



XPowEr Inverter 5000

Owner's Guide

About Xantrex

Xantrex Technology Inc. is a world-leading supplier of advanced power electronics and controls with products ranging from small mobile units to utility-scale systems for wind, solar, batteries, fuel cells, microturbines, and backup power applications in both grid-connected and stand-alone systems. Xantrex products include inverters, battery chargers, programmable power supplies, and variable speed drives that convert, supply, control, clean, and distribute electrical power.

Trademarks

XPower is a trademark of Xantrex International. Xantrex is a registered trademark of Xantrex International.

Other trademarks, registered trademarks, and product names are the property of their respective owners and are used herein for identification purposes only.

Notice of Copyright

XPower Inverter 5000 Owner's Guide © March 2008 Xantrex International. All rights reserved.

Exclusion for Documentation

UNLESS SPECIFICALLY AGREED TO IN WRITING, XANTREX TECHNOLOGY INC. ("XANTREX®")

(A) MAKES NO WARRANTY AS TO THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN ITS MANUALS OR OTHER DOCUMENTATION.

(B) ASSUMES NO RESPONSIBILITY OR LIABILITY FOR LOSSES, DAMAGES, COSTS OR EXPENSES, WHETHER SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL OR INCIDENTAL, WHICH MIGHT ARISE OUT OF THE USE OF SUCH INFORMATION. THE USE OF ANY SUCH INFORMATION WILL BE ENTIRELY AT THE USER'S RISK; AND

(C) REMINDS YOU THAT IF THIS MANUAL IS IN ANY LANGUAGE OTHER THAN ENGLISH, ALTHOUGH STEPS HAVE BEEN TAKEN TO MAINTAIN THE ACCURACY OF THE TRANSLATION, THE ACCURACY CANNOT BE GUARANTEED. APPROVED XANTREX CONTENT IS CONTAINED WITH THE ENGLISH LANGUAGE VERSION WHICH IS POSTED AT WWW.XANTREX.COM.

Date and Revision

March 2008 Revision A

Part Number

975-0376-01-01

Product Number

813-5000

Contact Information

Telephone: 1 800 670 0707 (toll free North America)
1 408 987 6030 (direct)

Fax: 1 800 994 7828 (toll free North America)

Email: customerservice@xantrex.com

Web: www.xantrex.com

About This Guide

Purpose

The purpose of this **Owner's Guide** is to provide explanations and procedures for operating, maintaining, and troubleshooting the **XPower Inverter 5000**.

Scope

The **Guide** provides safety guidelines, as well as information about operating and troubleshooting the inverter. It does not provide details about particular brands of batteries. You need to consult individual battery manufacturers for this information.

This **Guide** does not provide installation instructions. Installation should be handled by qualified installers including licensed technicians and electricians. Qualified installers have knowledge and experience in installing electrical equipment, knowledge of the applicable installation codes, and awareness of the hazards involved in performing electrical work and how to reduce those hazards.

Qualified installers are to use the **Xpower Inverter 5000 Installation Guide** (doc. part number: 975-0411-01-01).

Audience

The **Guide** is intended for users and operators of the **XPower Inverter 5000**.

Organization

This **Guide** is organized into four chapters and one appendix.

Chapter 1 describes the standard features of the **XPower Inverter 5000**, as well as its protection features.

Chapter 2 provides information on the different parts of the **XPower Inverter 5000**.

Chapter 3 describes the operational procedures for using the **XPower Inverter 5000**.

Chapter 4 contains information and procedures for troubleshooting the **XPower Inverter 5000**.

Appendix A contains physical and electrical specifications of the **XPower Inverter 5000**.

Conventions Used

The following conventions are used in this guide.



WARNING

Warnings identify conditions that could result in personal injury or loss of life



CAUTION

Cautions identify conditions or practices that could result in damage to the unit or other equipment.

Important: These notes describe things which are important for you to know, but not as serious as a caution or warning.

