

HF Antennas for NNEG ARMY MARS

- Polarization

1. Vertically
2. Horizontally

Line-of-sight antennas at both ends same polarization-cross polarization results in many dB of signal reduction. Horizontal polarization is the normal method used for NNEG.

- Bandwidth

1. Range of frequencies of good performance ~ 0.15 MHz.

An SWR of 2:1 marks bandwidth limits. 4 MHz and 5 MHz are the primary frequency bands used by NNE.

- Impedance

1. Digital HF radio's have a 50 ohm Z and require antennas used with them to have a 50 ohm Z or Z transformation to 50 ohms to meet 2:1 SWR.

- Height

1. Horizontal antennas ideal height above ground is $\frac{1}{2}$ wavelength, this is 123 ft at 4 MHz. Heights as low as 50 feet will give good performance.