

hy-gain

308 Industrial Park Road
Starkville, MS 39759 USA
Ph: (662) 323-9538 FAX: (662) 323-6551

TH3-MK4 Triband HF Beam 3-Element 10, 15, 20 Meter

INSTRUCTION MANUAL

General Description

The Hy-Gain TH3-MK4 is a 3 element, 3 band beam antenna designed for operation on the 10, 15, and 20 meter amateur bands. The TH3-MK4 uses Hy-Gain's full power "Hy-Q" traps, and HyGain's rugged boom-to-mast bracket. The TH3MK4 will mount on a standard 2" O.D. mast and can be rotated with Hy-Gain's CD-4511 or HAMIV rotators. All hardware is stainless steel.

New features in the TH3-MK4 compared to the TH3-MK3 include - all stainless steel hardware, a new Beta-match, 3 settings, and a 4 piece boom - ideal for DXpeditions!

Specifications	
<i>Electrical:</i>	
Gain (ave.)	5.8 dBd (8.0 dBi)
Front-To-Back Ratio (max.)	25 dB
Maximum Power	1500 Watts PEP
VSWR at resonance	Less than 1.5:1
Input Impedance	50 ohms
Matching System	Beta (DC Ground)
<i>Mechanical:</i>	
Boom Length	14 ft. (4.3m)
Boom Diameter	2 in. (51mm)
Longest Element	27' 5" (8.36m)
Turning Radius	15' 4" (4.67m)
Accepts Mast	1.9 to 2.5in. (48 to 64mm)
Net Weight	35 lb. (16 kg)
Shipping Weight	40 lb. (18 kg)
Maximum Wind Survival	95mph (153 kmph)
Wind Surface Area (max.)	4.6 sq. ft. (0.4 sq. m)
Wind Load at 80 MPH	118 lb. (53.6 kg)
Hardware	All Stainless Steel
Suitable Rotators	Hy-Gain CD-45II or HAM-IV

Preparation for Assembly

FOR OUR OVERSEAS CUSTOMERS: The United States uses American units of measurement. Please see page 12 of this manual for American-to-Metric conversion. Most illustrations include both American and Metric dimensions.

When unpacking your antenna, check inside of all tubing for smaller tubes and traps. To conserve space and protect traps, these parts are packed this way. Check all parts against the parts list to ensure no parts are missing.

Choose a large, clear area to assemble your TH3-MK4 antenna. The area must be at least 14' x 28' (4.3 m x 8.6 m). You may wish to use a temporary mast to support the boom during assembly. All tubing supplied with the TH3-MK4 telescopes together. Make all measurements to the given dimensions, plus or minus no more than 1/8 inch (3 mm).

The following tools are required for easy assembly of the TH3-MK4

Tape Measure – 12 foot

Nut Drivers – 5/16", 3/8", 7/16", 1/2"

(8,9.5,11,12.7mm)

Assembly of the Boom

Select the boom-to-mast clamps (Items 5 and 6). Loosely assemble them on the drilled ends of the two boom sections (Item 8) using the 1/4"-20 x 3/4" bolts, 1/4" nuts and lockwashers (Items 26, 28, and 29). Secure the booms to the bracket using the two 5/16"-18 x 2 3/4" screws, nuts and lockwashers (Items 36, 38, and 39). Tighten these six bolts securely.

Assemble the two cast aluminum brackets (Item 1) on your temporary mast about 4 feet (1 m) above ground. Secure the two brackets together using the two 5/16"-18 x 3" bolts, nuts and lockwashers. Tighten these two bolts evenly until the brackets are snug.

Attach the boom assembly to these two brackets using the four 5/16"-18 x 5" bolts, nuts and lockwashers (Items 33, 38, and 39). Tighten these four bolts just enough to hold the weight of the

Assemble the remaining two boom sections (Item 7) to the ends of the assembled boom using 1/4"-20 x 2 1/2" screws, nuts, and lockwashers. Tighten securely.

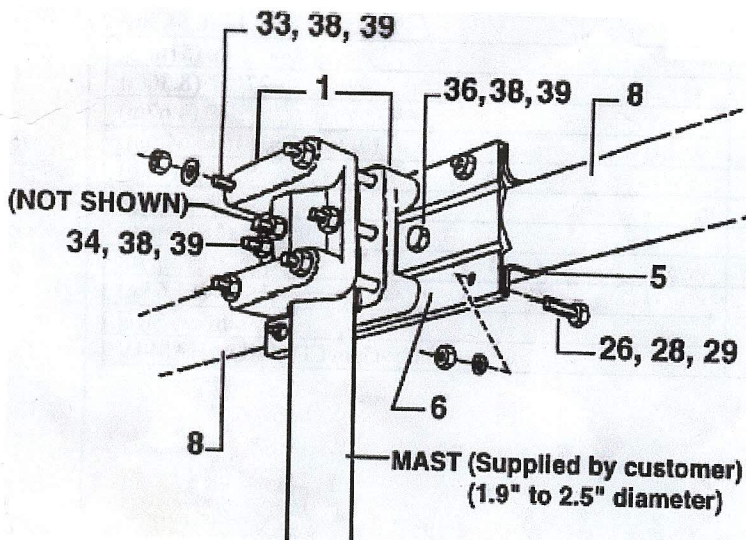


Figure 1 Boom-to-Mast Bracket

Item No.	Description
1	Mast Bracket, cast aluminum
5	Clamp, boom to bracket
6	Bracket, Casting to boom
7	Tube, 2" x .049 x 4212"
8	Tube, 2" x .049 x 4612", swaged
26	Bolt 1/4"-20 x 3/4", hex head, stainless steel
28	Nut, 1/4"-20, hex, stainless steel
29	Lockwasher, 1/4", internal, stainless steel
33	Bolt, 5/16"-18 x 5", hex head, stainless steel
34	Bolt 5/16"-18 x 3", hex head, stainless steel
36	Bolt, 5/16"-18 x 2 3/4", hex head, stainless steel
38	Nut, 5/16"-18, hex, stainless steel
39	Lockwasher, 5/16", split, stainless steel

