

NVIS SETUP INSTRUCTIONS

The following directions for setting up the Near Vertical Incidence Skywave (NVIS) antenna correctly are important for optimum performance and results.

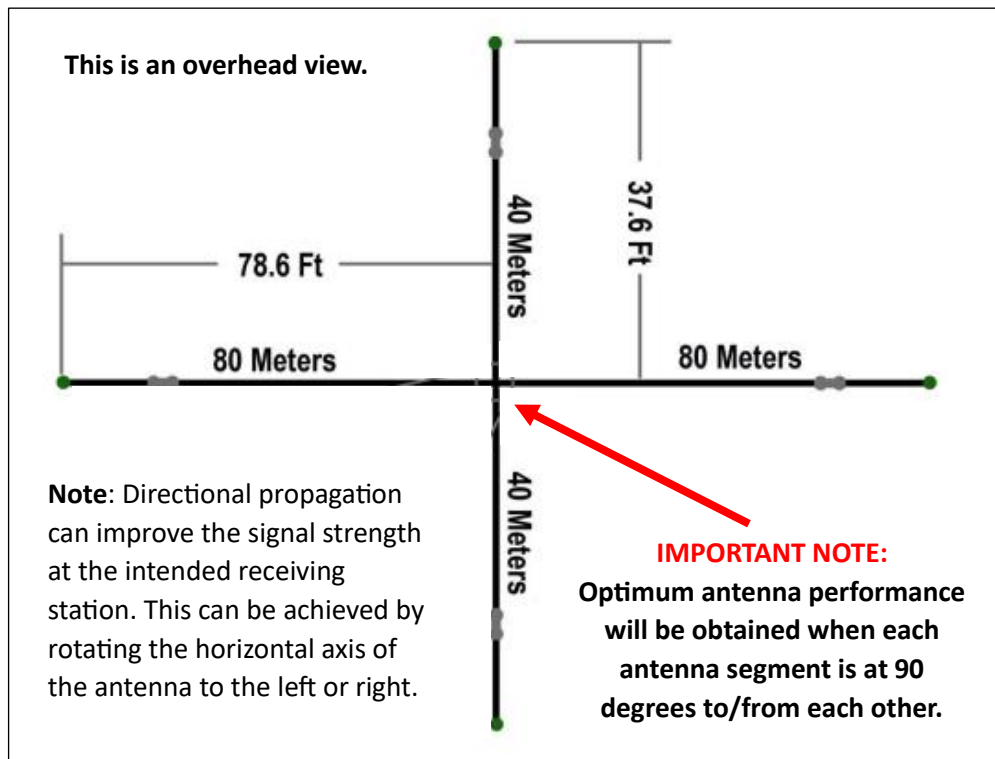
SAFETY FIRST!

1. Assign a Safety Officer to be responsible for all work and actions while setting up the NVIS antenna. This person is responsible for the safety of all participants.
2. Always select a location which is clear of obstructions (fences, buildings, power lines, poles, etc). The optimum space would be 200 ft by 100 ft.
3. If setup cannot avoid being conducted near a power line, never assume that an overhead power line is insulated, and avoid contact with it at all costs.
 - a. Keep poles and wires while constructing the NVIS antenna at least twice the height of the antenna or pole away from power lines.

NVIS Antenna Construction

Ideally, construction is best completed with six (6) people. One (1) person for each antenna line, one (1) person holding the center pole and one person as Safety Officer.

The MERT NVIS antenna is a set of crossed sloping dipoles positioned at right angles to each other, (see drawing below). It is designed to provide high-angle radiation enabling short-range skywave propagation.



Construction

Begin construction by unpacking all Materials from the NVIS storage container including the antenna kit, portable cones, orange safety tape, the NVIS coaxial cable jumper, etc.

The team leader will assign a responsibility to each participant and confirm the Safety Officer is positioned and ready for construction to begin. All instructions from this person must be obeyed.

Construction starts with the team leader locating the best position of the center pole based on the actual

location. The first step is assembly of the crossover plate on the top portion of the mast and having the four (4) antenna lines loosely stretched out perpendicular to each other. When completed, the top section can then be lifted by adding the remaining poles until all are connected. The completed height will be approximately 14 feet.

At this point, each antenna element can be slowly pulled tight while confirming each is being kept at a right-angle to each other. When done, stakes can be driven into the ground and the ropes pulled tight. (See Side Views.)

The NVIS coax jumper can then be connected at the base and stretched to the exterior connector by the EOC tower. When connected, radio operations are now ready to begin.

Radio Room Procedures

At Station ID KG4NXO-5, locate the coaxial switch on the wall to the LEFT of the PC screen and confirm the top cable is labeled "NVIS antenna". When verified, switch the unit to position #2. Next, locate the coaxial switch to the right of the PC screen and attach the cable labeled "OCF or HF antenna" to the switch input. (Note: This cable is normally disconnected (removed) after all radio operations are completed to protect MERT equipment from lightning damages.) Confirm this switch is pointing to the "7100" label. When confirmed, radio operations can begin via the NVIS antenna connection.

NOTE: Operations are limited to 40 or 80-Meter operations ONLY.

