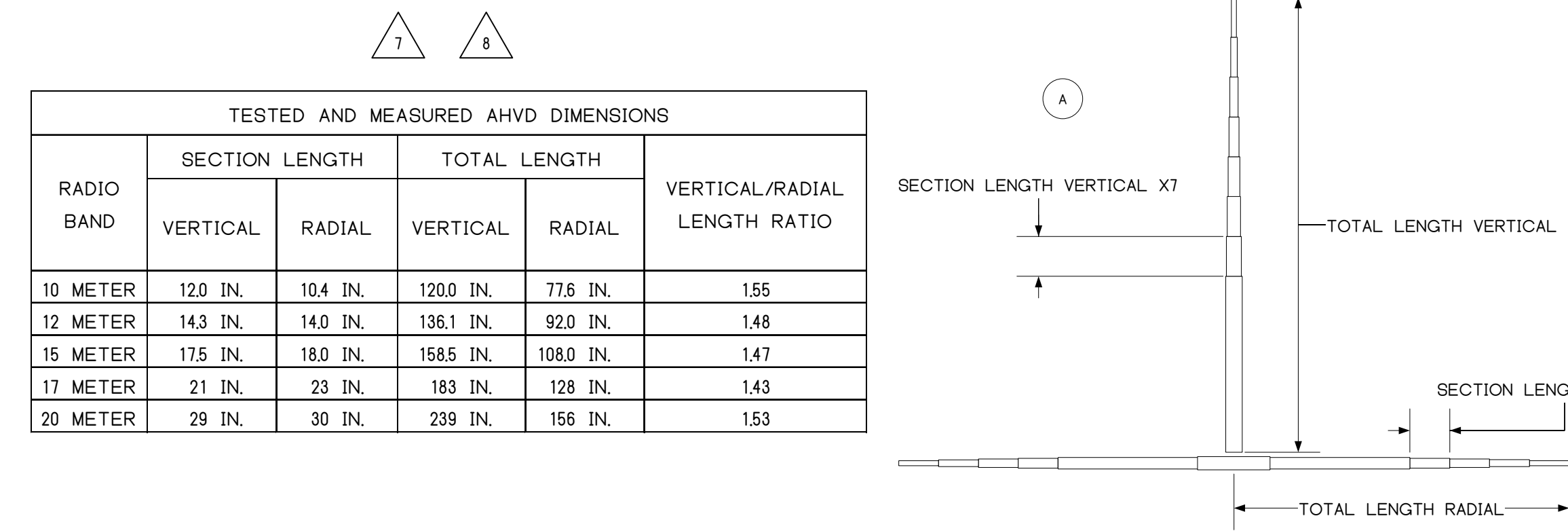


**NOTES:**

- 1 - INFORMATION ON THIS ANTENNA DESIGN AVAILABLE AT [HTTP://WWW.HAMRADIO.ME/](http://www.hamradio.me/). BUILD AT YOUR OWN RISK. THE AUTHOR PROVIDES THIS DRAWING "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
- 2 - DE-BURR ALL TUBE ENDS BEFORE ASSEMBLY.
- 3 - ANTENNA HUB PLATE, MP8, DOES NOT BEAR THE WEIGHT OF THE VERTICAL ELEMENT AS THE FORCES TRANSMIT DIRECTLY TO TRIPOD MAST.
- 4 - ATTACH FEEDLINE TO #10 STUDS OF H6 AND H7. THIS ANTENNA DESIGN REQUIRES A VERY GOOD CHOKE BALUN. CONSULT "A HAM'S GUIDE TO RFI, FERRITES, BALUNS, AND AUDIO INTERFACING" BY JIM BROWN (K9YC) FOR GUIDANCE. IF THIS ANTENNA ASSEMBLY IS THE PARASITIC COMPONENT OF A YAGI-UDA ARRANGEMENT, ATTACH A SHORTING WIRE BETWEEN H6 AND H7 AND ADJUST ELEMENT LENGTHS PER THE YAGI-UDA DESIGN DIMENSIONS.
- 5 - TRIPOD, MP30, IS A COMMERCIAL SPEAKER STAND AVAILABLE FROM YOUR LOCAL MUSIC GEAR SUPPLIER. COMMERCIAL SPEAKERS HAVE EITHER 1-3/8 OR 1-1/2 INCH DIAMETER SOCKETS. DX ENGINEERING'S RESIN SUPPORT BLOCKS ACCOMMODATE THE 1-1/2 INCH DIAMETER. THUS, THIS ANTENNA ASSEMBLY EXPECTS THE SPEAKER STAND TO HAVE A 1-1/2 INCH DIAMETER MAST. MY PERSONAL STAND HAS A MAST THAT TAPERS TO 1-3/8 INCH ON ONE END, BUT, BY FLIPPING IT OVER, PROVIDES 1-1/2 INCH MAST ALONG THE ENTIRE INTERFACE TO PLATE MP8. THERE ARE HUNDREDS OF SPEAKER STAND MODELS AVAILABLE. TAKE THE TIME TO FIND A MODEL THAT PROVIDES ABOUT 12 INCHES OF 1-1/2 INCH MAST TO MATE WITH THE PLATE ASSEMBLY.
