MON-3
VHF/UHF/800 MHZ
OMNIDIRECTIONAL ANTENNA

PARTS LIST

PART NO.	QTY	DESCRIPTION
SUB1801	1	3.5”X3”X1” MAIN BRACKET
SUB1802	1	3/8” HEX TO S0239 W/ HARDWARE
1803	1	5/16X6.31” ROUND TUBE
1804	1	5/16X3.25” ROUND TUBE
SUB1805	1	20” MAIN RADIATOR TUBE
14407	1	ALUM. BACKUP PLATE
32767	2	1/4”-20X1” ALUM PHILLIPS SCREW
1815	2	3/16”X17.5” RODS– TAPPED FOR 6-32
5028	1	TRAP CLAMP– 2 PCS.
5027	1	6-32X3/4” S.S. PHILIPS MACHINE SCREW
1808	1	3 3/16” 5/16” ROUND TUBE NOT TAPPED
14409	2	S.S. 1/4-20X2” HEX HEAD BOLT
14410	2	S.S. 1/4-20 HEX NUT
14418	2	1/4” S.S. SPLIT RING LOCKWASHER
14411	2	S.S. 1/4” FLATWASHER
1813	2	6-32X3/4” S.S. PHILLIPS SCREW
1814	2	#6 STAINLESS LOCKWASHERS
14413	1	MON-3 INSTRUCTION SHEET

FIG. 1

ASSEMBLY

1. Refer to Fig. 1 and 2. The main bracket (SUB1801), coaxial connector (SUB1802), main radiator tube (SUB1805), 800MHz radiator (1804), 800MHz trap (1808,5028) and UHF radiator (1803) come preassembled

2. Refer to Fig 1 and Fig. 2. Locate the two 3/16"X17.5" radials (1815). Attach the radials to the main bracket using two 6-32X3/4" stainless phillips screws (1813) and #6 lockwashers. The lock-washers should be placed underneath the screw heads..
Firmly tighten the Phillips screws.

3. If not already done: Refer to Fig.2 and 3 to attach the backup plate to the main bracket. Use two 1/4-20X2" stainless hex bolts, stainless flatwashers (14411) and stainless lockwashers (14418) and hex nuts (14410) as shown.

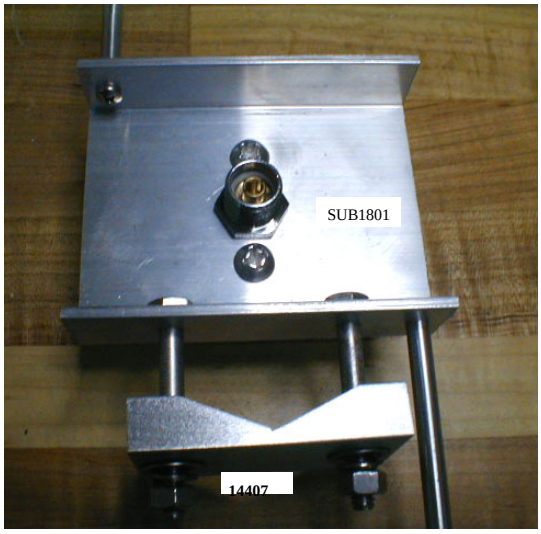

Fig. 2

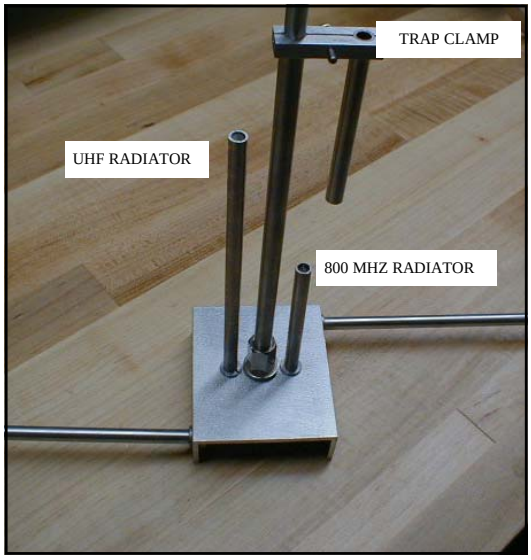

Fig. 3

HOW THE ANTENNA WORKS

At VHF HI, the center tube functions as a broad band 1/4 wave radiator. The 2 horizontal tubes decouple the radiator from the feedline and act as a counterpoise. Even though there are only 2 counterpoises, modeling and range tests show the antenna has an excellent omni pattern. On UHF and 800 MHz the 2 shorter radiators function as full size quarter wave radiators. Through proper spacing and selection of the radiator diameters, excellent coupling and a low V.S.W.R. are obtained. The trap associated with the main radiator effectively isolates the main radiator making it invisible to the 800 MHz energy—thus realizing full gain and a low takeoff angle.

Even though the antenna is not resonant at VHF-LO, the series feed arrangement allows the antenna to function in this band with reasonable efficiency.

SPECIFICATIONS

Polarity:	Vertical
Pattern:	Within +/1 dB omnidirectional
Design Z:	50 Ohms
Optimized Bands:	144-174 , 430-470 , 800-900 MHz
Weight:	1 lb
Size:.	21” High X 39” wide
Materials:	6061-T6 Aluminum
Connector:	SO239
Mast Size	1/2”- 1 1/4”
Hardware:	Stainless Steel

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