

The Solar Stik™: real deal or passing fad?

Try to imagine what would happen if our ability to communicate were interrupted during a time of crisis. As HAM radio operators, we are often on the front line of public service to our areas, and as such we have a responsibility to arm ourselves with reserve power sources in order to keep radio operation possible. We often seek reserve power from sources such as pedal-generators, solar panels, car batteries, and fuel-driven generators. It is indeed a rare discovery when a power source needs no modification, refueling, or tailoring in order to suit our needs. Always vigilant when it comes to these matters, we now have a new option to examine. It is called the Solar Stik™.

In the endless cycle of the retail market, “new” products arrive that are often a reincarnation of an old idea that has been cleverly re-packaged, or something that has once again become fashionable (such as classic cars or clothes). Rarely is a “new” product so revolutionary that it leaves the potential customer at a loss for understanding. This is what the company behind the Solar Stik™ is facing. The Solar Stik™ lacks a comparative product in the world marketplace which, for the average consumer, leaves one at a disadvantage when comparison-shopping for power-generating equipment.

The Solar Stik™ is new technology that completely redefines the power-generating industry. It literally brings solar power into the realm of the everyday use, even competing with fossil-fuel power generators.

Most people don't often think about solar energy when they think of generating electricity. It is a result of our conditioning as a society. Today in America, if someone needs power, they can simply “plug in” to an outlet somewhere, or power up a generator for mobile power. But with the days of cheap and readily available fossil fuel waning, and recent natural disasters exploiting the weaknesses in our power grid, alternatives are being sought by many consumers. There are a few markets where solar power has always had a niche, such as the boating or RV markets, and the “green generation” who use it as a tool for independent living, but for most, it remains an enigma.

There have always been hurdles with traditional solar power generation that have limited their acceptance into the “everyday” category. Solar panels work at their maximum rated voltage only in direct sunlight, which for a static system such as one on a roof, is a knotty problem. The second issue has been common solar panel operating characteristics. Most solar arrays produce varying voltages, and therefore the output had to be stepped up or down to accommodate the battery it was charging, resulting in a voltage loss. For years, the standard method of compensating for these problems was to install very LARGE fixed solar panel arrays that generated enough power to overcome the voltage losses and the short daily time-window of direct sunlight exposure.

The Solar Stik™ employs a three-axis positioning system (think of it as a universal-joint) that has the ability to aim its two 50-watt panels directly at the sun, no matter where it is located in the sky. This is the key feature of the system, enabling the panels to operate at their maximum rated output voltage all day long. Standard beta testing demonstrated that the Solar Stik™ yielded a 150-200% increase in power compared to a similar flat-mounted panel system. This means that the Solar Stik™ could produce the same amount of power as a solar system three times its size! This opens up many potential applications for users of the Solar Stik™.

The second key feature of the Solar Stik™ is that it employs “Maximum Power Point Tracking” (MPPT) technology. A software-based control manipulates the voltage that the Solar Stik™ produces, supplying a higher charge-current to a battery. Simply stated, MPPT allows the solar panels to operate at their maximum rated voltage, rather than the battery voltage. The MPPT control also has an LCD readout that displays battery voltage and the electrical current being supplied from the solar panels. This display feature is important because it will allow the user to know when the solar panels are aimed correctly... a true benefit when optimizing solar power production.

We first viewed the system at the Solar Stik™ website, and we were really impressed. The plethora of information that was available to us at the site was amazing. The site has the basics of planning a solar energy system (“solar school”), as well as the information on the intricacies of the Solar Stik™ itself. We cruised the site, visiting photo galleries and accessories, and even downloading manuals and drawings. The second time we saw it was in person at a HAM radio operation... and to say it is “more impressive in person” would be the understatement of the year. The impact of personally inspecting the system erased any doubt we had about the viability of it in any application. Every detail is in place and the USA workmanship outstanding. The Solar Stik™ itself was surprisingly compact and was made entirely of aluminum and stainless steel, resulting in a very lightweight system that will withstand the harshest environments.

At the HAM event, the Solar Stik™ was connected to an accessory called the Power Pak 100 and supported two functioning HF radios, a laptop computer, refrigerator, and multiple lights. Noticeably absent from our test environment was the generator noise and fumes that many other radio operators were forced to endure while operating the same HF radios and equipment.

We were quickly trained and then given the opportunity to erect a Solar Stik™ system, and found it to be extremely easy. A person could do it in less than 5 minutes without any assistance. The unit was cleverly designed to be disassembled into three pieces and transported with little effort. It was 4:00PM in the mid-January afternoon during our testing, and the Solar Stik™ was able to operate at 100% for 70 minutes until the sun sank below the horizon. The manual system requires an average of two to three adjustments per day to achieve optimal power production.

During our visit, we were in a crowded environment, and it became evident that the Solar Stik™ was not friendly to heavy or close foot traffic. When deployed, the solar arms extend out about 6 feet at our head level. We did experience a couple of close encounters with the sharp solar panel edges, barely catching ourselves before impact. There is not much to protect you should you be unfortunate enough to walk into them in full stride. “We are still working on a few improvements, and that is one of the first to be dealt with”, stated Brian Bosley, CEO of the Solar Stik™ parent company.

We were given a brief description of how the Solar Stik™ was developed, and as is often the case, the truth behind the invention of the Solar Stik™ is stranger than fiction. Born into the marine market nearly a decade ago, the designers took the concept of the Solar Stik™ and crossed it over to those of us on terra-firma. The result of their progressive thinking yielded a solar system that is portable, lightweight, easily assembled, and the finest representation of craftsmanship that this writer has seen in many years. Unlike most items sold in the marketplace today, it is a purchase that is designed to last 25 years.

The Solar Stik™ system is versatile and easily adapted to multiple venues. It's accessories allow it to be tailored to a specific application. From cruising boats to humanitarian missions worldwide, It is truly an independent power station, requiring nothing more than daylight (solar panels will still produce electricity on a cloudy day) to operate. It is important to emphasize that the Solar Stik™ will not replace ALL traditional power sources. There are some applications that just don't make sense (like trying to power your entire house). However, 70% of fossil-fuel power generators today are used for nothing more than a television, radio, light, and refrigeration, all of which could be powered from a Solar Stik™. For the RV owner, Emergency First Responder, or Hurricane survivor, the Solar Stik™ could provide major benefits and addresses the number one logistical concern: acquisition and storage of fossil fuels.

It is the opinion of this author that the Solar Stik™ will be at the forefront of the paradigm-shift as the world seeks new power sources to meet the growing demand for energy.

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