- 6 - THE MIDDLE RADIAL SUPPORT TUBE, MP7, IS ONE FOOT LONG. THIS PROTRUDES BEYOND THE SUPPORT PLATE FAR ENOUGH TO PROPERLY GRIP AND SUPPORT THE RADIAL TUBES, MP6 AND MP18, YET REMAIN SHORT ENOUGH TO ACCOMMODATE STOWAGE AND TRANSPORT. A 3 FOOT TUBE WILL WORK AS MP7 JUST AS WELL IF YOU DO NOT WANT TO SHORTEN A STOCK TUBE. THIS RESULTS IN A MORE AWKWARD PLATE/MAST ASSEMBLY UNLESS YOU REMOVE MP7 FROM THE PLATE DURING TRANSPORT.
- 7 - ALWAYS INSTALL RADIAL TUBES, MP6 AND MP18, SIX INCHES INTO MIDDLE RADIAL TUBE, MP7, SO THEY MEET IN THE CENTERLINE OF THE ANTENNA. NEVER EXTEND MP6 AND MP18 FROM THIS POSITION.
- 8 - EXAMPLE DIMENSIONS APPLY TO MEASUREMENTS TAKEN WITH THE ANTENNA RADIALS ABOUT 3.5 FEET ABOVE TYPICAL VIRGINIA SOIL WITH CHOKE AT FEEDPOINT. OTHER ENVIRONMENTS AND FEED TECHNIQUES MAY DIFFER, BUT THESE MEASUREMENTS WILL BE CLOSE.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
-	-	INITIAL REVISION	2013-01-18	J. S. HUGGINS
A4, G2	A	GRAPHIC FIX, DIMENSION CHART CLARITY IMPROVEMENT	2013-07-21	J. S. HUGGINS
B5, E2	B	FIXED ANNOTATION PLACEMENT, FIXED BOM ITEM 25 REFERENCE	2013-07-27	J. S. HUGGINS
E2	C	MP7 & MP8 NOW DX ENGINEERING PARTS. ADDED STAND MAKE/MODEL	2013-08-01	J. S. HUGGINS
E2	D	ADJUSTMENT TO PARTS LIST SHOWING VENDOR SPECIFIC QUANTITIES	2014-02-05	J. S. HUGGINS
-	E	REFINED NOTES - COSMETIC IMPROVEMENTS TO DRAWING AND PARTS LIST	2014-02-09	J. S. HUGGINS
E2	F	FIX OF ITEMS 1, 2 AND 5 IN PARTS LIST	2014-03-09	J. L. HUGGINS

