

### *Swan Electronics*

A SUBSIDIARY OF CUBIC CORPORATION  
MANUFACTURERS OF COMMUNICATION EQUIPMENT  
TEL. 714 757-7525 305 AIRPORT ROAD OCEANSIDE, CALIFORNIA 92054

An error was made in the instructions for the 4010V antenna. Please make the following corrections to the manual:

Page 2, Paragraph 4.

The dimension given is 21-1/4". It should be 15-1/4".

Page 3, Figure 1.

For item 4, the dimension should be 21-3/8".

For item 6, the dimension should be 15-1/4".

Page 4, Paragraph 1.

The dimension given is 15-3/8". It should be 21-3/8".

# 4010V PACKING LIST

ITEM	QTY.	DESCRIPTION	PART NO.
1	1	40 meter top section $\frac{3}{4}$ " x 44"	459-072
2	1	40 meter mast section $\frac{7}{8}$ " x 48"	459-284
3	1	20 meter trap	940-003
4	1	20 meter mast section $1\frac{1}{8}$ " x 16"	459-282
5	1	15 meter trap	940-002
6	1	15 meter mast section $1\frac{1}{8}$ " x 13"	459-283
7	1	10 meter trap section	940-001
8	1	10 meter mast section $1\frac{1}{8}$ " x 36"	459-281
9	1	10 meter mast section $1\frac{1}{4}$ " x 48"	459-285
10	1	Base mounting mast with insulators, screw, and lug	459-126
11	1	Base mounting plate $3\frac{1}{2}$ " x 11"	459-291
12	2	$1\frac{1}{2}$ " x 2" nuttier clamps	722-004
13	2	$1\frac{3}{4}$ " x 2 $11/16$ " "U" bolts	722-002
14	9	Stainless Steel clamps	196-006

## 75-AK Packing List (Optional)

15	1	75 meter mast section 1" x 42"	459-295
16	1	75 meter mast section $1\frac{1}{8}$ " x 62"	459-294
17	1	Adapter stud	459-172
18	1	75 meter coil	
19	1	Two section telescoping whip	459-185
20	3	Stainless Steel clamps	196-006
21	1	Guying ring	459-186

## Radial Kit Packing List (Optional)

22	280 ft.	Stranded copperweld wire	672-025
23	8	Egg insulators	311-009

*Signed By*

*E. J. [Signature]*

# INSTRUCTION MANUAL

4010V, 40 thru 10 meters,  
trap, vertical antenna

## General Description

The SWAN Model 4010V Trap Vertical Antenna is a four band vertical radiator designed for use on the 40 through 10 meter amateur bands. The system will work against earth ground or a resonant radial system when mounted above ground. (Not furnished). Radial kit available as accessory.

The antenna can be used for either phone or CW with either ground or roof mount. In either case, the VSWR bandwidths of the antenna are broad enough that the antenna will operate at a VSWR of 2:1 or less.

## Mechanical Specifications

Overall Height ..... 22 feet  
Mast ..... accepts 1½"  
Wind Survival ..... 80 mph

## Electrical Specifications

Frequency Coverage ..... 40, -20, -15, and 10 Meters  
Input Impedance ..... 52 ohms  
VSWR at Resonance ..... less than 2:1  
Power Capability ..... 1000W AM

## Choosing a Site

A good ground is imperative for any vertical antenna system.

The 4010V can be mounted on the ground, on a rooftop, or on a mast. When mounting the antenna above ground, remember that you must also install a ground plane system. When the antenna is ground-mounted, a radial system is usually not needed. In some areas, where soil surface conductivity is poor and a good ground cannot be made using the method shown in Figure 2, lay out ground radials to improve the efficiency of your antenna.

If the antenna is roof mounted and the roof space is too small for a radial system, you can droop the radials over the edge of the roof at almost any angle without seriously changing the performance of the antenna. The radial system must be insulated from the roof and connected to a good ground.

## Assembly

Before you begin, read the instructions, compare the part against the packing list while referring to the illustrations. Decide where you will mount your antenna (roof top or ground). Take special notice of dimensions on Figure 1. The antenna parts must be set to the exact dimensions given, or it will not operate at peak efficiency.

