



| 160 Watt Power System |                             |
|-----------------------|-----------------------------|
| Solar Panel:          | 160W (2 x 80W)              |
| Battery:              | 1 pc - 12V, 100AH Lead-acid |
| Inverter:             | 300W                        |
| Charge Controller:    | 12V 20A                     |
| Size:                 | 17.7 x 15.4 x 25.4 in       |
| Output:               | AC and DC                   |

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## 160 Watt Solar Generator w/Battery in Cabinet

These emergency generators, like the others in the series, come ready to set up and power most small appliances, computers and radio communications. The emergency solar power systems provide AC and DC electric power when you need it most. All off-grid power requires the owner be aware of their energy demands while off-grid and battery DOD. On a cloudy day you are going to want to conserve more energy than you normally would. Manage your critical loads and this solar generator can make all the difference in the world when the power is out or not available.

**Blue Pacific Solar®** is a specialized solar equipment dealer; affordable grid-tied kits, off-grid DIY packages & portable solar products.

### How Long Will This Solar Generator Provide Power?

| Typical Power Consumption    | Watts | Hours | WH  |
|------------------------------|-------|-------|-----|
| DC to AC Derate Factor (1)   | 37    | 5     | 185 |
| Energy Star Refrigerator (2) | 50    | 10    | 500 |
| 13" TV/VCR                   | 100   | 1     | 100 |
| (2) 40w CFL Light Bulbs)     | 80    | 4     | 320 |
| Laptop Computer              | 50    | 1     | 50  |
| Misc Power Allowance         |       |       | 200 |

Total Power Consumed 24 Hour Period Approx. 1,105 WH

Power Generated by 2 Solar Panels (3) Approx. 800 Watts

Battery Capacity 12v 100 aH @ 80% DOD (4) Approx. 960 WH

Answer: In this scenario, battery will be drained is less than 20 hours.

Owner must decide which loads are critical and ration power accordingly.

1 An DC to AC derate factor is a commonly used methodology that accounts for normal losses from such things as voltage drops across diodes, inverter resistive losses, pv module current-voltage characteristics and other normal occurrences.

2 All appliances are energy star rated in the "Best in class" category by Consumer Search (.) Com [www.consumersearch.com/refrigerators/compare](http://www.consumersearch.com/refrigerators/compare)

3 Based on 5 average sun-hours STC (Standard Test Conditions). Operating times assume fully charged batteries. These examples assume sunny day with the solar panels oriented to maximize solar collection with no shading or dirt collected on the panels. Actual results may vary depending on site conditions. For a better understanding of STC [www.bluepacificsolar.com/solar-energy/solar\\_glossary.html#STC](http://www.bluepacificsolar.com/solar-energy/solar_glossary.html#STC)

4 State of charge, or conversely, the depth of discharge (DOD) is a measure of the voltage. Normal DOD should not occur below 50% of aH rated capacity of batteries. Though DOD beyond 50% is available during emergency situations, repeated DOD beyond 50% will substantially shorten the useful life of the battery.

5 The size of an off-grid power system depends on the amount of power that is required (watts), the amount of time appliances and lights are used (hours) and the amount of energy available from the sun (sun-hours per day). The owner has control of the first two variables as well as the position of the solar panels; the third depends on the location.