

APR-18A

8 BAND HF RADIAL KIT

FOR

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



951436 (4/92)

TA5FA

APR-18A

The APR-18A is designed for use with the Cushcraft AP8A eight band vertical; however, it works nicely with any HF quarter wavelength vertical amateur band antenna. The APR-18A effectively combines 15 radials into 3 sets of multiple and 6 individual radial wires attached to an easy to use connector lug, making this a quick and convenient way to get the most out of your 1/4 wavelength HF vertical.

WARNING: THIS ANTENNA GROUND RADIAL SYSTEM IS AN ELECTRICAL CONDUCTOR. CONTACT WITH POWER LINES OR OTHER ELECTRICAL SOURCES 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 APR-18A radial kit to the AP8A antenna base using the radial clamps and radial mounting hardware provided with your antenna as shown in figure 1. If your antenna is not an AP8A and does not have clamps to connect the radial kit, use the worm clamp, angle brackets and 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 40 degrees apart (figure 3). Figure 2 shows the radials and identifies the high and low frequency sections. Figure 3 is an aerial view of the spaced radial kit after installation. Figures 4 and 5 show typical antenna installations. Ground mounting is shown in figure 4. Figure 5 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.** Burying the ground radials 1 inch under the ground will prevent the radials from being tripped over, accidentally cut or broken, and reduce the hazards from electrical shock. For both ground or elevated mounting, a ground wire (at least #10 AWG) from the antenna base 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 or the LAC-4 series.

AP8A RADIAL KIT ASSEMBLY

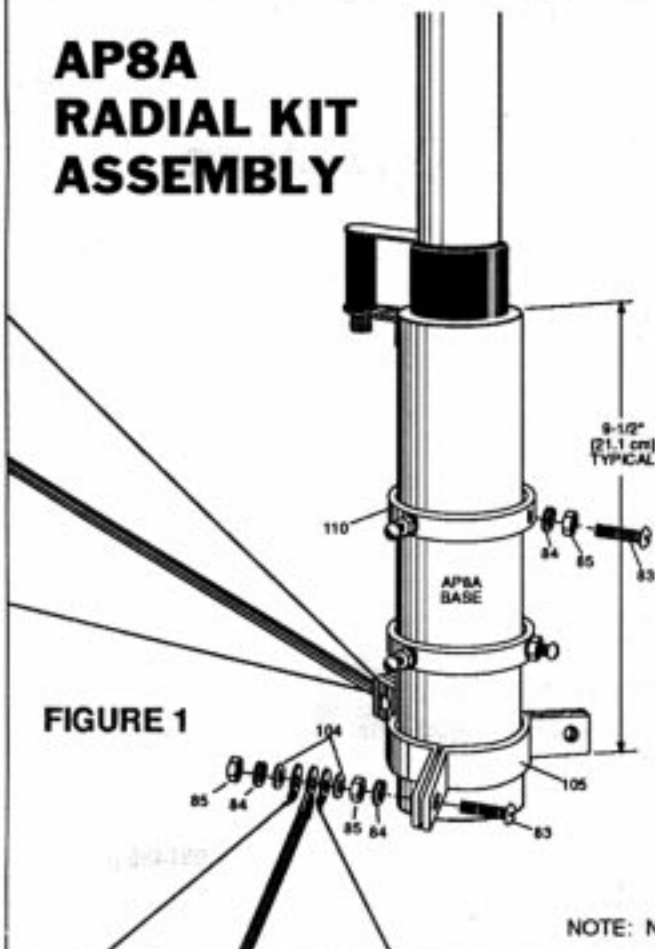


FIGURE 1

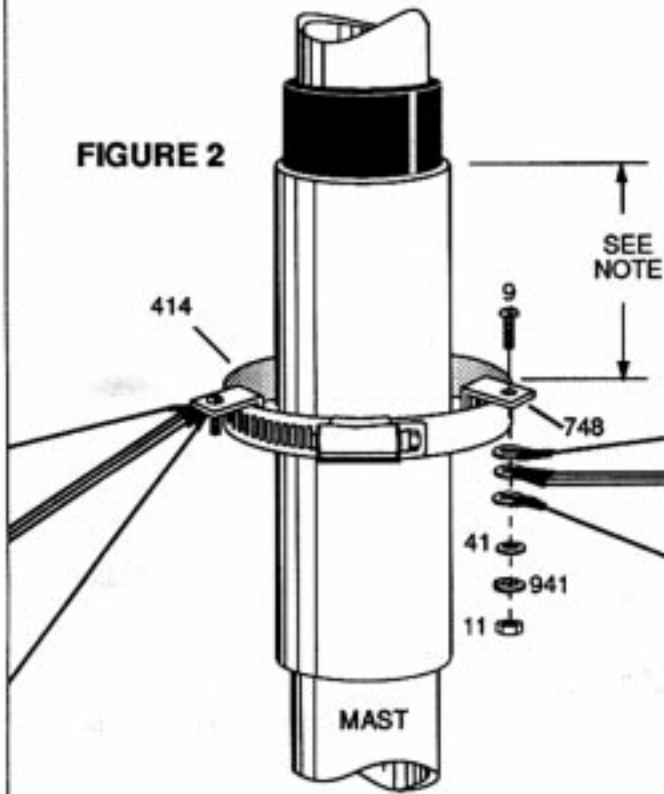
| KEY | P/N | | DESC | SIZE | QTY |
|-----------|--------|--|---------------|--------------------------|-----|
| 83 | 010083 | | MACHINE SCREW | 1/4-20 x 1-1/4" (3.2 cm) | 3 |
| 84 | 010084 | | LOCK WASHER | 1/4" (.6 cm) | 6 |
| 85 | 010085 | | HEX NUT | 1/4-20 (.6 cm) | 6 |
| 104 | 010104 | | FLAT WASHER | 1/4" (.6 cm) | 6 |
| 105 | 200105 | | RADIAL CLAMP | | 3 |
| 10M | | | SINGLE WIRE | 8' 7-1/2" (2.63 m) | 1 |
| 12M | | | SINGLE WIRE | 9' 10-1/4" (3.00 m) | 1 |
| 15M | | | SINGLE WIRE | 11' 7-1/2" (3.54 m) | 1 |
| 17M | | | SINGLE WIRE | 13' 6-3/4" (4.13 m) | 1 |
| 20M | | | SINGLE WIRE | 17' 5-3/4" (5.33 m) | 2 |
| 30/40/80M | | | 4 WIRES | 31' (9.45 m) | 3 |