**BAND ADJUSTMENT INSTRUCTIONS**

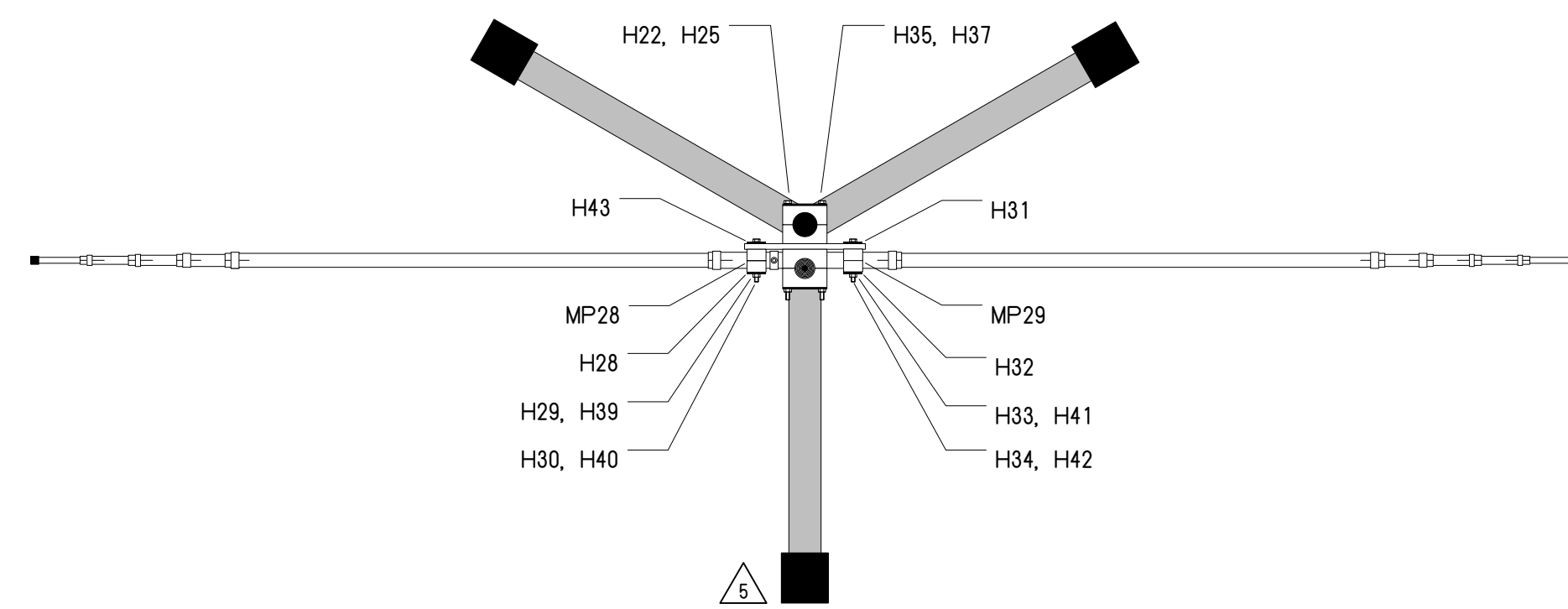


RADIO BAND	SECTION LENGTH		TOTAL LENGTH		VERTICAL/RADIAL LENGTH RATIO
	VERTICAL	RADIAL	VERTICAL	RADIAL	
10 METER	12.0 IN.	10.4 IN.	120.0 IN.	77.6 IN.	1.55
12 METER	14.3 IN.	14.0 IN.	136.1 IN.	92.0 IN.	1.48
15 METER	17.5 IN.	18.0 IN.	158.5 IN.	108.0 IN.	1.47
17 METER	21 IN.	23 IN.	183 IN.	128 IN.	1.43
20 METER	29 IN.	30 IN.	239 IN.	156 IN.	1.53

