

Models DX-A, DX-B 1/4 Wave Sloper Instruction Sheets

This information packet contains installation information for both Models DX-A Twin Sloper (160, 80 and 40 meters) and DX-B Single Wire (160, 80, 40, 30 meters) sloper antennas. Read the complete information as the installation requirements apply to both models.

Compared to half wave dipole designs, a quarter wave sloper is essentially "half" of an antenna, with the other "half" being the support tower (although untuned). As a result, anything else attached to the tower such as other wire antennas or unbroken guy wires become part of the circuit and will affect the tuning.

A quarter wave sloper must be on a metal tower support structure with an HF size beam on top, approximately 4-6 ft. above the sloper feed point, to serve as a "capacity hat" for proper tuning. Without a beam on top, a sloper will not tune properly. This is not a requirement of a half wave dipole but unique to quarter wave slopers. The tower must also provide a proper ground return path to ground for the sloper. If the tower is not well grounded or is of the crank up type, a ground wire (12 GA. or larger) should be attached to the sloper bracket and run down along the tower for the return path to ground and attached to a ground rod.

Think of the sloper as an "upside down" ground mounted quarter wave vertical antenna, where the radials that are normally on the ground are now the beam elements of the HF size beam above it. As a result, the current lobe of the sloper is up high and not as affected by bushes, trees and buildings as is a vertical antenna.

Any antenna installation must be "in the clear" and the wires at least 20 ft. from rooftops, aluminum fascia, gutters or other wires/antennas and at least 4-6 ft. from any trees/branches.

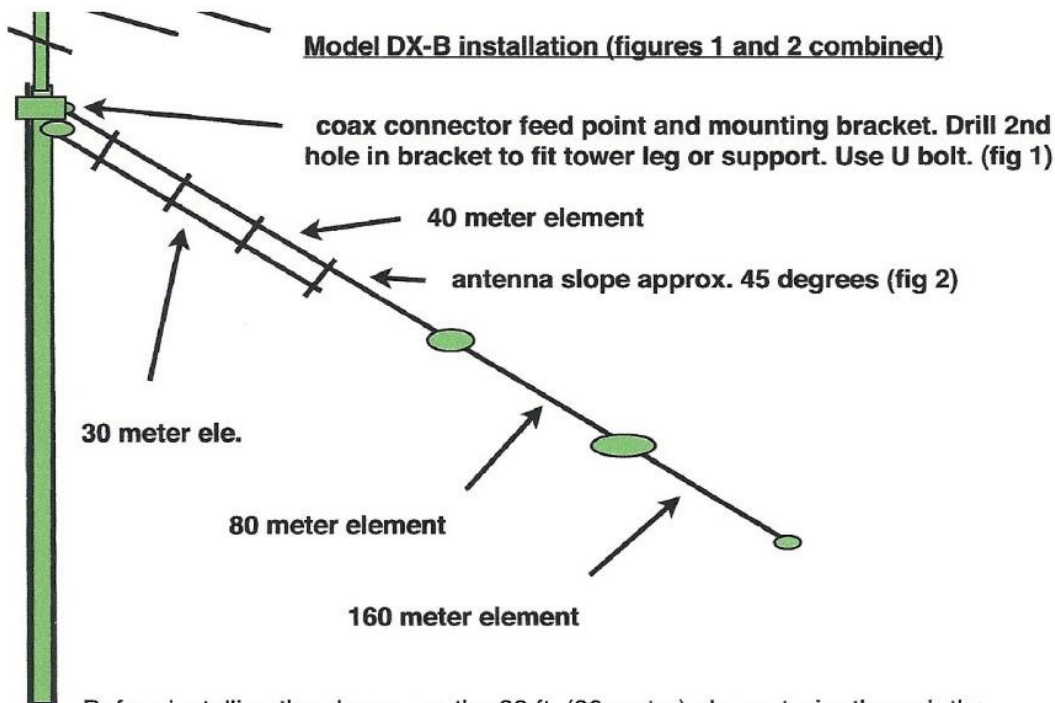
- Refer to figure 1 of the graphic for the Model DX-A. The aluminum mounting bracket will have to be drilled for a U bolt (user supplied) to fit your particular tower leg or installation method. Check the graphic for the Model DX-B for similar tower leg mounting requirement. The sloper wires must be kept as far from the tower legs as possible at the bracket installation point.
- For the Model DX-A, the wires should be arranged so they are approximately 180 degrees apart and run downward approx. 45 degrees similar to an inverted-V type antenna. For the Model DX-B, the wire should be run down toward the ground at approximately a 45 degree angle. The ends should be approx. 8-10 ft. off the ground. The bracket feed point of either model should be approximately 35-40 ft., or higher, above ground on the side of the tower, and 4-6 ft under the beam.
- Metal type guy wires must be "broken" with insulators at non-resonant lengths and the sloper wires must bi-sect the guy wires at odd angles, not parallel to the guy wires. Check FIGS. 5-6 of the Model DX-A graphic. This information applies to both sloper models.
- If possible, tape the coaxial cable to the tower leg as it goes down the tower so it does not become part of the sloper "other half" circuit.
- When used with a wide range antenna tuner, customer reports indicate good performance on 30, 17 and 12 meters with the Model DX-A and 17 and 12 meters with the Model DX-B.