NOTE: Numbered components correspond to hardware supplied with the AP8A antenna.

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RADIAL KIT ASSEMBLY FOR ANTENNAS WITHOUT RADIAL CLAMPS

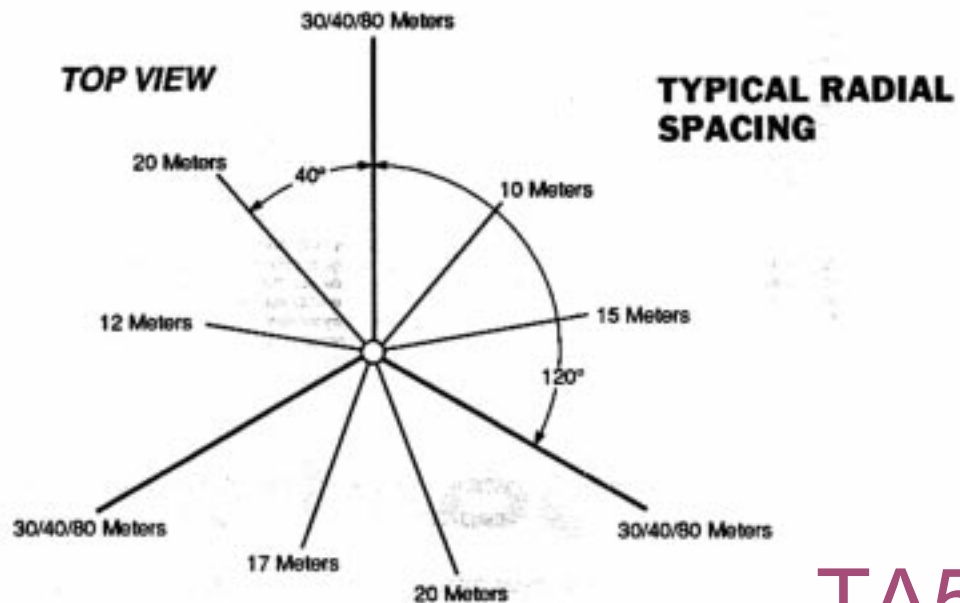
FIGURE 2



| KEY | P/N | | DESC | SIZE | QTY |
|-----------|--------|--|---------------|-------------------------|-----|
| 11 | 010011 | | HEX NUT | 8-32 | 3 |
| 41 | 360941 | | FLAT WASHER | #8 | 3 |
| 9 | 010009 | | MACHINE SCREW | 8-32 x 5/8" (1.6 cm) | 3 |
| 414 | 030414 | | WORM CLAMP | 2" (5.1 cm) | 1 |
| 748 | 190748 | | ANGLE BRACKET | | 3 |
| 941 | 011941 | | LOCK WASHER | #8 | 3 |
| 10M | | | SINGLE WIRE | 8' 7-1/2" (2.63 m) | 1 |
| 12M | | | SINGLE WIRE | 8' 10-1/4" (3.00 m) | 1 |
| 15M | | | SINGLE WIRE | 11' 7-1/2" (3.54 m) | 1 |
| 17M | | | SINGLE WIRE | 13' 6-3/4" (4.13 m) | 1 |
| 20M | | | SINGLE WIRE | 17' 5-3/4" (5.33 m) | 2 |
| 30/40/80M | | | 4 WIRE | 31' (9.45 m) | 3 |

NOTE: This distance will affect the tuning on the higher frequencies. If not specified on the installation instructions, use 1" (2.5 cm) and adjust the radiator length as necessary to tune the antenna on frequency.

