Introduction

The DX Engineering HEXXAGONAL BEAM KITS provide a fast, economical way to build the hottest new design of an antenna concept that has been around since the 1980’s. HEXX antenna component kits are available for an easy, step-by-step approach to designing your own antenna or to upgrade an existing installation.

The DX Engineering Hexxagonal Beam Total Antenna Packages are complete build-it-yourself systems, including all of the parts required for a one band beam or a five band beam which operates all bands, 20 thru 10 meters.

The DX Engineering Hexxagonal Beam can offer gain and front-to-back performance that exceeds your expectations for a 2 element beam, as its unique shape is much smaller, better balanced and has been reported to receive less noise than typical beams. This lighter, easier to handle antenna can be rotated with a light duty rotator, and it performs well, even when it is not mounted very high above the ground. With the DX Engineering Hexx antenna kits you can build your antenna with a broadband u-shaped reflector which can cover the bands with low SWR. This unique hub design may be used in the construction of either the classic or G3TXQ broadband hex antennas.

At the center of the new HEXXAGONAL BEAM is the exclusive DX Engineering patented cast aluminum HEXX Hub. Specially designed and mechanically superior to available home-made base plate designs, the HEXX Hub has integral V-saddles and Stainless Steel V-Bolt hardware to firmly attach the fiberglass spreaders in proper alignment without drilling or crushing. The upper and lower mast mounts are integrally cast into the hub, eliminating the need to find separate mounting flanges, reducing assembly time, improving mast alignment and providing a far stronger heavy duty attachment for the mast. For the rest of the antenna frame, high quality stainless steel element clamps rigidly hold the telescoping fiberglass sections at the correct lengths without drilling holes. The exclusive DX Engineering 5-Band Stainless Steel/PTFE Rigid Feeder System (US Patent No. 8,669,911 & US Patent No. D624,060 & British Patent No. GB248003 B) provides secure attachment points for the driven element feed points without drilling. The unique Floating Element Wire Guides allow movement of the radiating wire elements and flexible fiberglass spreaders in the wind without undue stress to the radiating elements or spreaders. These special Wire Guides are attached to the spreaders without drilling, for a stronger, longer lasting antenna.

The DX Engineering HEXXAGONAL BEAM is a hexagonal directional beam antenna made with fiberglass spreader and wire that looks like a very large inverted umbrella frame. Even at 22 feet wide and approximately 5 feet tall, it has a smaller turning radius than a two element Yagi, and offers several enhanced
operating characteristics. It can be mounted at the top of a rotatable mast or directly in the top of a light to medium duty rotator.

**HEXXAGONAL BEAM Features**

The DX Engineering **HEXXAGONAL BEAM** design has a number of important advantages over a yagi:

- **Small turning radius** - the **HEXXAGONAL BEAM** has a turning radius of 11 feet.
- **Gain** - 5 dBi (3 dBi), depending on band - similar to 2 element Yagi, far exceeding performance of multi-band mini-beams
- **Front-to-Back** - >20 dB, depending on band
- **Balanced in the wind** - Hexagonal symmetry reduces torque on the rotor
- **Light weight** - fully assembled - less than 25 pounds
- **Can be turned with a light duty rotator** - no need to spend big dollars
- **Performs well at low heights** - good results at 20 to 30 feet above ground
- **Five Band gain and front-to-back** - can meet or exceed other small antennas
- **Handles full legal limit power** - no power restriction as on competing antennas
- **Full length elements** - no lossy coils or traps
- **Low Noise results** - approaches performance of closed loop antennas
- **Requires no matching network** - direct single 50 ohm coax feed

**HEXX HUB Assembly Parts List**

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cast Aluminum HEXX Hub - US Patent No. D605,184</td>
</tr>
<tr>
<td>12</td>
<td>1.5” short Stainless Steel V-Bolt</td>
</tr>
<tr>
<td>12</td>
<td>1/4-20 Stainless Steel Hardware Kit for V-Bolts</td>
</tr>
<tr>
<td>6</td>
<td>1/4-20 Stainless Steel Hex Head Bolt</td>
</tr>
<tr>
<td>6</td>
<td>1/4-20 Stainless Steel Hex Nut</td>
</tr>
<tr>
<td>6</td>
<td>1/4-20 Stainless Steel Flat Washer</td>
</tr>
<tr>
<td>6</td>
<td>1/4-20 Stainless Steel Split Washer</td>
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</tbody>
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**Tools Required**

7/16” Deep Well Nut Driver and 7/16” Open End Wrench

**Parts Required**

Anti-Seize must be used on all stainless steel hardware to prevent galling (seizing) of stainless steel hardware.

- **PTX-81343** - Anti-Seize, 1 oz. Squeeze Tube
- **DXE-NSB18** - Never-Seez®, 8 oz. Brush Top
- **JTL-12555** - Jet-Lube SS-30 Pure Copper Anti-Seize

_The above products are limited to domestic **UPS Ground** shipping only_
Assembly Instructions

Insert the twelve Stainless Steel V-Bolts over the incorporated V-Saddles as shown in Figure 1.

Figure 1

Anti-Seize or Never Seez® must be used on all stainless steel hardware to prevent galling (seizing) of stainless steel hardware.

Install a flat washer, a split washer and a 1/4-20 nut on each V-Bolt leg, snug the nuts partially. Install the six 1/4 -20 bolts, six flat washers, six split washers and six nuts, into the top and bottom flanges of the hub, as shown in Figure 2. These will be adjusted to fit the center mounting mast when building the Hexx antenna.

Figure 2

The patented HEXX Hub is now ready for use as the solid foundation for your HEXX antenna project.

Technical Support

If you have questions about this product, or if you experience difficulties during the installation, contact DX Engineering at (330) 572-3200. You can also e-mail us at: DXEngineering@DXEngineerin.com

For best service, please take a few minutes to review this manual before you call.

Warranty

All products manufactured by DX Engineering are warranted to be free from defects in material and workmanship for a period of one (1) year from date of shipment. DX Engineering’s sole obligation under these warranties shall be to issue credit, repair or replace any item or part thereof which is proved to be other than as warranted; no allowance shall be made for any labor charges of Buyer for replacement of parts, adjustment or repairs, or any other work, unless such charges are authorized in advance by DX Engineering. If DX Engineering’s products are claimed to be defective in material or workmanship, DX Engineering shall, upon prompt notice thereof, issue shipping instructions for return to DX Engineering (transportation-charges prepaid by Buyer). Every such claim for breach of these warranties shall be deemed to be waived by Buyer unless made in writing. The above warranties shall not extend to any products or parts thereof which have been subjected to any misuse or neglect, damaged by accident, rendered defective by reason of improper installation, damaged from severe weather including floods, or abnormal environmental conditions such as prolonged exposure to corrosives or power surges, or by the performance of repairs or alterations outside of our plant, and shall not apply to any goods or parts thereof furnished by Buyer or acquired from others at Buyer’s specifications. In addition, DX Engineering’s warranties do not extend to other equipment and parts manufactured by others except to the extent of the original manufacturer’s warranty to DX Engineering. The obligations under the foregoing warranties are limited to the precise terms thereof. These warranties provide exclusive remedies, expressly in lieu of all other remedies including claims for special or consequential damages. SELLER NEITHER MAKES NOR ASSUMES ANY OTHER WARRANTY WHATSOEVER, WHETHER EXPRESS, STATUTORY, OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, AND NO PERSON IS AUTHORIZED TO ASSUME FOR DX ENGINEERING ANY OBLIGATION OR LIABILITY NOT STRICTLY IN ACCORDANCE WITH THE FOREGOING.

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