



OVERVIEW

The BuddiHEX is a 6-band high performance hexbeam. Specifically designed to be light in weight this antenna is a great choice for both portable and base station use. The antenna packs into a set of compact components for quick setup.

Please use the following instructions to assemble the antenna.

SUPPORT STRUCTURE ASSEMBLY

1. Sit the lower hub on the ground with upper hub vertically above it.

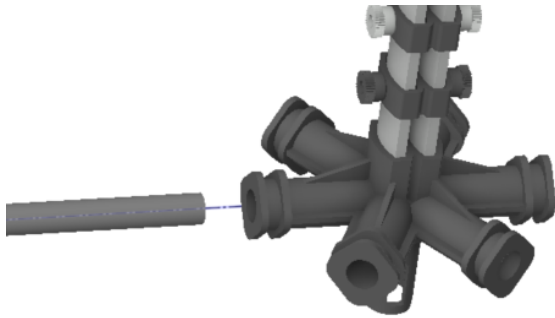


Figure 1 Inserting spreader arm into lower hub

Unfold each of the six spreader arms and insert into the lower hub arm sockets (Figure 1 above). The assembly should now look like a central hub with six spokes (Figure 2 below)

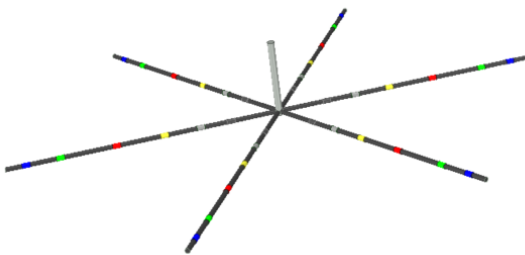


Figure 2 Lower hub with 6 spreader arms installed

2. The color-coded wire clips on each spreader must be positioned on the spreader. Rotate each of the six wire clips on each arm so the clip opening is facing towards the ground and slide each holder towards the outside

end of the spreader until it fits snugly against the clip stop (Figure 3 below)



Figure 3 Wire clip positioning

3. Tensioning cords are attached to the end caps of each spreader. Rotate the end cap to orient as shown in Figure 4.

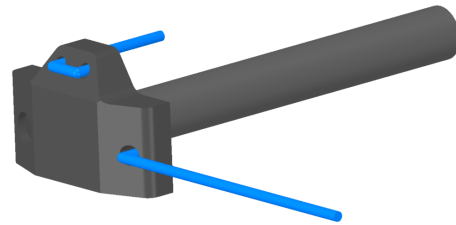


Figure 4 Spreader end cap cords

4. Grasp the toggle end of one of the support cords and attach it to upper hub of the central support as shown in Figure 5. After inserting the toggle through the hole twist the toggle into a vertical position so that it locks in place.

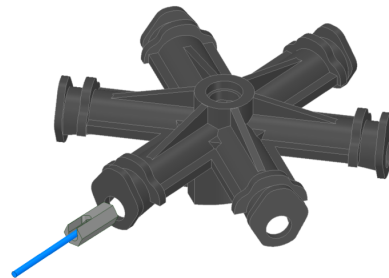


Figure 5 Inserting toggle into upper hub

5. Walk to the end of the spreader diametrically opposite to the one you have just added and connect the cord on that spreader to the upper hub to balance the load on the central support as shown in Figure 6.

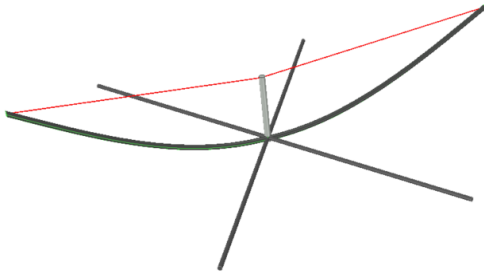


Figure 6 Add support cords to upper hub

6. Repeat the same process for the remaining four spreader arms. (Figure 7)

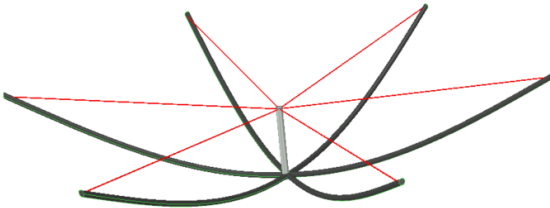


Figure 7 All support cords attached to spreaders

7. Attach the outer peripheral cords at the outer end of the spreader arms between each of the spreader arms.

Start by taking the free end of a peripheral cord and pass the toggle at the end of the cord through the left-hand hole in the adjacent spreader to the right (Figure 4).

Walk in a counterclockwise direction attaching the next cord to the adjacent spreader arm to the right until all the spreaders are connected as shown in Figure 8.

