

Renewable Power News

Xantrex Introduces Premium Sinewave Power Solution for 12 Volt Homes

Off-grid homeowners who need premium sinewave power have a new option to consider. Xantrex is now offering the SP2000 package, which provides 2000 watts of power for only \$1899 for a limited time. It is an ideal upgrade for an existing off-grid system to power sophisticated electronic equipment. The SP2000 is also an affordable entry-level package for first-time renewable energy customers.

The SP 2000 Package includes:

- ▶ Xantrex 2 kW Sinewave Inverter/Charger
- ▶ C35 Charge Controller
- ▶ TFB300 Fuse and Holder

- ▶ **Non-volatile memory:** Custom inverter and charger settings are saved during programming.

- ▶ **Technologically advanced charger will save fuel costs:** The power factor corrected battery charger delivers up to 33% more battery charging power from a 15 amp circuit.

Xantrex 2 kW Sinewave Inverter/Charger Features

- ▶ **Operates sensitive electrical equipment flawlessly:** All types of sensitive electrical equipment, including radios, clocks, and timers operate flawlessly on the Xantrex 2 kW Sinewave Inverter/Charger.
- ▶ **Runs demanding loads:** The Xantrex 2 kW Sinewave Inverter/Charger has a large surge capacity that runs all types of demanding household loads including pumps, saws, compressors and large motor loads.
- ▶ **Highly efficient:** This inverter is extremely efficient and consumes little battery power in standby mode. It can run small loads without draining too much valuable energy.
- ▶ **Fully programmable and easy to operate:** The Xantrex 2 kW Sinewave Inverter/Charger features an easy-to-navigate program menu which allows you to customize your inverter/charger operation.

- ▶ **Monitor your inverter from the comfort of your home:** The standard remote display and control monitor allows the homeowner the ability to control and monitor the inverter from inside their home.

- ▶ **Silent operation:** Only the fan can be heard, even when the inverter/charger is working hard.

C35 Controller Features

- ▶ **Multiple configurations:** The C35 can be configured for three-stage PV charge control, or automatic auxiliary load operation, or diversion control.

Specifications for this package can be found on page 4. ■



For a limited time the SP2000 Package is available for only \$1899.

Full retail price is \$2193.

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User Report on Xantrex 2kW Sinewave Inverter/Charger

To prepare for the SP2000 release, Ezra Auberbach, Market Manager for Xantrex Off-grid products, recently put the Xantrex 2 kW Sinewave Inverter/Charger through its paces at his off-grid home. Following is his report.

I am pleased to report that the Xantrex 2 kW Sinewave Inverter/Charger performed well, both as a true sinewave inverter and as a high capacity "intelligent" battery charger. The objective of our test was simple – find out how this inverter performs in daily cycle charge operation. We already knew it was fully market ready and proven in marine and RV applications, but wanted to evaluate its suitability in home applications. The results showed the Xantrex 2 kW Sinewave Inverter/Charger is completely suitable for home and cottage use. The inverter was energy efficient at low or no power demand, and robust at starting large, high surge demand loads such as pumps and power tools. My battery charger's performance, which uses an older gas generator, increased by a very noticeable 30%.

The Xantrex 2 kW Sinewave Inverter/Charger is ideal for any moderately sized off-grid home application, which requires state-of-the-art power quality. Many homes with modified sine wave inverters now require more sophisticated power quality for modern appliances, entertainment and telecommunications devices. The Xantrex 2 kW Sinewave Inverter/Charger is a good solution because as a replacement inverter it not only improves power quality, it also provides better battery charging; in many cases the improvement is enough to get another winter or two out of old batteries. The Xantrex 2 kW Sinewave Inverter/Charger is also appropriate for new cottage construction (yes it is strong enough to build the cottage too).

The most significant limiting factor in the application of the Xantrex 2 kW Sinewave Inverter/Charger is that it is only available in 12 VDC input. The inverter may be stacked for 120/240 VAC operation so 240 VAC well pumps and

other such loads are within reach of the system's capabilities. Generally speaking it is a good rule of thumb to keep 12-volt systems under 3 kW/h of load demand daily.

Larger load and attendant recharge requirements, may be met with 12-volt systems, but the amperage of the charging system tends to drive overall systems costs higher than they need to be.

The Test Setup

At a full-time off-grid home, many types of loads are in regular use, including all normal household appliances, a water pump, a refrigerator and freezer, an office, and a wood working shop. On average, my daily load is 3.5 kW/h per day (300 amp hours at 12 VDC). Since we wanted to test the Xantrex 2 kW Sinewave Inverter/Charger's battery charger and its capabilities, no renewable energy was connected to the batteries.

The Xantrex 2 kW Sinewave Inverter/Charger was connected to a 1000 amp/hr battery bank consisting of twelve 500 amp/hour 2 VDC AGM cells. The generator used is a very basic Honda EG3500X. It is typical of the type of equipment commonly used for this type of home application. All AC loads of the home and outbuildings were wired to the Xantrex 2 kW Sinewave Inverter/Charger, which was used in daily service through the test period.

Results

This inverter's very clean waveform was evident through load performance during our test period; it translated into stable lights, fast starting motors, and the virtual elimination of buzz on audio equipment. Surge power is strong and the inverter easily powered large stationary woodworking tools, washing

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The inverter's sinewave waveform is ideal for running sensitive electronic equipment such as computers and televisions.

