

The High Frequency Active Auroral Research Program

HAARP

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HAARP HF Transmitter Performance Calculator

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Questions of a technical
 nature may be submitted
 via e-mail to:
infohaarp@haarp.alaska.edu

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First select an array size

The HF Antenna Array can be operated at any size up to 12 X 15 elements. System performance depends of the number of active elements that are actually in use within the array. Please select an array size (number of columns by number of rows).

12 · **Rows** 15 · **Columns**

Next, select a frequency

The HAARP HF Transmitter is limited to the frequency range 2.8 to 10 MHz. Selections below this range will be converted to 2.8 MHz.

2 · • 8 · **MHz**

Next, select an ionospheric layer height

The power density in the ionosphere along with the size of the interactive region are both affected by the array size and frequency that you have already set, and by the altitude of the layer.

350 · **km**

Please note that the algorithm used here is based both on theoretical calculations of antenna array performance as well as on engineering measurements of the actual performance that has been achieved. The most recent update to the algorithm predicts slightly lower system performance as a result of the natural tapering (or decrease) in transmitter power that occurs for antenna elements near the edges of the array.

Pioneering Ionospheric Radio Science Research for the Twenty-First Century



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