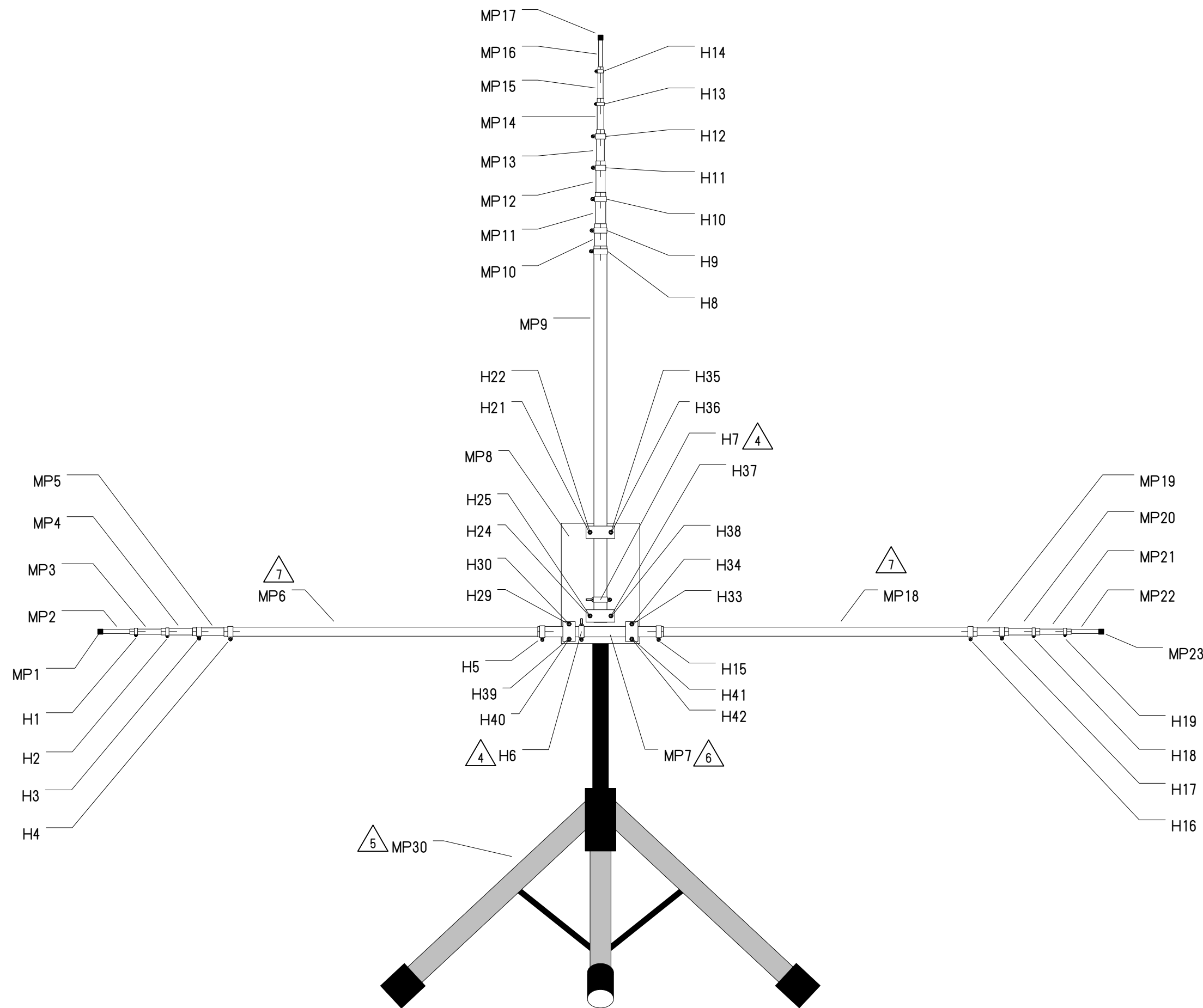
**PARTS LIST**

ASSEMBLY COMPONENT DETAILS				VENDOR ORDER DETAILS			
ITEM	QTY	REFERENCE	DESCRIPTION	MAKE	MODEL	UNIT OF MEAS	QTY
1	1	H6	CLAMP, SS, #10-24 STUD, 1/2 IN. WIDTH, 1.000 IN. OD	DX ENGINEERING	DXE-ECLS-100	BAG OF 2	1
2	1	H7	CLAMP, SS, #10-24 STUD, 1/2 IN. WIDTH, 1.125 TO 1.250 IN. OD	DX ENGINEERING	DXE-ECLS-125	BAG OF 2	1
3	3	H1, H14, H19	CLAMP, SS, 5/16 IN. WIDTH, 0.375 TO 0.500 IN. OD	DX ENGINEERING	DXE-ECL-020	EACH	3
4	3	H2, H13, H18	CLAMP, SS, 5/16 IN. WIDTH, 0.625 IN. OD	DX ENGINEERING	DXE-ECL-040	EACH	3
5	6	H3, H4, H11, H12, H16, H17	CLAMP, SS, 5/16 IN. WIDTH, 0.750 TO 0.875 IN. OD	DX ENGINEERING	DXE-ECL-060	EACH	6
6	3	H5, H10, H15	CLAMP, SS, 9/16 IN. WIDTH, 1.000 IN. OD	DX ENGINEERING	DXE-ECL-10SS	EACH	3
7	2	H8, H9	CLAMP, SS, 9/16 IN. WIDTH, 1.125 TO 1.250 IN. OD	DX ENGINEERING	DXE-ECL-12SS	EACH	2
8	3	MP1, MP17, MP23	END CAP, VINYL, BLACK, UV RESISTANT, 0.5 IN. L, FITS 0.375 IN. OD	DX ENGINEERING	DXE-VC-0375	BAG OF 20	1
9	4	H30, H34, H40, H42	HARDWARE, SS, BOLTS, 1/4-20, 2.5 INCH LENGTH	LOCAL SOURCE	BEST	EACH	4
10	4	H22, H25, H35, H37	HARDWARE, SS, BOLTS, 1/4-20, 6.0 INCH LENGTH	LOCAL SOURCE	BEST	EACH	4
11	8	H21, H24, H29, H33, H36, H38, H39, H41	HARDWARE, SS, NUTS, 1/4-20	LOCAL SOURCE	BEST	EACH	8
12	4	H28, H31, H32, H43	MOUNT, RESIN SUPPORT BLOCK REINFORCEMENT PLATE, 0.75 AND 1.00 IN.	DX ENGINEERING	DXE-RSB-DP-3	EACH	4
13	4	H20, H23, H26, H27	MOUNT, RESIN SUPPORT BLOCK REINFORCEMENT PLATE, 1.25 AND 1.50 IN.	DX ENGINEERING	DXE-RSB-DP-5	EACH	4