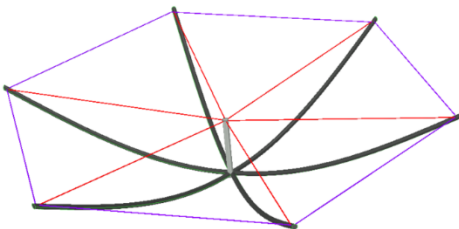


Figure 8 Peripheral cords connect each spreader

The HX6 support structure is now complete and ready to accept the antenna wires.

INSTALLING ANTENNA WIRES

The BuddiHEX is a six-band antenna comprised of six nested antennas driven from a single feed-point located at the top of the vertical feed-point assembly. Each of these separate antennas consists of a two-element beam using a driven element and a parasitic reflector arranged to form a modified Moxon beam antenna (Figure 9).

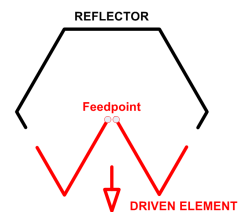


Figure 9 Top view of element arrangement

The vertical feed point assembly (VFA) has a dedicated pair of connections indicated by the color-coded screw terminals (Figure 10 below).

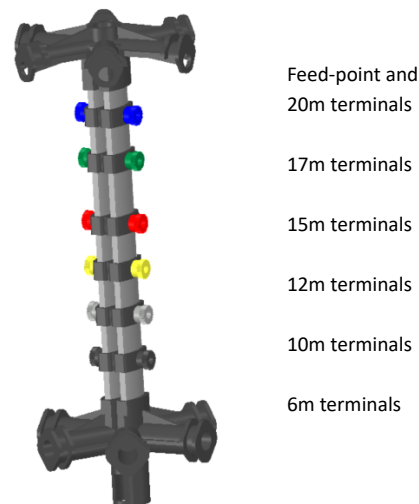
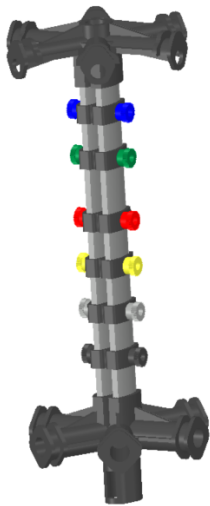


Figure 10 Vertical feed-point assembly (VFA)

The antenna for each band is pre-tuned for the band and consists of a driven and reflector assembly which is supported by color-coded wire clips attached to the spreader arms.

It is recommended that wire installation begins with the 20m band which is mounted on the outside end of the spreader arms. This allows you better access to the vertical feed-point assembly as you add each antenna element.

1. Loosely connect the BNC feed-point adapter to the 20m feed point at the upper end of the vertical feed assembly (this will be tightened when the 20m antenna wires are connected).
2. Unwind the 20m antenna and lay out on the ground
3. Take one of the antenna terminal hooks and attach to the top right-hand terminal (blue) and tighten, ensuring that the BNC terminal leads is also tightened.
4. Follow the step in the side bar below:



a) Connect the 20m driven element starting with the right-hand side of the feed point first.

b) Walk round the antenna attaching the 20m antenna to the blue wire clip on each spreader and proceed in a counterclockwise direction until you have attached to all wire clips (Figure 11)

c) Connect the end of the element to the left-hand (blue) terminal.

5. Check that the BNC adapter is connected tightly on both sides of the antenna before installing the next wire assembly.
6. Proceed with installing the wires for the remaining 5 bands starting from 17m to 6m.

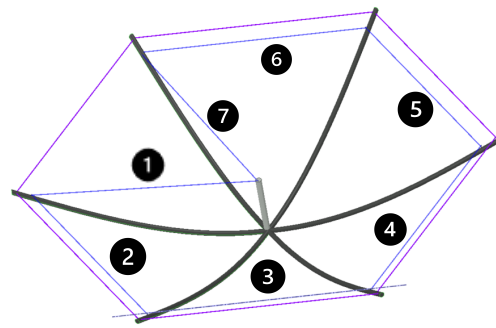


Figure 11 20m antenna installed (support cords not shown)

6. Tensioning cord

The driven elements form a Vee shape at the point where they connect to the vertical feed point (Figure 9). To maintain constant tension around the antenna an additional tension cord is added at the 10m wire clips (grey).

Wrap each end of the inner spreader tensioning cord around the outboard end of the wire clips as shown in the figure below (orange colored line).

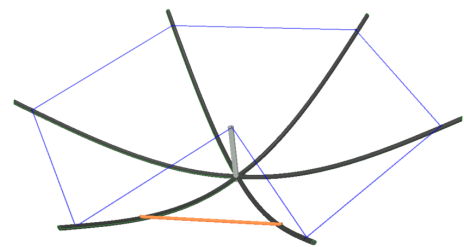


Figure 12 Positioning of the tensioning cord (peripheral and support cords not shown)

MOUNTING THE ANTENNA

Setup is best accomplished as a two-man effort because care must be taking particularly with tensioning the guy lines on a telescopic mast.