The resonant point of each band can be adjusted by either lengthening or shortening the dimension given. If a dimension for 10 meters is lengthened, the other dimensions must be shortened to compensate for the change in antenna length.

- ( ) On the base mounting plate (item 11) install base mounting mast with insulators (item 10). Use two "U" bolts (item 13).
- ( ) Place a clamp (item 14) over the ends of all tubing which has been slotted. Some tubing is slotted on one end only, also the top of the 20 meter trap.



NOTE: THE BOTTOM OF ALL TRAPS HAVE WEEP HOLES DRILLED IN THE INSULATOR. IT IS IMPERATIVE THAT THE TRAPS BE INSTALLED SO THAT THE WEEP HOLES ARE POINTING DOWN.

- ( ) Slide the 10 meter mast section (item 9) over the base mounting mast, adjust spacing from bottom of base mounting mast to the bottom of the 10 meter mast section to 24 $\frac{3}{4}$ ". Tighten bottom clamp.
- ( ) Insert the 10 meter mast section (item 8) into the top of the 10 meter mast section (item 9), adjust dimensions from bottom of the antenna to the top of item 8 to 94 $\frac{3}{4}$ ". Tighten top clamp on item 9.
- ( ) Insert the bottom of the 10 meter trap into item 8. Adjust dimension from bottom of antenna to bottom of the 10 meter trap to 96 $\frac{3}{4}$ ". Tighten clamp on top of item 8.
- ( ) Slide one end of item 6 over the top of the 10 meter trap, insert bottom of 15 meter trap into item 6. Adjust spacing between the traps to 21 $\frac{1}{4}$ ". Tighten both clamps. 15'4
- ( ) If the antenna is to be guyed (recommended in high wind areas, and at all times if 75 meter add-on kit is to be installed), place the guying ring on top of the 15 meter trap. Attach appropriate lengths of polypropylene rope or nylon rope to the guying ring.

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8	1	10 meter mast section 1 $\frac{1}{8}$ " x 36"	459-281
9	1	10 meter mast section 1 $\frac{1}{4}$ " x 48"	459-285
10	1	Base mounting mast with insulators, screw, and lug	459-126
11	1	Base mounting plate 3 $\frac{1}{2}$ " x 11"	459-291
12	2	1 $\frac{1}{2}$ " x 2" nutter clamps	722-004
13	2	1 $\frac{3}{4}$ " x 2 11/16" "U" bolts	722-002
14	9	Stainless Steel clamps	196-006