14	2	MP28, MP29	MOUNT, RESIN SUPPORT BLOCK CLAMP, 1.000 IN.	DX ENGINEERING	DXE-RSB-110000	EACH	2
15	2	MP24, MP25	MOUNT, RESIN SUPPORT BLOCK CLAMP, 1.250 IN.	DX ENGINEERING	DXE-RSB-112500	EACH	2
16	2	MP26, MP27	MOUNT, RESIN SUPPORT BLOCK CLAMP, 1.500 IN.	DX ENGINEERING	DXE-RSB-111500	EACH	2
17	1	MP8	PLATE, VERTICAL DIPOLE ANTENNA SUPPORT PLATE PER KX4O-000050	DX ENGINEERING	DXE-MMP-KX4O	EACH	1
18	3	MP2, MP16, MP22	TUBE, ALUMINUM, 0.375 IN. DIA., 0.058 IN. WALL, NO SLIT, 3 FT.	DX ENGINEERING	DXE-AT1241	EACH	3
19	3	MP3, MP15, MP21	TUBE, ALUMINUM, 0.500 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	DX ENGINEERING	DXE-AT1241	EACH	3
20	3	MP4, MP14, MP20	TUBE, ALUMINUM, 0.625 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	DX ENGINEERING	DXE-AT1242	EACH	3
21	3	MP5, MP13, MP19	TUBE, ALUMINUM, 0.750 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	DX ENGINEERING	DXE-AT1243	EACH	3
22	3	MP6, MP12, MP18	TUBE, ALUMINUM, 0.875 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	DX ENGINEERING	DXE-AT1244	EACH	3
23	1	MP7	TUBE, ALUMINUM, 1.000 IN. DIA., 0.058 IN. WALL, SLIT BOTH ENDS, 1 FT.	DX ENGINEERING	DXE-AT-KX4O	EACH	1
24	1	MP11	TUBE, ALUMINUM, 1.000 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	DX ENGINEERING	DXE-AT1245	EACH	1
25	1	MP10	TUBE, ALUMINUM, 1.125 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	DX ENGINEERING	DXE-AT1246	EACH	1
26	1	MP9	TUBE, ALUMINUM, 1.250 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	DX ENGINEERING	DXE-AT1247	EACH	1
27	1	MP30	STAND, SPEAKER, ALUMINUM, 15" REVERSIBLE UPPER SHAFT, SAFETY PIN	ON-STAGE	SS7761B	EACH	1