The lower hub of the BuddiHEX has a built-in adapter for use with the MastWerks series of masts. The MastWerks mast has a non-circular profile so if you intend to use the antenna with a circular mast the use of an adapter will be required.

If the top of the mast is fitted with a spring button remove the button before installing the BuddiHEX (Keep the button in a safe place in case you need it for some other antenna type)

1. Setup and level the tripod
2. Insert the un-extended mast into the tripod and attach the guy rings.
3. Fully open the collar lock on the bottom of the BuddiHEX lower hub
4. Carefully lift the complete antenna assembly and fully secure into the top of the mast. Lock the antenna in place by closing the BuddiHEX adapter collar lock.
5. Attach the feedline to the feed-point and use a Velcro strap to the mast to take the weight of the feedline.
6. Attach guy lines to the upper and lower guy rings and place ground anchors around the tripod to secure the bottom end of the lines.
7. Push up the mast slowly beginning with Section B (do not fully extend Section A).
8. When the mast is fully extended (except Section A) and the guy lines are properly secured the antenna is ready for use.

ANTENNA DISASSEMBLY

The antenna should be disassembled in the reverse procedure to assembly.

1. Remove the antenna element wires starting with the innermost (6m) wires and moving towards the center.
2. After removing each element wrap the wire as instructed in the next section ready for storage.
3. Disconnect the peripheral cord at the end of each of the spreaders (leave cord attached to the end of the spreader).
4. Carefully release the end of the support cords from the central hub to the end of each spreader (leave the cord attached to the end of the spreader).

After disconnecting the first support cord remove the cord from the spreader diametrically opposite to keep the tension on the vertical support assembly as symmetrical as possible.

PACKING THE ANTENNA

The complete antenna consists of the following parts:

- 1 x HX6 TL mast assembly
 - Vertical feed point assembly
 - BNC Feed point adapter
 - 6 x folding spreader arms
- 1 x set 20m dipole/reflector wires
- 1 x set 17m dipole/reflector wires
- 1 x set 15m dipole/reflector wires
- 1 x set 12m dipole/reflector wires
- 1 x set 10m dipole/reflector wires
- 1 x set 6m dipole/reflector wires
- Inner spreader tension cord

All these parts can be stowed in the soft carry case. Careful packing of the antenna will be well rewarded when you come to deploy it next time. Please follow these instructions carefully.

Wire winders

The wire assemblies are stored on three different sizes of wire winder. The 20m and 17m are stored on the largest winder, 15m and 12m stored on the medium sized winder while 10m and 6m are stored on the smallest winder.

Each of the wire assemblies should be wound onto the specific wire winder using a “figure of eight” winding technique. This avoids putting twists and kinks into the wire.

Spreader arms

Each of the six spreader arms consist of three sections connected by shock cord. Pull the sections apart and fold them as shown in the figure below taking note of the position of the colored wire clips.

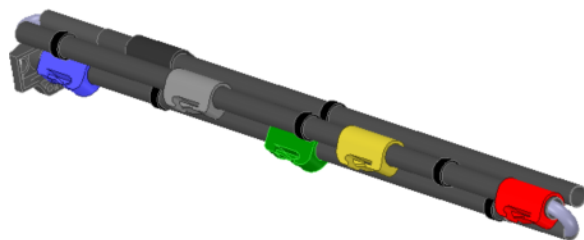


Figure 13 Spreader assemblies folded for storage



Failure to position the wire clips as shown in Figure 13. could damage the spreader tubes when they are clipped into the VFA.

When the spreader assembly is ready for storage, position it as shown in Figure 14 below and clip it into the vertical feed point assembly in one of the six available positions.

Place folded spreaders here (6 places)

Figure 14 Clipping folded spreader into VFA

When the spreader arm is secured on the VFA, wrap the peripheral cord around the bobbins located at the end of each hub as shown in Figure 15 below.

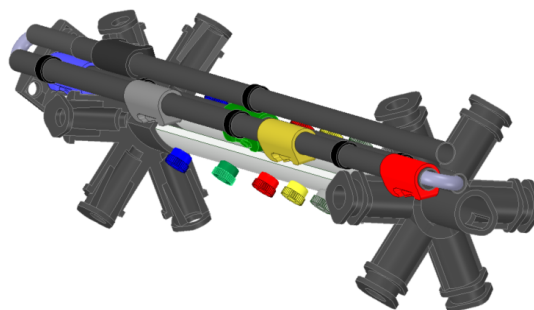


Figure 15 Storing cord onto VFA bobbins

Repeat this process for the remaining arms. The assembly is now ready to be placed into the carrying case.