

Model – HexTenna

Operating Manual, Version 2.2, June 13, 2019

Operation

The HexTenna™ by Alpha Antenna® is a portable full-sized UHF/VHF/HF system that is configurable as a HF Vertical (with counterpoise), UHF Vertical (without counterpoise), and HF/VHF Dipole, which is also deployable as a VHF/HF Yagi when the optional HexTenna™ Yagi add-on is used.

Excess RF Exposure Warning

In the United States, the Federal Communications Commission has established guidelines for human exposure to Radio Frequency (RF) electromagnetic fields. The commission's requirements are detailed in parts 1 & 2 of the FCC's rules and regulations {47 CFR, 1.1307(b), 1.1310, 22.1091, 2.1093}. It is the responsibility of the owner/operator of this device to follow all applicable warnings and precautions regarding human exposure to RF fields. Additional references: <http://www.arrl.org/rf-exposure>

Deployment

Step	HexTenna Assembly
1	Install the included mount on a secured 1 to 1 ¼ inch O.D. mast, or install the hub on the optional HD-Tripod.
2	Screw each whip into the hub at the location for the antenna type being deployed.
3	Install any optional counterpoise if being used as a vertical.
4	Attach your coax to the built in SO-239 on the Alpha Match hub.
5	Use the included measuring tape to adjust the length of the whip(s) to closely match the lengths on the charts below.
6	Make any final adjustments to the whip(s) until the lowest SWR is achieved.
<i>+ If installing the system as a HexTenna Yagi</i>	
+ 7	Install both hubs on the boom and install the boom on the top of mast mount or optional HD-Tripod.
+ 8	Install the Yagi Plug on the hub where the reflector elements are installed.

+ Yagi Gain, Height, and Element lengths				
MHz	Gain/Height		Element lengths	
	Gain/Height	Gain/Height	Each Driven Element	Each Reflector
7.15	10.1 dBi/66 feet	8.79 dBi/5.5 feet	9.9752727 M/392.75 Inches	10.05 M/395.67 Inches
14.18	10 dBi/33 feet	8.45 dBi/5.5 feet	5.1689 M/203.5 Inches	5.2 M/204.75 Inches
18.12	9.41 dBi/89.41/33 feet	8.28 dBi/5.5 feet	3.98145 M/156.75 Inches	4.1 M/161.5 Inches
21.23	12.7 dBi/33 feet	8.18 dBi/5.5 feet	3.34 M/131.5 Inches	3.55 M/139.75 Inches
24.94	9.33 dBi/33 feet	8.1 dBi/5.5 feet	2.8956 M/114 Inches	3 M/118.25 Inches
28.85	9.73 dBi/33 feet	8.09 dBi/5.5 feet	2.5273 M/99.5 Inches	2.6 M/102.37 Inches
52.00	8.95 dBi/33 feet	8.66 dBi/5.5 feet	1.422397968 M/56 Inches	1.55 M/61 Inches
146.00	10.7 dBi/33 feet	10.1 dBi/5.5 feet	1.4097 M/55.5 Inches	1.45 M/57 Inches

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Dipole Element lengths *30/40 Meters is enabled with the optional add-on elements		
Band	Dipole Element 1	Dipole Element 2
*30/40	Fully extend the telescopic element for 40M (or retracted about 7.5 feet for 30M) with add-on elements clipped to the tip of each telescopic element and deployed to form an M-Shaped dipole. The wire element can be held straight by pushing the included stake into the ground or removing the stake and tying off either end with the included green insulators. Tuning is achieved after the wire elements are installed, by equally retracting each element till resonance is achieved.	Fully extend the telescopic element for 40M (or retracted about 7.5 feet for 30M) with add-on elements clipped to the tip of each telescopic element and deployed to form an M-Shaped dipole. The wire element can be held straight by pushing the included stake into the ground or removing the stake and tying off either end with the included green insulators. Tuning is achieved after the wire elements are installed, by equally retracting each element till resonance is achieved.
20	16 feet 11.5 inches	16 feet 11.5 inches
17	13 feet 3/4 inch	13 feet 3/4 inch
15	10 feet 11 1/2 inches	10 feet 11 1/2 inches
12	9 feet 6 inches	9 feet 6 inches
10	8 feet 3 1/2 inches	8 feet 3 1/2 inches
6	4 feet 8 inches	4 feet 8 inches
2	55.5 inches	55.5 inches

Vertical Element & Counterpoise lengths (Roll out the single counterpoise for minimum SWR)			
Band	Approximate length of Vertical Element**	Approximate Length of 4 user provided Counterpoise Elements**	**Lengths of the Vertical Element & Counterpoise may vary based upon coax, environment, & variables unique to the user site and/or equipment. Enter installation specific notes here.
20	13 feet 2 inches	18 feet 2 inches	
17	9 feet 8 inches	14 feet 2 3/8 inches	
15	8 feet 7 3/4 inches	12 feet 1 1/2 inches	
12	7 feet 1 inches	10 feet 4 inches	
10	6 feet	9 feet	

Vertical Element length with No Counterpoise		
440 Mhz	2 feet 2 inches	No counterpoise recommended
220 MHz	3 feet 4.75 inches	No counterpoise recommended

** These are approximate lengths and you are encouraged to enter your own lengths based upon variations in the last column of the Vertical Element and Counterpoise lengths.

By using the approximate Dipole lengths above, the HexTenna™ is configurable as a Delta Loop (with a user supplied jumper wire between the tips of the dipole elements) or as a Yagi (with multiple HexTenna™ systems) with the 1st as a driven element & a 2nd as a reflector with 5% added length.

Support Contacts

Email: support@alphaantenna.com - WEB: www.alphaantenna.com