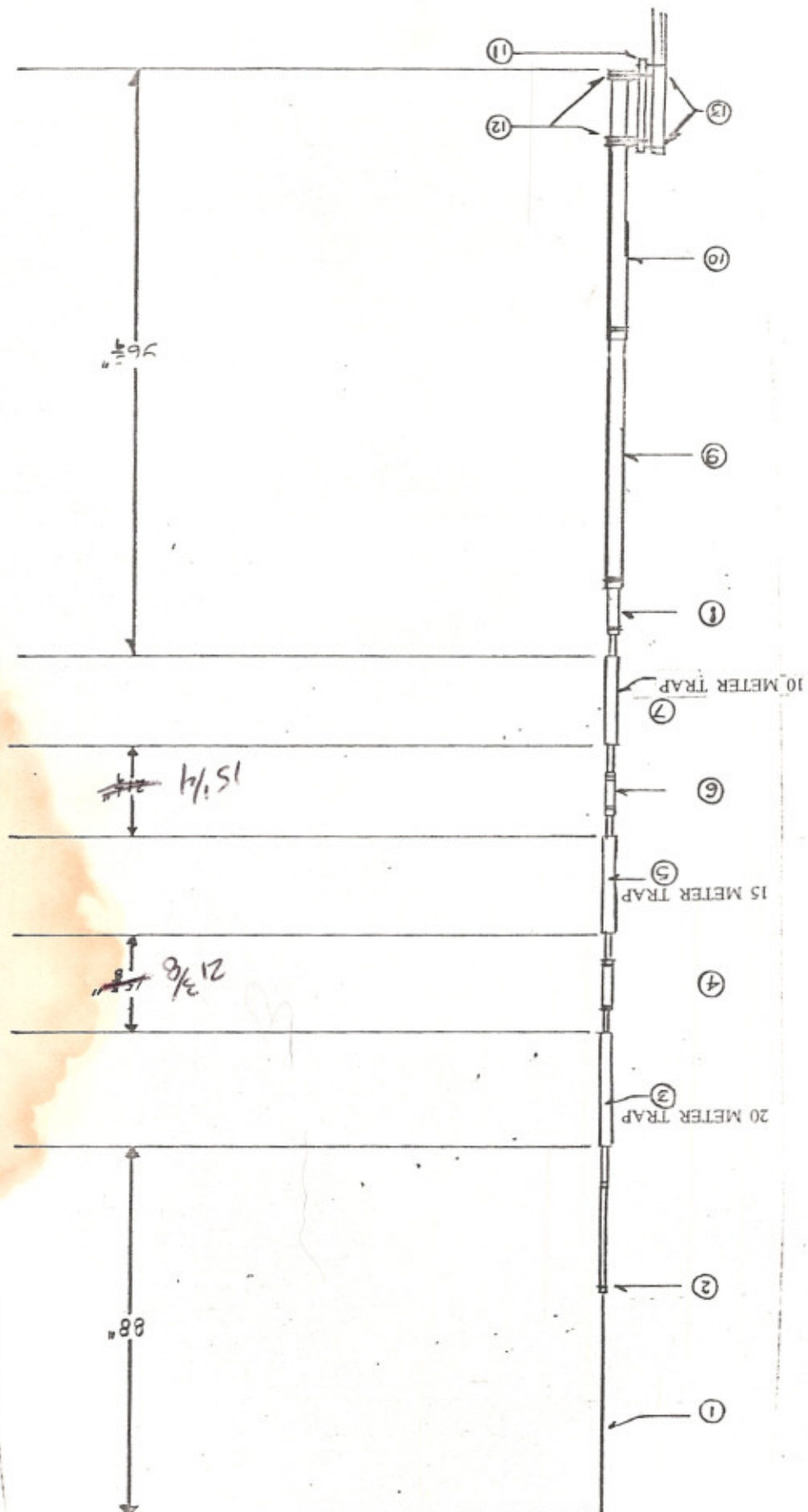
#### 75-AK Packing List (Optional)

			940-004
15	1	75 meter mast section 1" x 42"	459-295
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#### Radial Kit Packing List (Optional)

22	280 ft.	Stranded copperweld wire	672-025
23	8	Egg insulators	311-009

Figure 1





- ( ) Slide one end of the 20 meter mast section (item 4) over the top of the 15 meter trap. Insert the bottom of the 20 meter trap into the 20 meter mast section. Adjust spacing between traps to ~~15 3/8"~~ <sup>21 3/8"</sup> and tighten both clamps.
- ( ) If the 75 meter add-on kit is to be installed, refer to page 7 and disregard the following two steps. If the 75 meter add-on kit is not being installed at this time, proceed with the next two steps.
- ( ) Insert the 40 meter mast section (item 2) into the top of the 20 meter trap. Adjust dimension from the top of the trap to the top of item 2 to 50", tighten the clamp on top of the 20 meter trap.
- ( ) Insert the 40 meter top section (item 1) into the 40 meter mast section. Adjust the dimension from the top of the 20 meter trap to the top of the 40 meter top section to 88", tighten clamp on top of 40 meter mast section.