Model DX-A graphic (figures 1-6), pg. 3; Model DX-B graphic (figures 1-2), pg. 2

IMPORTANT NOTE: A wide range antenna tuner with a tuning range of 10:1 should be used on ANY band to compensate for the effects of the unique installation sites that will be encountered. The "other half" circuits are varied based on the installation sites and the results are, therefore, unpredictable. The use of a wide range tuner eliminates or reduces a lot of trimming and adjusting of the antenna elements.

- The **Model DX-A** Twin Sloper covers 160, 80 and 40 meters. The single wire leg is for 80 meters and the wire with the ISO-RES coil operates on 40 and 160 meters. See the graphic for details.
- The **Model DX-B** Single Wire Sloper covers 160, 80, 40 and 30 meters as shown. The "top wire" covers 160, 80 and 40 meters. The parallel "underslung" wire covers 30 meters and may be removed or trimmed to 20 meters if desired.
- Be sure to remove any wrapping/packing material from around the coils as it was put on to protect the coils during shipping. The coils have been given 2 coats of UV blocking polyurethane material and need no further treatment for sun protection. Other materials may change the characteristic impedance of the coils. The antennas are rated for 1000 watts CW/PEP.

Model DX-B graphic shown below. **Model DX-A** graphic shown on next page.



Before installing the sloper, run the 23 ft. (30 meter) element wire through the spacers as shown, equally spacing the spacers along the wire. Use 6 in. lengths of solid conductor stiff wire as "twist arounds" around the antenna wire and spacer, or plastic to plastic adhesive in the thru-holes to secure the antenna wires in the spacers to prevent movement in wind.

Be sure there is a good ground return path down through the metal support (tower or mast) to ground, AND a good ground from the sloper bracket to the metal support (mast or tower leg). Use a number 10 or larger "down lead" wire to ground (ground rod) from the sloper bracket if the antenna is attached to a non-metal support. This will also be necessary for crank-up type towers or supports. For proper tuning, there must be a HF size beam on top of the sloper, 4-6 ft. above it, as shown, to act as a "capacity hat". This is true for any quarter wave sloper. However, a "capacity hat" is not necessary for 1/2 wave dipoles. See details in the enclosed documents or on our WEB site.

NOTE: HEX type beams, mini-beams, 10 meter beams do not provide an adequate "capacity hat".

