

### Introduction

The **HexTenna™** by **Alpha Antenna®** is a versatile, portable antenna system designed for amateur radio enthusiasts. Whether you're operating in the field, at home, or during emergency situations, the HexTenna™ provides reliable performance across multiple bands. This technical manual outlines the assembly, deployment, and usage of the HexTenna™ as both a vertical and dipole antenna.

### **Specifications**

- **Maximum Power:** 1.5 kW PEP (SSB)
- **Frequency Bands:** UHF/VHF/HF
- **Configurations:**
  - **Vertical:** Deployable as a HF/VHF/UHF vertical antenna from 440Mhz through 14MHz. This configuration provides the lowest take-off angle, which enhances DX performance.
  - **Dipole:** Deployable as a HF/VHF dipole antenna from 2 through 40 meters for higher take-off angles, which enhances NVIS performance.
  - **Yagi:** When purchased, the HexTenna™ can be deployed as a 2 through 20-meter Yagi antenna, which enhances directionality by providing gain for the signal pattern.

### Assembly Instructions

#### **Vertical Configuration**

1. **Install the Hub:**
  - Install the HexTenna hub to the HD-Tripod or upon the "Top of Mast Mount" on a guyed mast.
2. **Deploy the Vertical:**
  - Install one vertical element (and for HF the counterpoise) on the pre-marked 'Vertical' and 'Counterpoise' locations on the hub. For UHF or VHF do not use the counterpoise element.
3. **Tuning:**
  - Tune the vertical element (and counterpoise element if deployed for HF) by adjusting their lengths according to Chart 1 below.

#### **Dipole Configuration**

1. **Install the Hub:**
  - Install the HexTenna hub to the HD-Tripod or upon the "Top of Mast Mount" on a guyed mast.
2. **Deploy the Dipole:**

- Install both telescopic elements on the pre-marked 'Dipole 1' & 'Dipole 2' locations on the hub.

### 3. Tuning:

- Tune the dipole elements by adjusting their lengths according to Chart 1 below.

### Optional Yagi Configuration

#### 1. Deployment of the Yagi:

- Follow the same steps as for Installation and Deployment then tune the Yagi elements according to Chart 1 below.
- Note that Yagi does not support UHF, 30, or 40 meters.

**CHART 1**

**\*Adjust element length to tune for the lowest SWR**

Band <small>30/40 forms an M-Dipole</small>	* Each Dipole Element (add 4 % if Yagi reflector)	
	<b>40 Meters</b>	<b>15 ft 8.5 in &amp; clip add-on element to whip's corona ball</b>
<b>30 Meters</b>	<b>4 ft 3.5 in &amp; clip add-on element to whip's corona ball</b>	
<b>20 Meters</b>	<b>16 feet 11 1/2 inches</b>	
<b>17 Meters</b>	<b>13 feet 3/4 inch</b>	
<b>15 Meters</b>	<b>10 feet 11 1/2 inches</b>	
<b>12 Meters</b>	<b>9 feet 6 inches</b>	
<b>10 Meters</b>	<b>8 feet 3 1/2 inches</b>	
<b>6 Meters</b>	<b>4 feet 8 inches</b>	
<b>2 Meters</b>	<b>4 feet 7 1/2 inches</b>	
Band	* Vertical Element	* Counterpoise
<b>20 Meter</b>	<b>13 feet 2 inches</b>	<b>18 feet 2 inches</b>
<b>17 Meters</b>	<b>9 feet 8 inches</b>	<b>14 feet 2 3/8 inches</b>
<b>15 Meters</b>	<b>8 feet 7 3/4 inches</b>	<b>12 feet 1 1/2 inches</b>
<b>12 Meters</b>	<b>7 feet 1 inch</b>	<b>10 feet 4 inches</b>
<b>10 Meters</b>	<b>6 feet</b>	<b>9 feet</b>
<b>220 MHz</b>	<b>2 feet 2 inches</b>	<b>No counterpoise</b>
<b>440 MHz</b>	<b>3 feet 4 3/4 inches</b>	<b>No counterpoise</b>

**DIPOLE/YAGI**  
The deployed length of the elements can vary based upon ground conditions.

**VERTICAL**

### Troubleshooting

- **Resonance:** Ensure proper tuning for optimal performance.
- **Counterpoise:** If using as a vertical, add the counterpoise element for HF to increase efficiency.
- **Maintenance:** Regularly inspect connections and wires for wear.

For additional information contact [alphaantenna@gmail.com](mailto:alphaantenna@gmail.com)

*NOTE – This technical manual is a simplified guide. Please contact Alpha Antenna if you have additional questions.*