DIAMOND ANTENNA

Diamond V2000A
6M/2M/70CM Triband Base Antenna Instruction Sheet

Description

The V-2000A is the U.S. version of the V-2000 Tri-Band Antenna. This antenna has been optimized for the U.S. FM Bands. Diamond MX-2000 Triplexer is required for multiband operation.

The V-2000A utilizes a linear phase shift design to couple the different frequency band sections together. The antenna functions as a ½ wavelength counterpoise, two 5/8 wavelength elements at 2m, and four 5/8 wavelength elements at 70cm. A watertight joint assembly connects the two antenna sections into one ridged assembly. The resulting antenna has the same strength as a one piece structure.

Specifications

Frequency:	52-54 MHz, 144-148 MHz, 440-450 MHz
Gain:	2.15dBi(6m), 6.2dB(2m), 8.4dB(70cm)
Impedance:	50 ohms nominal
VSWR:	1.5:1 (typical)
Power Rating:	150 watts
Element Phasing: (6m)	1/2 wavelength (incl. counterpoise)
(2m)	Two 5/8 wavelength
(70cm)	Four 5/8 wavelength
Radials:	Three
Grounding:	DC Ground. Antenna element & radials connected to mounting pipe.
Max. Wind Rating:	112 m.p.h.
Mast Dia. Acceptance:	1.2 to 2.4 inches
Length:	8.3 ft.
Weight:	2.6 lbs.
Connector:	SO-239 female
Req. Triplexer:	MX-2000
Limited Warranty:	One year against defects in material or workmanship.

Assembly Instructions

(1) Remove antenna sections from package and note how sections are tapered to fit together at the Section Joint Assembly.
(2) Upper & Lower Section Joint Assembly. Lay the Upper and Lower Sections in a line end to end. Connect the antenna elements at the Element Joint as seen in Figure 2. Tighten the two set screws. (It may be necessary to slide the brass antenna element slightly out of the upper section in order to fit into the Element Joint Coupler.)
(3) Carefully insert upper fiberglass section into lower fiberglass section. The black line should be touching lower section. Slide gasket holder down to meet lower section joint. Verify proper seating of gasket. Thread upper joint nut onto lower joint. Verify proper seating of gasket. Thread upper joint nut onto lower joint. Do not overtighten.
(4) Fasten radials and secure lock nuts. Figure 7 depicts 6m counterpoise.
(5) 6m Adjustment. Support antenna about 10' above ground. Measure VSWR. Adjust counterpoise radial length for best VSWR at desired operating frequency (see tuning chart below figure 7).
(6) Before final installation, check VSWR on 2m & 70cm. (No adjustment is possible on these two bands.)
(7) Attach mast brackets to Antenna Support Pipe. Pass the coaxial cable through the bottom of the Antenna Support Pipe. Connect coaxial cable to the feed point (Figure 5). Align hole on Antenna Support Pipe with threaded hole at bottom of antenna. Insert screw with lock washer and tighten (Figure 5).
(8) Attach antenna to antenna mast using brackets and hardware kit (figure 6). We suggest mounting one turn of coaxial cable of approximately 10” diameter directly beneath the antenna. This will act as an isolation choke. The coil diameter is not critical—Note: Some cable require a larger diameter coil to prevent movement of center conductor. Tape coil to mast (Figure 6).

