ALPHA DELTA COMMUNICATIONS, INC.

DX-SWL Shortwave Sloper Antenna

Multi-Band Performance covering Medium Wave AM (.5-1.6 MHz),
120 MTRS(2.3-2.5 MHz), 90 MTRS (3.2-3.5 MHz), 60 MTRS (4.75-5.0 MHz), 49 MTRS (5.95-6.2 MHz), 41 MTRS (7.1-7.3 MHz), 31 MTRS (9.5-9.9 MHz), 25 MTRS (11.65-12.05 MHz), 21 MTRS (13.6-13.8 MHz), 19 MTRS (15.1-15.6 MHz), 16 MTRS (17.55-17.9 MHz), 13 MTRS (21.45-21.85 MHz)

The Model DX-SWL antenna is a very unique and very effective adaptation of existing antenna theory. It operates as quarter wave sloper which means the wires are a quarter wave long, or multiples of a quarter wave on each frequency band. Compared to half wave dipole, the other quarter wave, which is necessary for performance and the proper feed point impedance, is made up of the "Down-Lead" wire which is attached.

With a quarter wave sloper, the center conductor of the coax is attached to the wires and the shield of the coax is attached to the down lead. A standard SO-239 UHF connector is provided on the Model DX-SWL for this purpose. Excellent performance is attained with installation heights of only 20 to 40 feet.

By design, the quarter wave sloper is known to be an excellent DX and long haul antenna. The current lobe, which defines the major radiation characteristics of the antenna, is up high at the feed point and is not subject to attenuation from buildings, trees, etc. as a vertical antenna whose current lobe is at ground level. At the Alpha Delta location, side by side comparisons between the Model DX-SWL and a 32ft commercial vertical with 18 radials show the DX-SWL to be as much as 10 dB stronger into Europe and Africa.

Since a sloper has an optimized low angle radiation pattern for peak DX performance, it will greatly outperform a dipole mounted at the same height, for those really distant weak signal DX stations. The difference can be phenomenal.

The Alpha Delta Model DX-SWL is fully assembled, uses stainless steel hardware and UV protected coils and components and No. 12 wire. It is designed to survive severe weather environments. Insulators and support rope are included.

Note: For SWL receiving, the Models DX-SWL/SWL-S do not need an HF size beam on top to be a "capacity hat". This requirement is for quarter wave slopers used for transmitting. This is due to the specific impedance requirements for matching transmitter output circuits. Receivers have high impedance broadband input circuits and don't have this requirement.

For installation details and requirements for transmitting, check our WEB site <www.alphadeltacom.com> and check the information for Models DX-A/B quarter wave ham radio slopers. This information can be found on the home page link "Limited Space High Performance Antennas".

In some installations, in addition to the above requirements, the SWL slopers can be used for transmitting when used with a wide range (10:1) separate antenna tuner. Check with your dealer for details on tuners.The SWL slopers have the same power rated components as the ham radio models.

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Installation Instructions for Models DX-SWL and DX-SWL-S Slopers

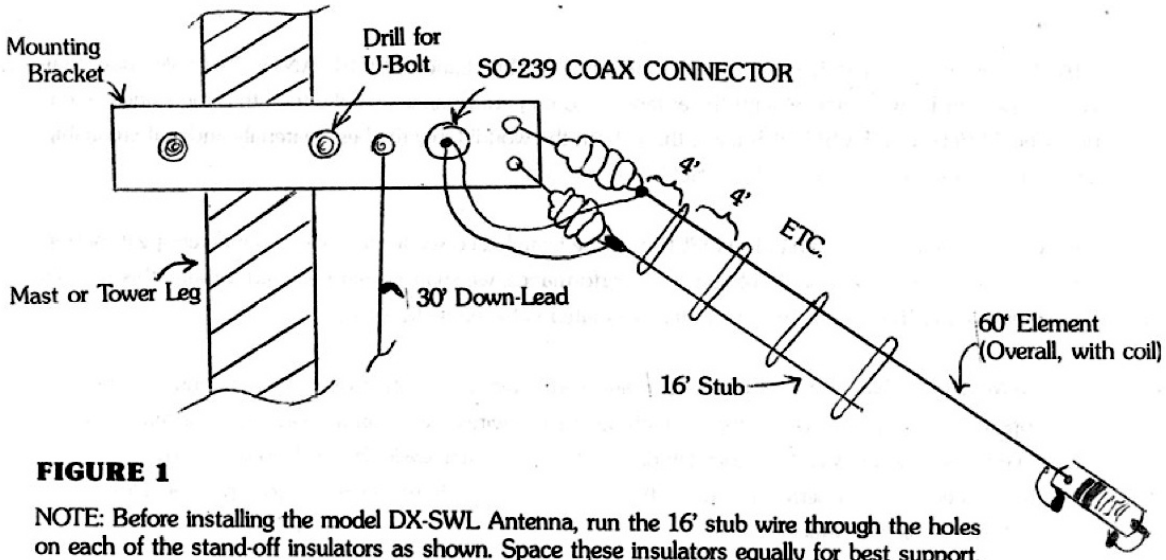
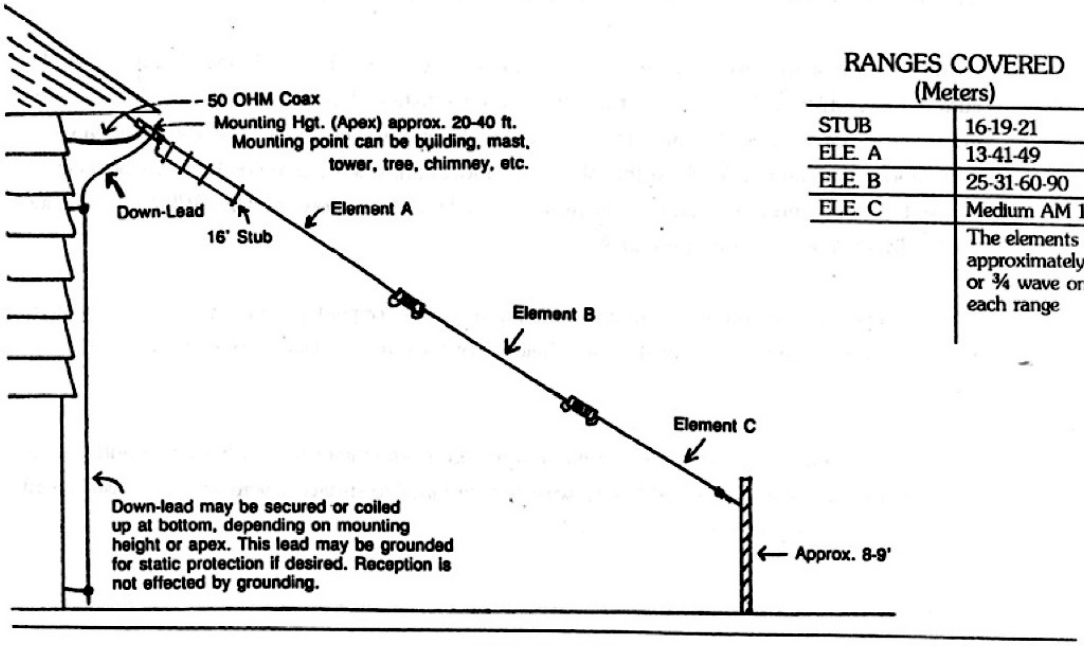


