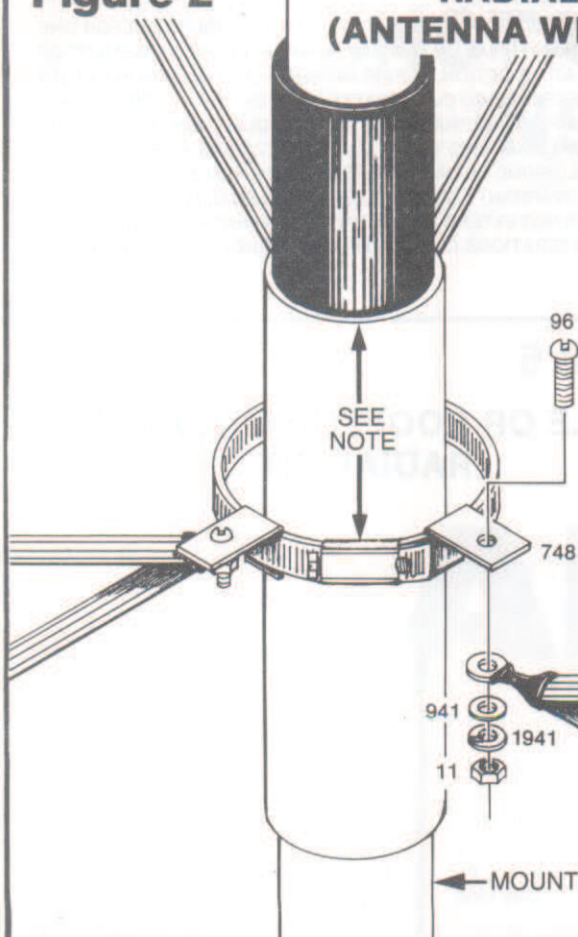
AP8 RADIAL KIT ATTACHMENT



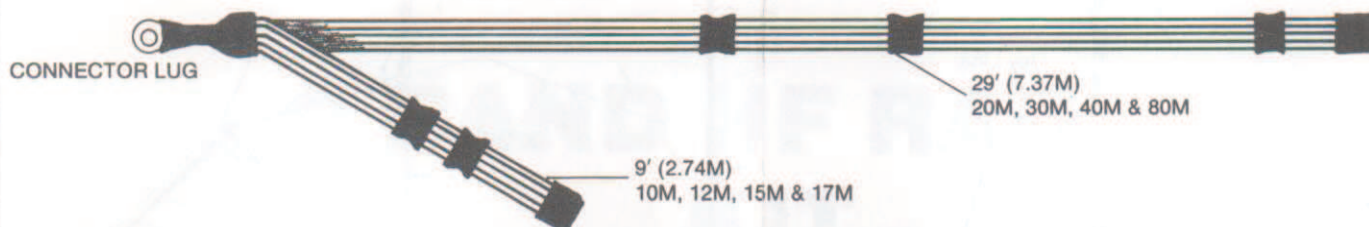
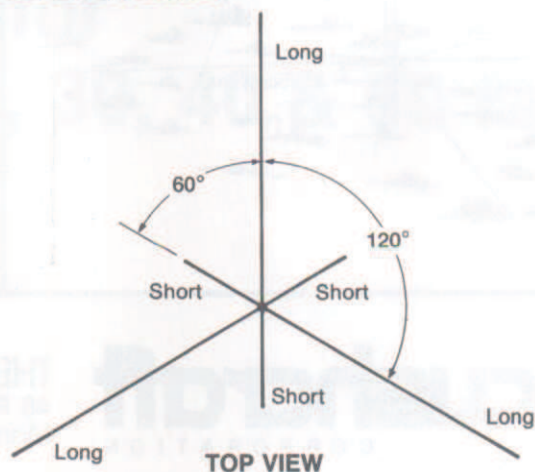
NOTE: Hardware is supplied with AP8 antenna.

Figure 2**RADIAL KIT ATTACHMENT
(ANTENNA WITHOUT RADIAL CLAMPS)****PARTS LIST FOR FIGURE 2**

P/N	KEY	DISPLAY	DESC.	SIZE	QTY.
190748	748		ANGLE BRACKET		3
010096	96		MACHINE SCREW	8-32 x 3/8" (1cm)	3
011941	1941		LOCK WASHER	#8	3
010011	11		HEX NUT	8-32	3
360941	941		FLAT WASHER	#8	3
030414	414		HOSE CLAMP	1-5/16" to 2 1/4" (3.3cm to 5.7cm)	1
RADIAL			RADIAL PAIR		3



NOTE: This distance will affect the tuning on the higher frequencies. If not specified on the installation instructions, make 1" and adjust radiator length as necessary.

