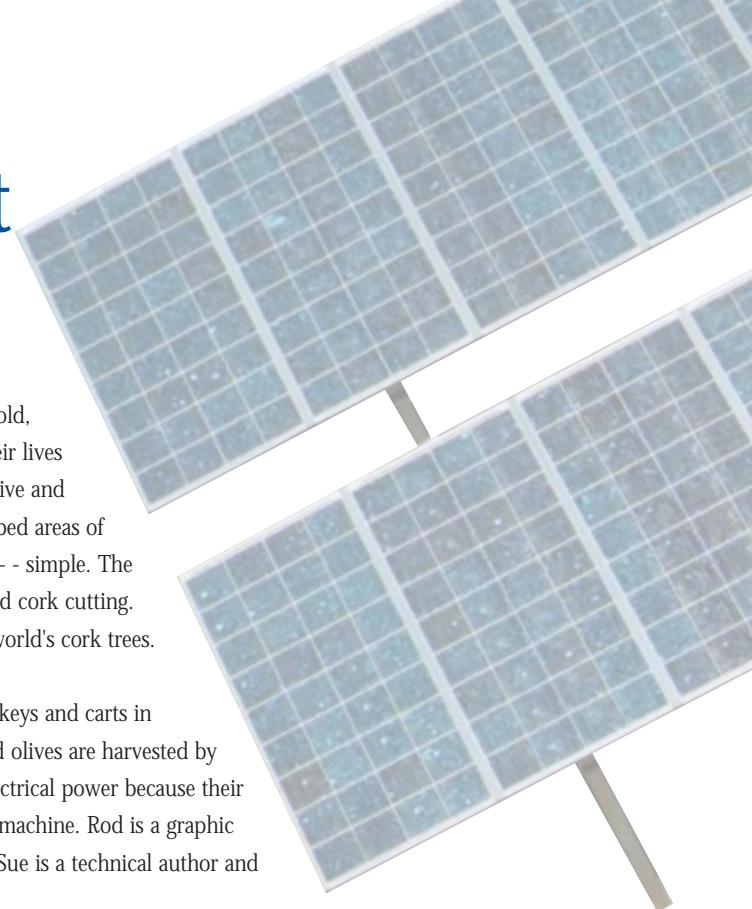




# Power Without Power Lines

In 1998 Rod and Sue Fletcher decided to leave the often cold, damp weather of Britain. They had lived in the U.K. all their lives but Rod and Sue were embarking on a new adventure; to live and work in the heart of rural Portugal, one of the least developed areas of Europe. The way of life is just as it has been for 200 years - - simple. The two main local industries are subsistence sheep farming and cork cutting. In fact, this one tiny area in Portugal has one third of the world's cork trees.

When exploring this area of Portugal, one can still see donkeys and carts in daily use. Water is still drawn straight from the ground and olives are harvested by hand. There is no utility power. But Rod and Sue need electrical power because their income depends on the use of computers, email and a fax machine. Rod is a graphic designer and does pre-press work and web-page creation. Sue is a technical author and freelance journalist.



***“Then we considered an Uninterruptible Power System and that’s where Powerware Corporation came in. We emailed Powerware Corporation with our problems and, by return, had excellent advice assuring us our problems could easily be overcome by using the Powerware 9 Prestige UPS. It can take in a square wave, convert it to a sine wave and absorb any sags and spikes in the system.”***

The Fletchers had fallen in love with the area and house while on several vacations there over the years. The problems with the property were that there was no utility power and no phone line. The phone line issue was resolved with the installation of an ISDN line, the first in this region of Portugal.

As far as power was concerned, the house did have a good alternative energy system. It consisted of 12 x 50 amp solar panels, a 1,000-watt wind generator and a 6 kVA diesel generator, all of which charge a 1200 amp-hour, 24 V battery. From there the power comes into the house through a 2,500-watt inverter that has a modified square wave output.

Although the system would power most electrical devices it posed a problem for the office equipment, which consisted of a desktop PC, 21" inch color monitor, 3 laptops and a variety of peripherals. The PC didn't operate well with a square wave input and there was a sag in the

supplied power when a load was placed on the system, such as the refrigerator turning on or the water pump topping-off the tank. There was a corresponding surge when each turned off.

"Initially we considered changing to a sine wave inverter but that only solved one of our two problems," Rod Fletcher said. "Then we considered an Uninterruptible Power System and that's where Powerware Corporation came in. We emailed Powerware Corporation with our problems and, by return, had excellent advice assuring us our problems could easily be overcome by using the Powerware® 9 Prestige UPS. It can take in a square wave, convert it to a sine wave and absorb any sags and spikes in the system."

The Powerware 9 Prestige Uninterruptible Power System (UPS) is the award-winning flagship of the Powerware product line. It features true online, double conversion technology that totally isolates the powered device from the incoming utility power. This AC to DC and subsequent DC to AC conversion means that not only is the device powered in the event of a complete loss of power but is also protected from potentially disastrous consequences of spikes, sags and brownout conditions. In the Fletchers' application, double conversion is especially important because it removes the threat of the potentially harmful square wave input and provides, instead, power characterized by a smooth sine wave. The Prestige provides the voltage and frequency regulation with sophisticated electronics over a wide range of input conditions, minimizing battery usage. This means the battery can provide maximum power and superior run-time during a complete loss of the incoming power.

"The Prestige is just what we needed and the after sales advice from Powerware Corporation was second to none," said Rod Fletcher.

Rod and Sue Fletcher are the owners of Bright & Breezy Publications, a publishing firm specializing in marine related technical publications. Through their maritime expertise they are a Navigational Teaching Establishment recognized by the Royal Yachting Association, the governing body for such affairs in the U.K. They also own RainbowTech, a company that does web page creation and pre-press work. **They can be reached by phone at 351 (0) 86 518022 or by email at navigator@mail.telepac.pt.**



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