

# Solar Powered Mobile Home



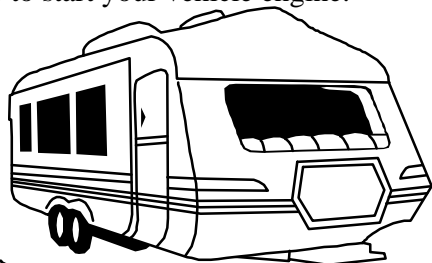
In order to operate lights, appliances, fridge etc from solar power whilst you are not driving you will need to answer the following questions:

- ☉ What do you want to power?
- ☉ How long does the equipment run each day?
- ☉ How long do you expect to stop without running the vehicle engine?

The answers to the first two questions will determine how much power is used on a daily basis. The third question is asked to help reduce the cost of the power system because you already have an excellent battery charger under the bonnet.

If you have a three way or gas/electric fridge you will need to operate it from a gas bottle when the vehicle is stationary as this type of fridge consumes too much electricity to operate with solar panels. If you wish to have a fridge powered by solar, the recommendation will be to purchase a 12V / 24V compressor motor fridge.

It is recommended to have a second battery in the vehicle for the purpose of providing power whilst stationary and without the engine running. This should be a deep cycle battery significantly larger than the average car battery and set up in such a way that both it and the car battery will charge when the engine is running but are isolated when the engine is turned off. This is to ensure that you don't discharge the car battery and then be unable to start your vehicle engine.



## RAINBOW POWER COMPANY LTD

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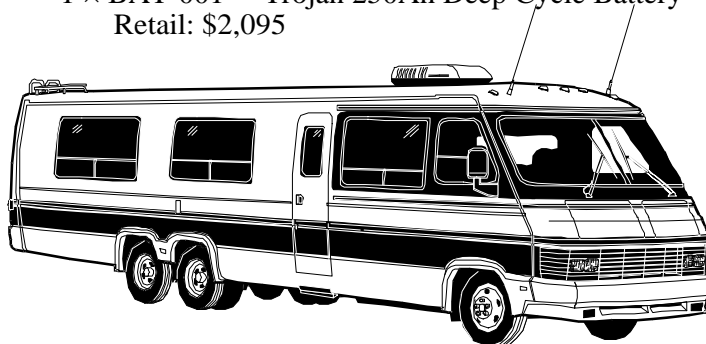
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### Examples of Mobile Home Power Systems

The following examples assume a location in south-east Queensland and that the solar modules are mounted flat on the roof. This reduces wind resistance when you are mobile and gives you equal solar advantage regardless of the direction the vehicle faces. These examples also assume that you will remain stationary for extended periods without the engine running. In each case you may be able to manage with a smaller solar array if the engine is run more frequently.

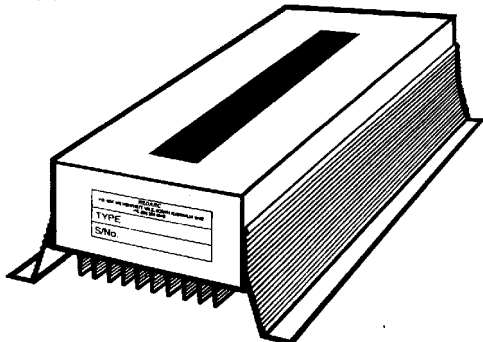
1. You want to operate two 12 volt 20W lights for 2½ hours per day, a 12 volt LCD TV for 1 hour per day and a 12 volt water pump for ½ hour per day. you will need the following components:  
1 × SOL-S85 Suntech 85W solar module  
1 × SUN-RG10 Sundaya Solar Regulator  
1 × BAT-026 Trojan 117Ah Deep Cycle Battery  
Retail: \$857
2. You want to operate two 12 volt 20W lights for 3 hours per day, a 12 volt LCD TV for 4 hours per day and a 12 volt water pump for ½ hour per day. You will need the following components:  
2 × SOL-K135 Kyocera 135W solar module  
1 × REG-L20 Plasmatronics 20A Regulator  
1 × BAT-001 Trojan 250Ah Deep Cycle Battery  
Retail: \$2,095
3. You want to operate a 115 litre 12 volt fridge, two 12 volt 20W lights for 2½ hours per day, a 12 volt LCD TV for 3 hour per day and a 12 volt water pump for ½ hour per day. The following components would suite:  
3 × SOL-K135 Kyocera 135W solar module  
1 × REG-V40 Victron 40A Regulator  
2 × BAT-001 Trojan 250Ah Deep Cycle Battery  
Retail: \$3,395



Let us know your particular power requirements and we will design an appropriate power system to meet your requirements. The above prices do not include labour and wiring.

# Solar Powered Mobile Home

A large range of products are available to suit the mobile home. The product range extends from solar modules and battery equalisers for dual battery systems to deep cycle batteries and energy efficient lights and appliances.



12 volt charger from 24 volt supply

It is generally much more efficient and safer to have DC (12 or 24 volt) lights and appliances in the mobile home than 240 volt AC ones. The choice between DC and AC appliances usually depends on the availability of DC appliances and sometimes on the price comparison between DC and AC appliances. In comparing prices, one needs to also be aware of the cost of the appropriate 240 volt inverter required to operate the AC appliances in question as well as the cost of a larger battery bank and battery charging equipment to keep up with the demand of less efficient loads.

Rainbow Power Company carries an extensive range of DC lighting, including automotive lamp holders and light bulbs (using identical or similar light bulbs to those used for car indicator lights and parking lights), halogen and dichroic lights (often used as down lights in standard households) as well as a range of standard fluorescent and compact fluorescent lights designed to be powered by either 12 or 24 volt. Some examples of the DC appliances obtainable from Rainbow Power Company include Extractor Fans, Oscillating Fans, Refrigerators, Freezers, Pressure Pumps and Nicad Battery Chargers.



DC digital timer



12 volt fluorescent light and a laptop computer with a 12 volt power supply.



Power consumption can be further reduced with the use of a DC programmable digital timer or a DC motion detector. If you run a fridge from solar power, the solar power system will be more efficient if the fridge only operates during hours of sunshine rather than operating entirely from battery storage during the night. Having the DC fridge plugged into a DC programmable timer set to turn on only during the day will hence reduce the demand on the battery bank and use less power overall.

Rainbow Power Company also carries a range of 2 pin DC plugs and sockets and cigarette lighter plugs and sockets. If you wish to operate anything that uses less than 12 volt, such as a portable stereo system, you can purchase a 12 volt to 1.5, 3, 4.5, 6, 7.5 or 9 volt reducer.

For more information on our range of products, you can purchase our book and catalogue "Energy from Nature" with data CD containing 3,000 pages of info for \$34 including postage or contact us for specific product brochures.



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