Figure 3**ONE APR18 RADIAL PAIR****FIGURE 4****TYPICAL RADIAL SPACING**

LIMITED WARRANTY

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Figure 5

GROUND MOUNTED RADIAL KIT

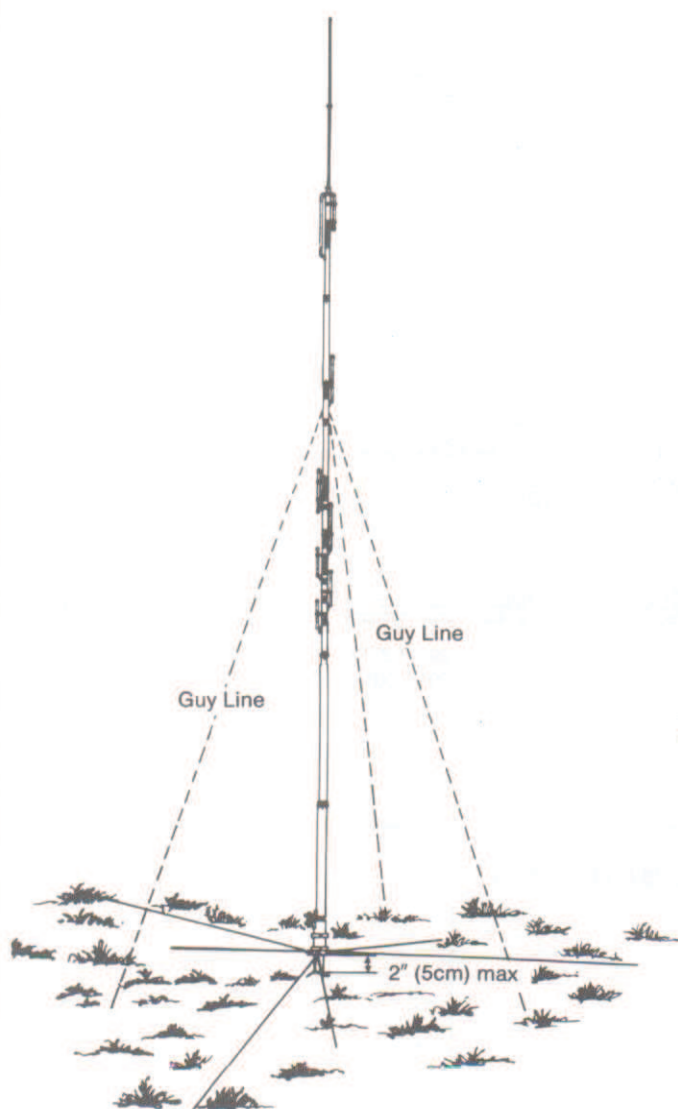
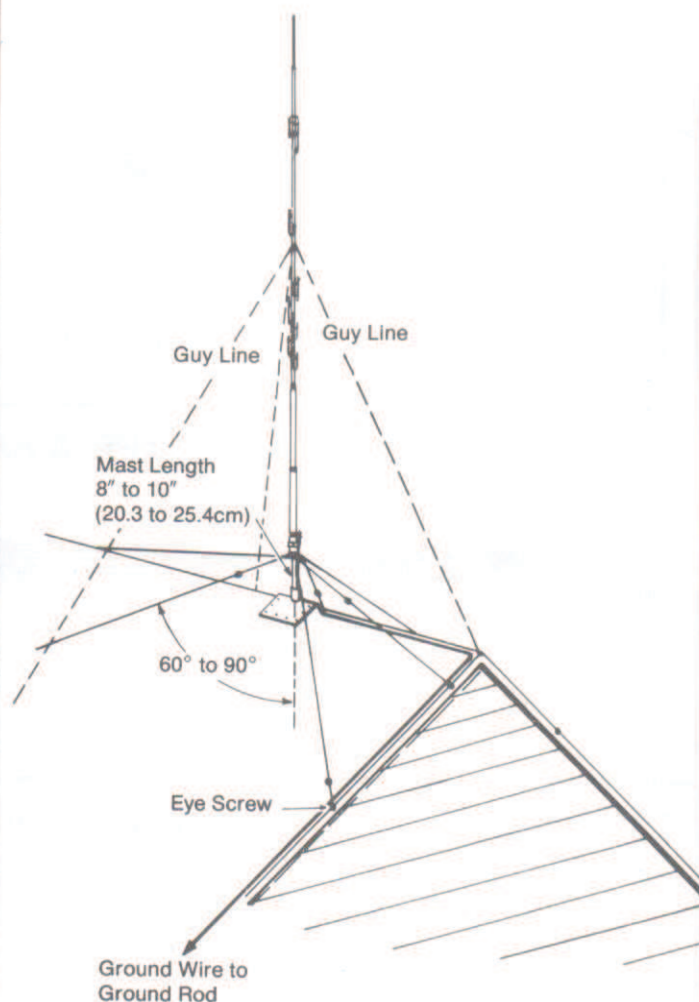


Figure 6

POLE OR ROOFTOP MOUNTED RADIAL KIT



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