FIGURE 3

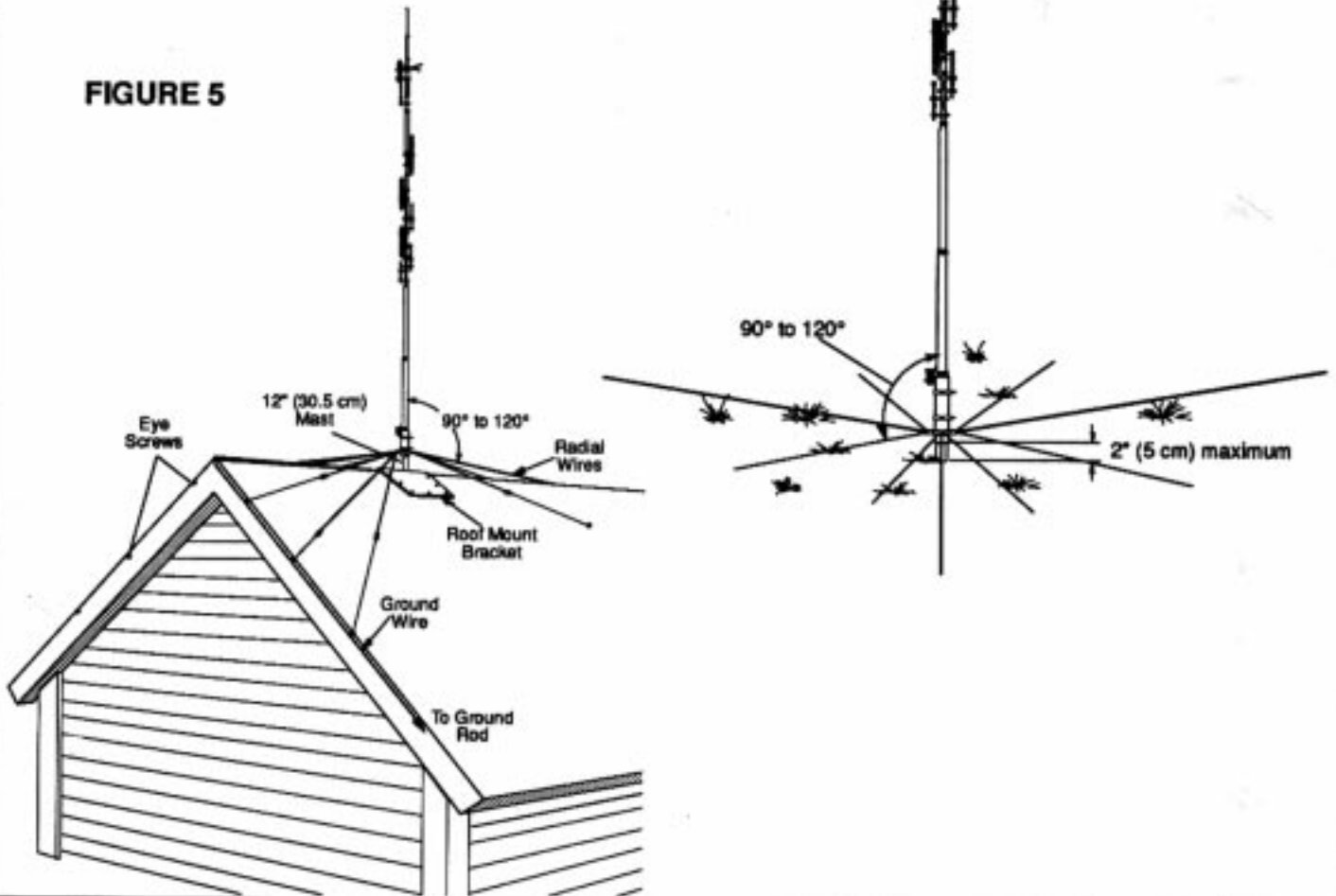


RADIAL INSTALLATION

The Cushcraft APR-18A Radial Kit is designed for ground or elevated mounting with the APBA or your own 1/4 wavelength vertical antenna. Figure 4 shows a typical ground mounting while figure 5 shows an elevated or roof top installation. If your radials are too long for the available area, do not cut them. Form them as necessary to fit the available space while avoiding sharp bends.

FIGURE 4

FIGURE 5



LIMITED WARRANTY

Cushcraft Corporation, P.O. Box 4680, Manchester, New Hampshire 03106, warrants to the original consumer purchaser for one year from date of purchase that each Cushcraft antenna is free of defects in material or workmanship. If, in the judgement of Cushcraft, any such antenna is defective, then Cushcraft Corporation will, at its option, repair or replace the antenna at its expense within thirty days of the date the antenna is returned (at purchaser's expense) to Cushcraft or one of its authorized representatives. This warranty is in lieu of all other expressed warranties, any implied warranty is limited in duration to one year. Cushcraft Corporation shall not be liable for any incidental or consequential damages which may result from a defect. Some states do not allow limitations on how long an implied warranty lasts or exclusions or limitations of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty does not extend to any products which have been subject to misuse, neglect, accident or improper installation. Any repairs or alterations outside of the Cushcraft factory will nullify this warranty.



48 PERIMETER ROAD, MANCHESTER, NH 03108
 603-627-7877 / TELEX 4949472 / FAX 603-627-1764

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