

# ARRAY SIZING WORKSHEET

Use this worksheet to figure the total number of solar modules required for you system.

1. Total average amp hours per day from the System Loads Worksheet on page 8, line 9.

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2. Multiply line 1 by 1.2 to compensate for loss from battery charge/discharge efficiency.

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3. Average sun hours per day in your area from the Sun Insolation Table on page 7.

(Note: If your area isn't listed, use the figures for the one nearest to your location.)

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4. Divide line 2 by line 3. This is the total solar array amps required.

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5. Optimum or peak amps of solar module used. See module specification boxes.

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6. Total number of solar modules in parallel required. Divide line 4 by line 5.

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7. Round off the to the next highest number.

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8. Number of modules in each series string to provide DC battery voltage.

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DC Battery Voltage (from Step1, Line3)	# of Modules in Each Series String
12	1
24	2
36	3
48	4

9. Total number of solar modules required. Multiply line 7 by line 8

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*(If you have questions or require help completing these worksheets call NAPS-The Solar Store for assistance)*

After determining the number of modules you'll need, we recommend mounting the array on an automatic sun tracker/mounting structure, rather than mounting it in a fixed position. Tracking the array can result in down-sizing the number of modules you'll need by forty-percent. Compare the cost of a tracker against adding 40% more modules to reach the same level of power production.

We must keep in mind that more modules require more space, larger and more sturdy mounts to hold them. If a tracker isn't used, a sturdy set of mounts are required to hold the PV panels anyway, and a tracker serves this function as well. In our Canadian winters, snow buildup on a PV array can become a problem and must be removed or they won't produce any power at all. This can prove to be extremely difficult, and even dangerous, if the modules are mounted high upon a roof.

Mounting your array on a ground based tracker/mounting structure will not only increase its output, but make the array readily accessible for sweeping off snow and performing occasional system checks.