Diamond Antennas and Meters are distributed by
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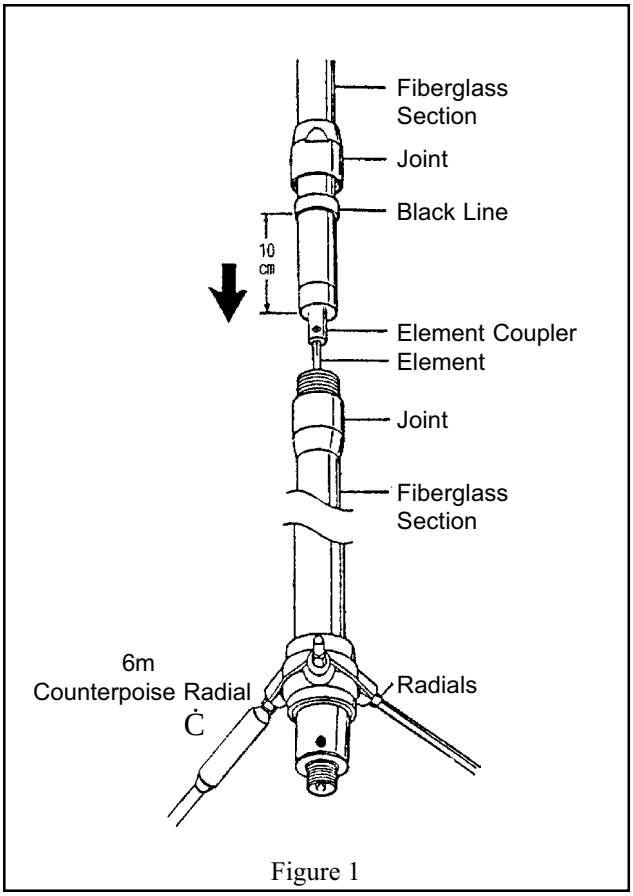

Figure 1

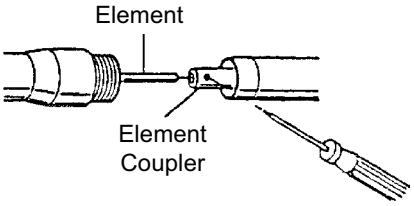

Figure 2

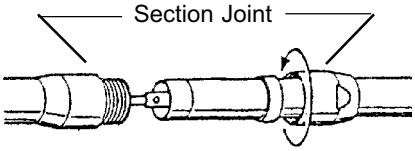

Figure 3

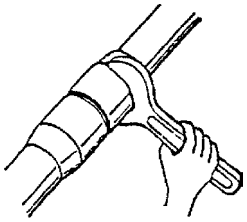

Figure 4

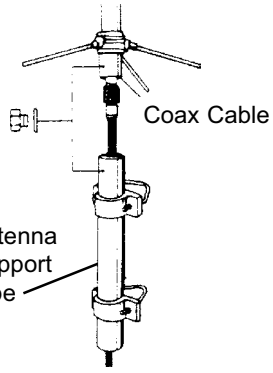

Figure 5

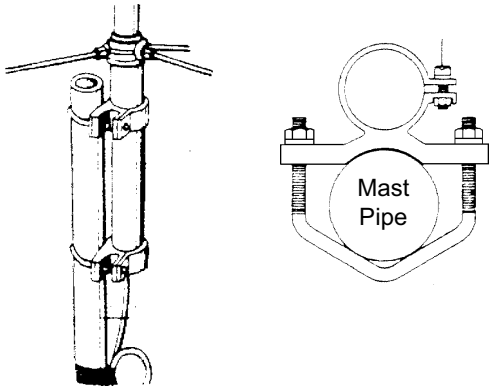

Figure 6

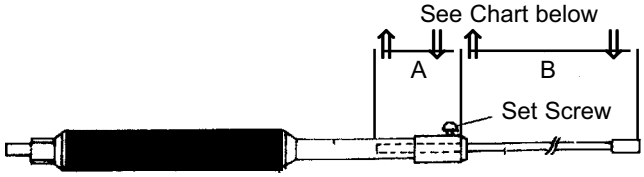

Figure 7
V2000A 6m Counterpoise Radial

6m Radial Adjustment		
6m Center Frequency	Internal Adjustment Length "A"	Rod Length "B"
52 MHz	2 5/8"	23"
52.5 MHz	3 5/8"	22"
53 MHz	4 5/8"	21"
53.5 MHz	5 5/8"	20"
For reference only, some installations may vary. Tune for minimum VSWR.		