

# The Louisiana Council of Amateur Radio Clubs

## HAAT CALCULATION

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

Transmit site Ground Elevation above Sea Level: \_\_\_\_\_ Feet

Height of center of Antenna above the ground: \_\_\_\_\_ Feet

Antenna Make and Model: \_\_\_\_\_

Identification of topographical Map<sup>1</sup> used: \_\_\_\_\_

On the Topographical Map, plot 8 radials at 45° increments, centered on the transmitter location. Then plot 5 circles at 2-, 4-, 6-, 8-, and 10-mile radii, centered on the transmitter location. Determine the ground elevations at the 40 points of intersection of the 8 radials and 5 circles, and enter these into Table III. See FIGURE #1.

**TABLE III**

Circle Radius	Radial							
	0°	45°	90°	135°	180°	225°	270°	315°
2 miles								
4 miles								
6 miles								
8 miles								
10 miles								

Determine Antenna Height Above Sea Level:

Transmit Site Ground Elevation:

\_\_\_\_\_ Feet

Add Antenna Height above Ground:

+ \_\_\_\_\_ Feet

Equals Antenna Height above Sea Level:

= \_\_\_\_\_ Feet

Determine Average Ground Elevation:

\*Add the Ground Elevation of all 40 points in Table

III: \_\_\_\_\_ Feet

Divide by 40:

÷ 40

Equals Average Ground Elevation:

= \_\_\_\_\_ Feet

Now calculate your Antenna HAAT - Subtract the Average Ground Elevation from the Antenna Height above Sea Level:

Antenna Height above Sea Level: \_\_\_\_\_ Feet

Minus Average Ground Elevation: - \_\_\_\_\_ Feet

Equals Antenna HAAT: = \_\_\_\_\_ Feet

**FIGURE # 1**  
(Not drawn to scale)