#### GROUND MOUNT

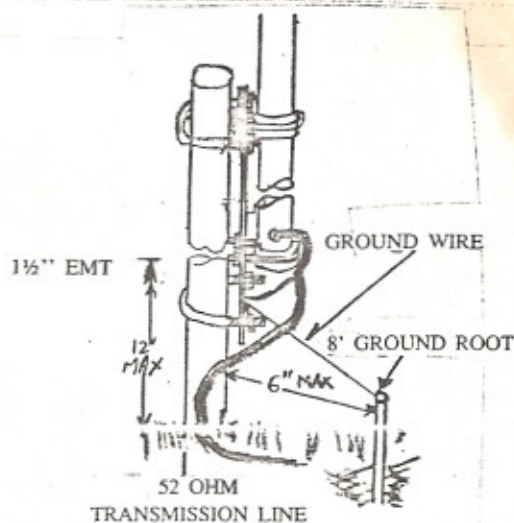


Figure 2

#### Installing the Antenna

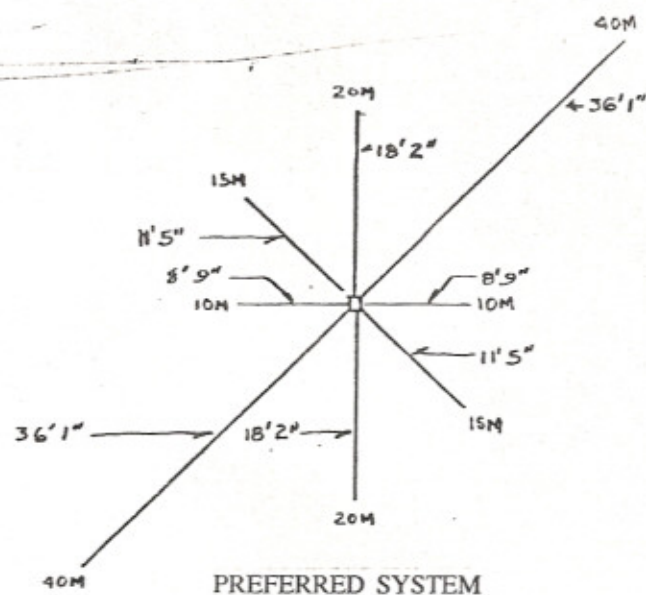
Refer to the mounting details of Figure 2 and Figure 3 in installing the completed antenna.

- ( ) Procure an appropriate length of 1 1/2" EMT and install per Figure 2 or Figure 3.
- ( ) Mount the completed antenna on your mast as shown in Figure 2. Use two item 12 muffler clamps.
- ( ) If you are roof-mounting your antenna, install radials as illustrated in Figure 3.

## Hooking up the Antenna

- ( ) If you are ground mounting your antenna, install it as shown in Figure 2. You must install an 8 foot ground rod as shown.
- ( ) Connect your coaxial cable as shown in Figure 2.
- ( ) Weather-seal the coaxial connections with Pli-O-Bond, neoprene, krylon or equivalent to prevent moisture from entering the cable. In coastal areas or smog, cover the hardware with live rubber such as DOW-CORNING Silastic Rubber or G<sup>11</sup>E Silicone Seal.