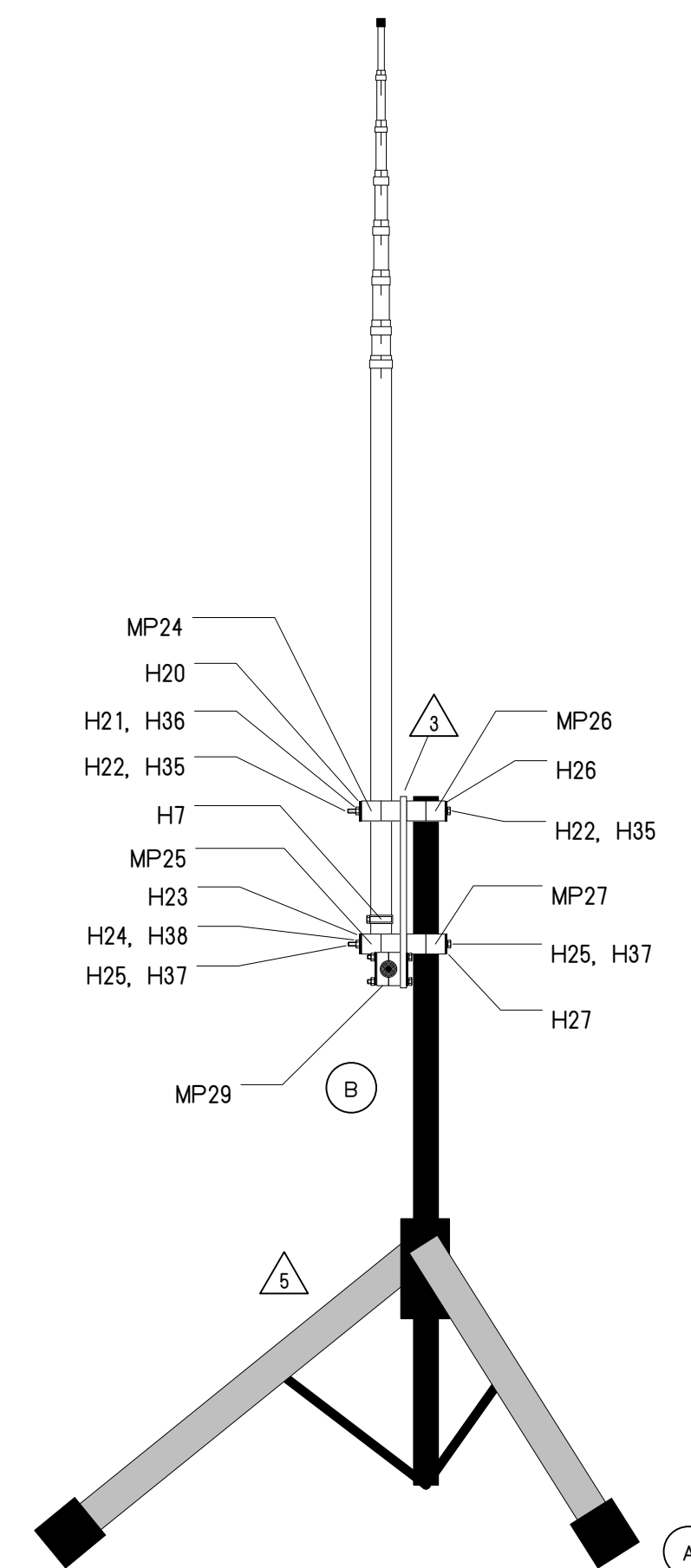
**TOP VIEW**



**FRONT VIEW**



**SIDE VIEW**



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SCALE NONE			