

HAAT Calculation Worksheet

Revised March 20, 2010



This worksheet may be used to calculate your repeater transmitting antenna Height Above Average Terrain (HAAT).

Repeater Callsign: /R Repeater Output Frequency MHz

Exact location of repeater system transmit antenna: Latitude Deg Min Sec Longitude Deg Min Sec

Transmitter site ground elevation Above Mean Sea Level (AMSL): Feet

Height of center of antenna above the ground: Feet

Antenna make and model:

To calculate height above average terrain (HAAT), you will need topographical maps (or equivalent topography software) that span at least 10 miles out from your repeater site in all directions. USGS 7.5-minute maps provide the best resolution. Many sporting goods, office supply, and map stores carry USGS topographical maps. Local libraries may also have maps for your area available. Information on how to secure topographical maps may be obtained from you County Engineer; you can also order maps directly from the USGS (www.usgs.gov). A suggested computer software package is TopoUSA from Delorme.

On a topographical map, or in your topography software, draw a straight line outward from your repeater site at a true north (0°) bearing, for at least 10 miles. Repeat this step at 45-degree increments, yielding a total of 8 lines outward from your site, as shown below. Mark off 2-mile increments on each of the 8 lines, at 2, 4, 6, 8, and 10 miles out from the repeater site

Read the elevation off the map for each of these 40 points and enter the elevation on the HAAT diagram on page 2.

Determine antenna height above sea level

Transmitter site ground elevation (AMSL): Feet
(also enter on coordination form)

ADD antenna height above ground: + Feet
(also enter on coordination form)

EQUALS antenna height above sea level: = Feet (A)

Determine average ground elevation

GRAND TOTAL (from chart on page 2) Feet

Divide by 40 : ÷ 40

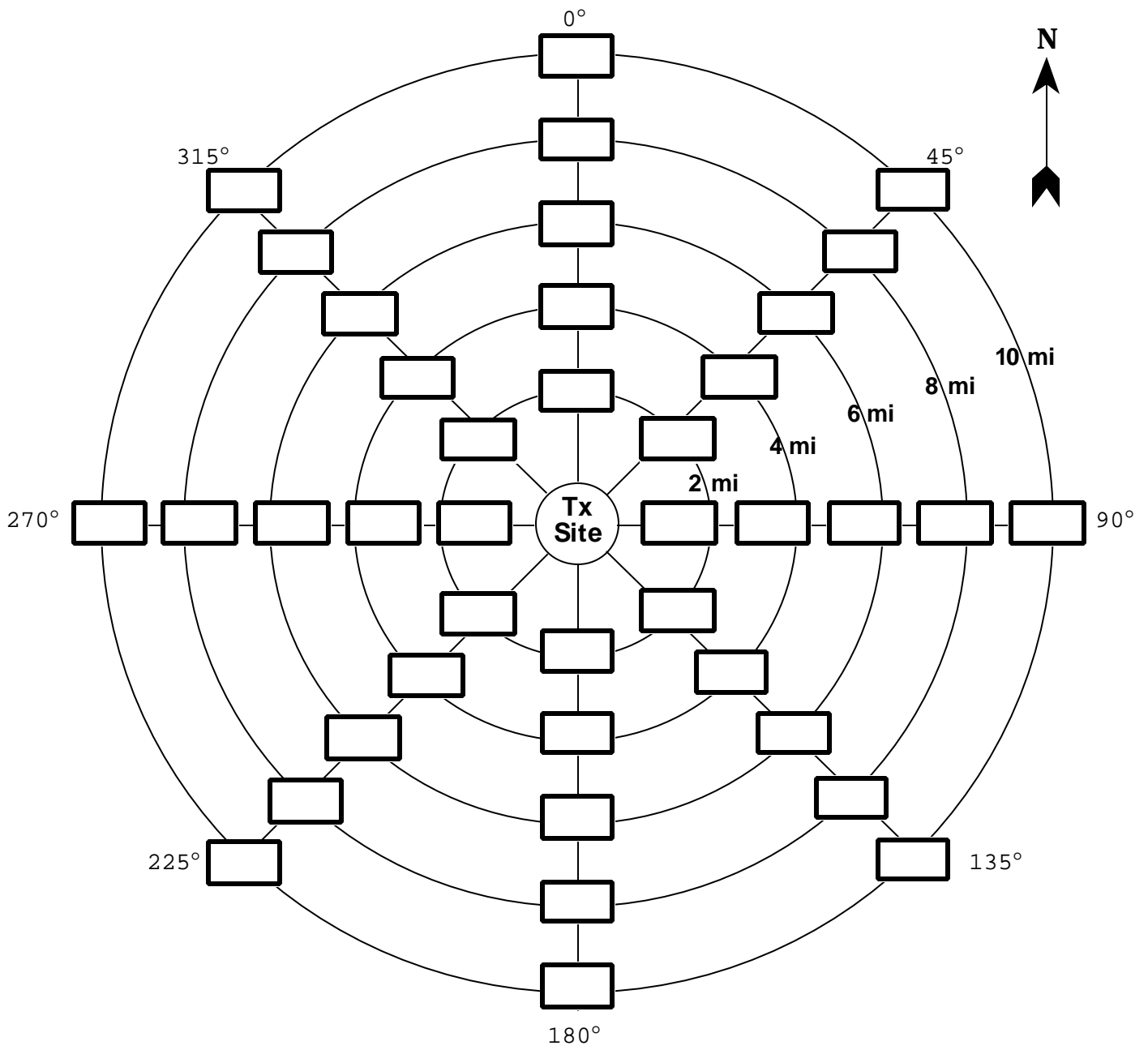
EQUALS average ground elevation: = Feet (B))

To calculate your antenna HAAT: (A): Feet

MINUS (B): $\frac{3}{4}$ Feet

HAAT: Feet

HAAT Calculation Worksheet



Heading	Total
0°	
45°	
90°	
135°	

Heading	Total
180°	
225°	
270°	
315°	

Grand Total	
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