## ROOF MOUNT



## PREFERRED SYSTEM

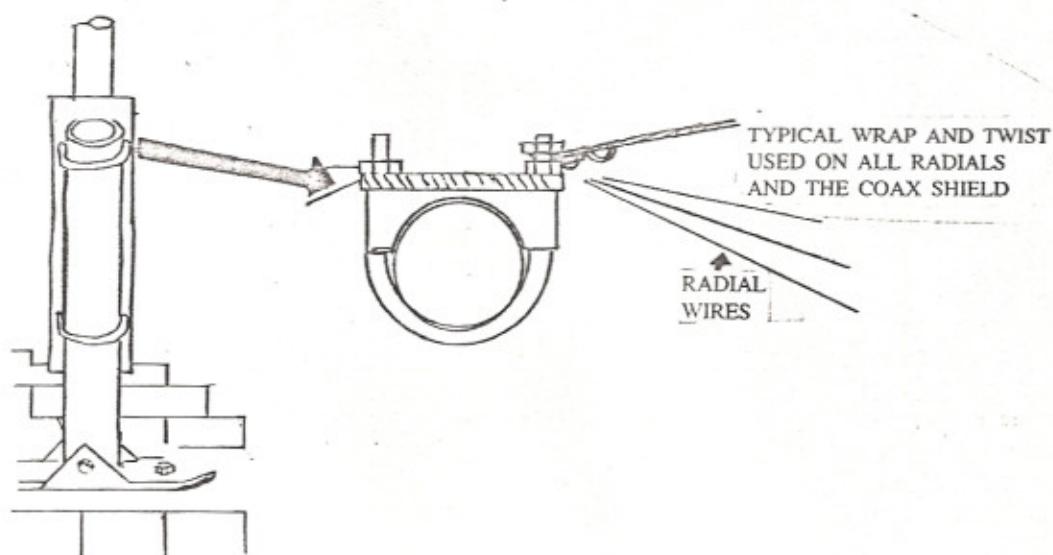


Figure 3



# 75 Meter Add-on Kit Installation

( ) Slide 75 meter mast section (item 16) on top of the 20 meter trap.

( ) Insert 75 meter mast section (item 15) into item 16. Adjust dimension from top of 20 meter trap to top of item 15 to 98". Tighten both clamps.

( ) Insert coil and whip assembly into item 15. Tighten clamp.

( ) Adjust whip to dimension desired from Table 1.

( ) If roof-mounted 66 foot radials must be installed, see Figure 4.

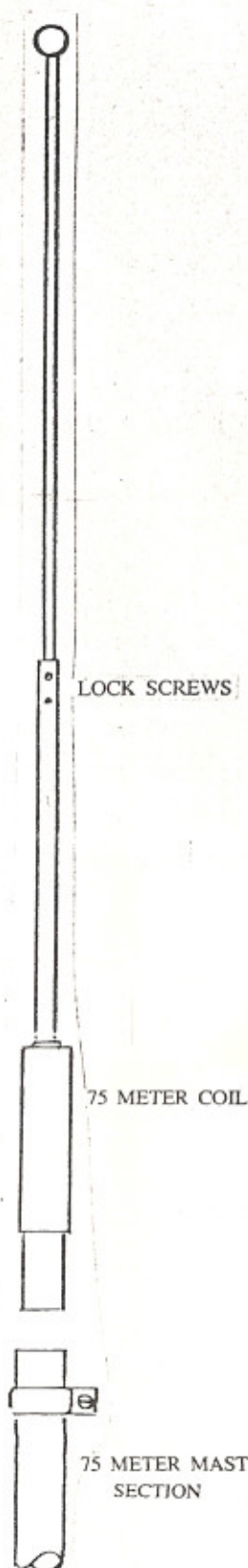


Figure 5

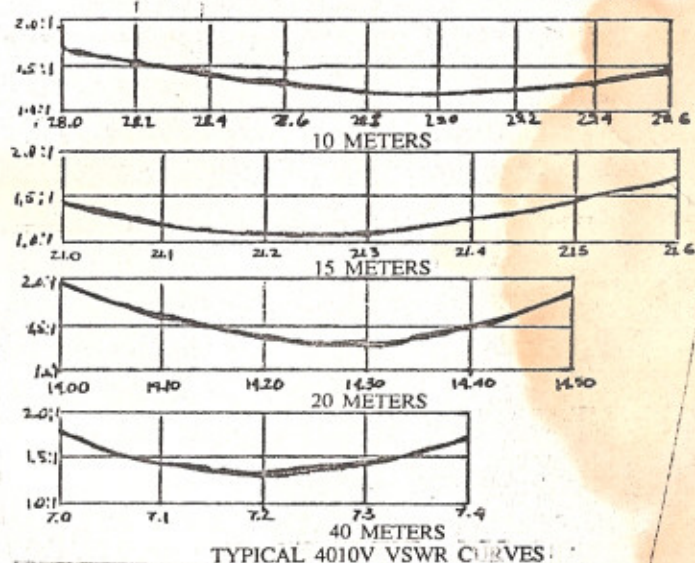


Figure 4

Length	2:1	1.2:1	2:1
44½"	3840	3900	3970
46½"	3790	3850	3920
48½"	3750	3800	3850
50½"	3700	3740	3800
54½"	3590	3650	3725
58½"	3500	3560	3630

NOTE: WHIP MAY BE ADJUSTED FOR OTHER RESONANT FREQUENCIES. THIS TABLE ONLY SERVES AS A GUIDE.