Model DX-A graphic (figures 1-6), pg. 3; Model DX-B graphic (figures 1-2), pg. 2

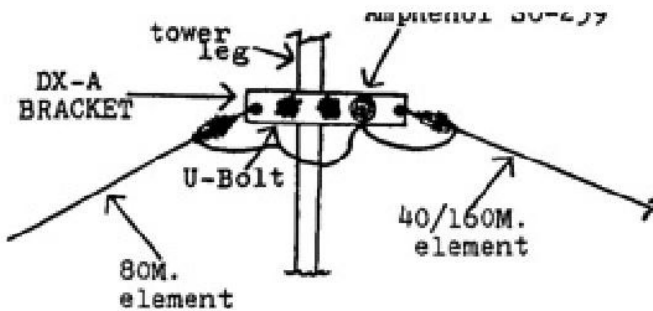


FIGURE - 1

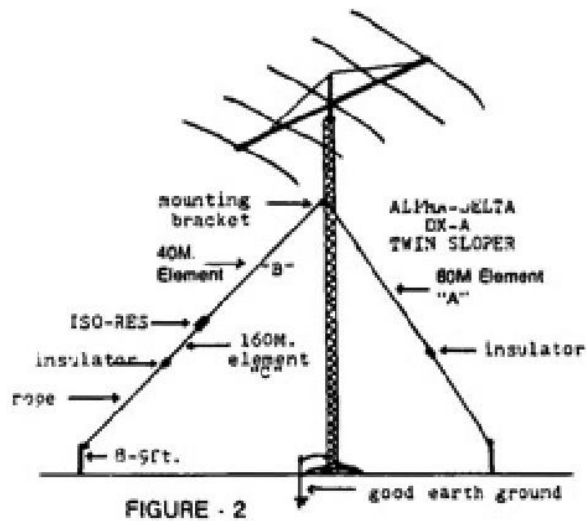


FIGURE - 2

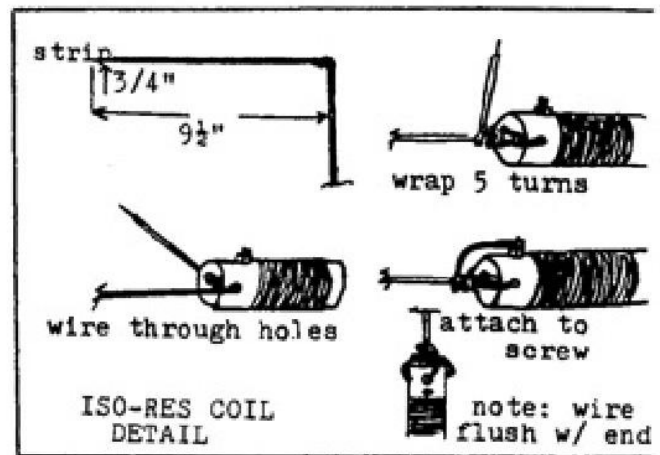
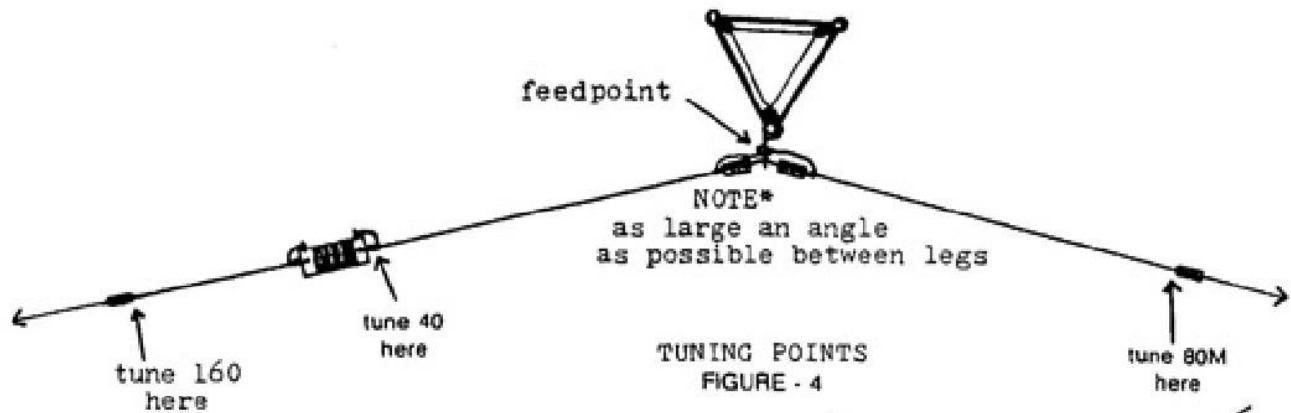
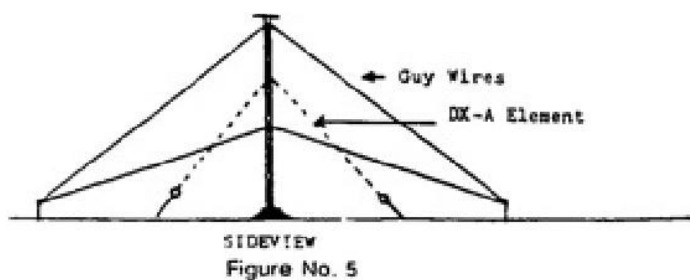


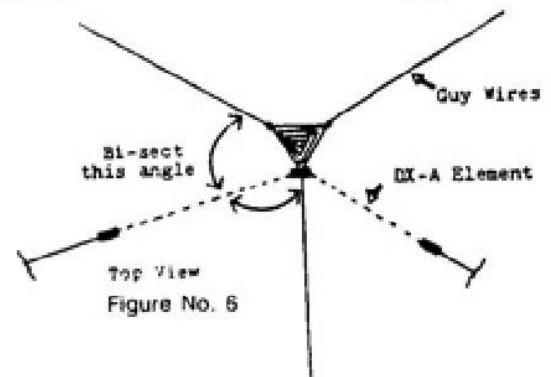
FIGURE - 3



TUNING POINTS
FIGURE - 4



SIDEVIEW
Figure No. 5



Top View
Figure No. 6

IMPORTANT NOTE: See the WEB site home page <www.alphadeltacom.com> and the link the near the bottom "[Problem Solvers for Wire Antenna Installations](#)" for important installation details and mounting site requirements. Check out this link before installing your antenna. It will answer further questions on mounting and site details for both slopers and dipoles.

Antenna length information: Model DX-A Twin Sloper, The 80 meter single wire is approx. 67 ft. long. The 40/160 wire with the coil is approx. 60 ft. long.

Model DX-B Single Wire Sloper is approx. 60 ft. long.

Since the Model DX-A is a twin sloper (2 quarter wave slopers fed at a common point) fed in parallel at the feed point and has just one coil, it is more broadband than the Model DX-B. However, the Model DX-B is very efficient and fits in space limitations very effectively.

For antenna tech questions, e-mail us <w8alphadelta@gmail.com>. To obtain an RMA before return of any product for service, e-mail <jfburns@windstream.net>.

Antennas cannot be returned for refund as they cannot be re-sold as new. Over 95% of antenna problems are traced to improper installation and/or site conditions.

www.alphadeltacom.com
for product technical details, installation requirements,
pricing, dealers and contact information

NOTE: For a proper "capacity hat", the HF beam must be the size of a typ. tri-band or 20 meter type beam with aluminum elements. Small beams and rotary dipoles are not adequate for this.