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Green Electricity Now Powers Two Xantrex Manufacturing Facilities

Xantrex has expanded its commitment to green power by purchasing 4500 Megawatt hours of Green Tags over the next three years.

The company implemented 100% green power for its Arlington, Washington facility in 2001 and is expanding its green energy program to include its facility in Livermore, California this year.

Green Tags are created when wind power or other renewable energy is substituted for traditional power. Also called renewable energy certificates, they are sold by the Bonneville Environmental Foundation (BEF), a not-for-profit organization that reinvests its revenues in new renewable electricity generation and in watershed restoration projects.

BEF and Xantrex announced the new agreement today during the National Solar Energy Conference held by the American Solar Energy Society in Reno, Nevada.

User Report Continued

machines, a water pump, and other large loads – many running at once, such as washer and pump. No load drain at idle is under 20 watts (<25 in published specs and <20 in site measurements) and sleep mode power consumption is negligible.

The battery charger is powerful and because of its power factor corrected design, it delivers up to 33% more amps to the batteries from a small generator. We cycled the batteries fairly deeply drawing them down to 60% DOD (600 amp hours removed from 1000 amp hour battery bank). This deep cycling combined with the size of battery bank allowed us to run the Xantrex 2 kW Sinewave Inverter/Charger's battery charger at its maximum setting

“Supporting the Green Tag program is one way Xantrex is stimulating the growth and development of the renewable energy industry,” said Kevin Hagen, Director of Marketing for Xantrex's Distributed Power Market Unit. “This year, of the 100% green energy that we'll use, we have specified that 5% will be from new solar sources – we are especially pleased that BEF has allowed us to customize our purchase to encourage the installation of new solar generation sites.”

Xantrex has specified 225 Megawatt hours of its total renewable energy supply for its manufacturing facilities must come from new solar generation sites. This is the largest purchase of Solar Green Tags in the United States.

Green Tags offset emissions of carbon dioxide and other pollutants from traditional power generation by increasing production of renewable energy. BEF Green Tags, which are certified by Green-e and The Climate Neutral Network, come from new wind and solar resources endorsed by three regional environmental groups. ■

for an extended period of time. It happily produced 100 amps of DC current for hours on end and proved to be the most technologically advanced battery charger ever tested here.

One particular feature of note is how quiet the Xantrex 2 kW Sinewave Inverter/Charger is. An amusing side note: the inverter was so quiet that both I and another “industry professional” were fooled by the silence. We needed meters to confirm the inverter was wired correctly since there was no sound when it switched on and began charging batteries. In fact, after many hours of continuous heavy use, the only sound that came from the Xantrex 2 kW Sinewave Inverter/Charger was the built-in fan. ■



This green energy sticker appears on packaging for all products made in Arlington and Livermore.

For more information on green tags, visit www.greentagsusa.com



The Xantrex 2 kW Sinewave Inverter/Charger runs so quietly that it does not interfere with daily off-grid living.

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Specifications for the SP2000 Package

Xantrex 2 kW Sinewave Inverter/Charger

AC Input Voltage	120 VAC nominal
AC Input Voltage Range	90 – 135 VAC
AC Input Current	15 amps RMS nominal (for 100 amp charging)
Efficiency (Peak)	89%
Output Voltage (RMS)	12 VDC nominal
Output Voltage	117 VAC RMS
Frequency (Nominal)	60 Hz ±0.05 crystal controlled
Continuous Output @ 25 °C	2000 watts
5 Sec Surge Capability	4.5 kW
Total Harmonic Distortion	< 2% typical
Automatic Transfer Relay	30 amps, 1.5 HP, 120 VAC
DC Input Voltage Range	10 – 16 VDC
DC Current at Rated Power	200 amps DC nominal
Idle Consumption	< 25 watts
Specified Temperature Range	32 °F – 104 °F (0 °C – 40 °C)
Unit Weight	24.0 lb (11 kg)
Unit Dimensions	17.7" x 11.2" x 5.7" (45.0 cm x 28.4 cm x 14.5 cm)
Waveform	True Sine Wave
Listings	CSA/NRTL certified to CSA 107.1 and UL 1741 standards

C35 Controller

Voltage Configurations	12 and 24 VDC
Maximum PV Open Circuit Array Voltage	55 VDC
Charging / Load Current (@ 25 °C)	35 amps DC
Maximum Peak Current	85 amps
Maximum Voltage Drop Through Controller	0.30 volts
Typical Operating Consumption	15 ma
Typical Idle Consumption	3 ma
Recommended Breaker Size	45 amps rated at 100% continuous duty
Recommended Wire Size	#8 AWG
Lead Acid Battery Settings	Adjustable
NiCad Battery Settings	Adjustable
Load Control Mode	Low Voltage Reconnect - Adjustable (sticker provided with unit) Low Voltage Disconnect - User selectable manual or automatic reconnection - includes warning flash before disconnect and provides a one time, user selected grace period
Specified Temperature Range	32 °F to 104 °F (0 °C to 40 °C)
Unit Weight	2.5 lb (1.2 kg)
Dimensions (H x W x D)	8.0" x 5.0" x 2.5" (20.3 cm x 12.7 cm x 6.4 cm)
Listings	UL Listed to UL 1741 - 1999 and to CSA 22.2 No. 107.1-95 Standards, CE compliant



For more information on the Xantrex Certified Dealer Program, go to www.xantrexdealer.com

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