FIGURE 1

NOTE: Before installing the model DX-SWL Antenna, run the 16' stub wire through the holes on each of the stand-off insulators as shown. Space these insulators equally for best support. (Approx. every 4'). Then apply a good plastic to plastic adhesive or silicone sealant in each hole to secure insulators. (Available at any hardware store.)

NOTE: Model DX-SWL-S is the same as model DX-SWL except the DX-SWL-S covers 90 thru 13 meters. but not AM broadcast and 120 meters, by excluding the last coil and element C.



RANGES COVERED (Meters)

STUB	16-19-21
ELE. A	13-41-49
ELE. B	25-31-60-90
ELE. C	Medium AM 120
	The elements are approximately ¼ or ¾ wave on each range

FIGURE 2
Typical Model DX-SWL Installation

NOTE: For maximum protection an Alpha Delta Model LT Lightning Surge Protector should be attached at receiver.

Please study the graphics on FIGURES 1 and 2, and read the written instructions for the installation procedure before beginning your assembly and installation.

1. Unroll the sloper wire elements, removing any kinks that may have been induced in packing or shipping. For the **Model DX-SWL** you will find one wire element approximately 60 ft. long with two "ISO-RES" (tm) inductors installed, one 16 ft. stub wire to be threaded through the installed pre-drilled stand-offs, and a 30 ft. "down lead" wire which will be run down the support as shown. **Refer to FIG. 1** for assembly. The Model **DX-SWL-S** is the same but eliminates Element C and the last coil and is just 40 ft. long. It is for restricted space applications and covers 90 through 13 meters, with the same performance across those ranges as the longer **Model DX-SWL**.

2. **Refer to FIG. 1**. For tower leg or mast mounting, the aluminum mounting bracket will have to be drilled to accept a U-Bolt, user supplied. One hole already exists on the mounting bracket. For other installation types, simply attach a rope through the existing bracket hole, with the other end of the rope attached to your mounting point.

3. **Refer to FIG. 2**. Installation heights ranging from about 20-40 ft. on the high end and about 8-10 ft. on the low end all seem to work quite well since these heights take advantage of a ground (earth) capacitive loading effect which provides broad-banding, and essentially an omni-directional pattern. As a result, you can run the antenna wire down slope in any direction convenient to the installation site. These heights and the slope shown provide excellent reception characteristics across the HF shortwave spectrum. The slope angle should be from about 45 to 60 degrees for best performance.

4. Arrange the sloper antenna so it will not be in close proximity to any guy wires, metal gutters, roof tops, other wire antennas or aluminum house fascia. A separation of at least 10 feet is preferred. The antenna should not be closer than 30 ft. from any utility or drop lines. **THINK SAFETY FIRST!**

5. Attach your user supplied 50 ohm coax feed line (RG-58, RG-8X or similar) PL-259 male plug to the SO-239 connector on the sloper mounting bracket. This connection and the solder connections on the rear of the SO-239 should be sealed with a good weatherproofing agent like "COAX SEAL (tm)", available at most ham/shortwave dealers. The attached 30 ft. "down lead" wire should be run down from the sloper bracket toward the ground as straight as possible. It should never be left coiled up.

6. Tying the lower tip end of the sloper antenna wire should be done to allow a gentle "bow" or slope to the wire. Do not over tighten or stress the wire. A taught straight wire is NOT necessary for good performance and can over stress the antenna components and coils. RF waves do not "see" the difference! A custom designed end insulator and special low stretch rope have been provided for use at the sloper end.

7. The "ISO-RES" (tm) coils have been coated at the factory with a special UV protectant material and no other coating material is necessary or recommended. Remove any protective packing material from the coils before use.

8. **This completes the installation** of your new Alpha Delta shortwave sloper antenna. Have fun and listen to great DX provided by these efficiently designed antennas. All Alpha Delta antennas are manufactured in our **ISO-9001 certified manufacturing facility** for highest quality. Stainless steel hardware and high tensile strength insulated solid copper 12 gauge wires are used to survive in severe weather applications! **When you put it up, it STAYS up!**

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