Related Information

You can find more information about Xantrex Technology Inc. as well as its products and services at **www.xantrex.com**

Important Safety Instructions

IMPORTANT: Read and save this **Owner's Guide** for future reference.

This chapter contains important safety instructions for the **XPower Inverter 5000**.



WARNING: Shock, fire, and heat hazard. Risk of injury to persons.

1. Before using the **XPower Inverter 5000**, READ ALL instructions and cautionary markings on or provided with the **XPower Inverter 5000**, the batteries, and all appropriate sections of this guide.
2. DO NOT OPERATE this product unless it has been installed by a qualified installer in accordance with the **XPower Inverter 5000** Installation Guide.
3. Do not expose the **XPower Inverter 5000** to rain, snow, spray, or bilge water. To reduce risk of fire hazard, do not cover or obstruct the ventilation openings. Overheating may result.
4. To avoid a risk of fire and electric shock, make sure that wiring is in good condition, adequately rated, and not undersized. Do not operate the **XPower Inverter 5000** with damaged or substandard wiring.
5. Do not operate the **XPower Inverter 5000** if it has received a sharp blow, been dropped, or otherwise damaged in any way. If the **XPower Inverter 5000** is damaged, see the Warranty section.
6. Do not disassemble the **XPower Inverter 5000**. It contains no user-serviceable parts. See Warranty for instructions on obtaining service. Attempting to service the **XPower Inverter 5000** yourself may result in a risk of electrical shock or fire. Internal capacitors remain charged after all power is disconnected.
7. To reduce the risk of electrical shock, disconnect DC power from the **XPower Inverter 5000** before attempting any maintenance or cleaning or working on any circuits connected to the **XPower Inverter 5000**. Turning off controls will not reduce this risk.

Precautions When Working With Batteries



WARNING: Explosion or fire hazard

1. Follow all instructions published by the battery manufacturer and the manufacturer of the equipment in which the battery is installed to reduce the risk of battery explosion.
2. Working in the vicinity of lead-acid batteries is dangerous. Batteries generate explosive gases during normal operation. Therefore, you must read this guide and follow the instructions exactly before installing or using your **XPower Inverter 5000**.
3. This equipment contains components which tend to produce arcs or sparks. To prevent fire or explosion, do not operate the **XPower Inverter 5000** in compartments containing batteries or flammable materials, or in locations that require ignition-protected equipment. This includes any space containing gasoline-powered machinery, fuel tanks, as well as joints, fittings, or other connections between components of the fuel system.
4. Make sure the area around the battery is well ventilated.
5. Never smoke or allow a spark or flame near the engine or batteries.
6. Use caution to reduce the risk of dropping a metal tool on the battery. It could spark or short circuit the battery or other electrical parts and could cause an explosion.
7. If you need to remove a battery, always remove the ground terminal from the battery first. Make sure all accessories are off so you don't cause a spark.



WARNING: Risk of personal injury due to burns or battery acid

8. Remove all metal items, like rings, bracelets, and watches when working with lead-acid batteries. Lead-acid batteries produce a short circuit current high enough to weld metal to skin, causing a severe burn.
9. Have someone within range of your voice or close enough to come to your aid when you work near a lead-acid battery.

10. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
11. Wear complete eye protection and clothing protection. Avoid touching your eyes while working near batteries.
12. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters your eye, immediately flood it with running cold water for at least twenty minutes and get medical attention immediately.

Precautions for Using Rechargeable Appliances



CAUTION: Risk of equipment damage

The output of the **XPower Inverter 5000** is not sinusoidal and may not be compatible with all loads. Follow the recommendations below.

Most rechargeable battery-operated equipment uses a separate charger or transformer that is plugged into an AC receptacle and produces a low voltage charging output.

Some chargers for small rechargeable batteries can be damaged if connected to the **XPower Inverter 5000**. Do not use the following with the **XPower Inverter 5000**:

- Small battery-operated appliances like flashlights, razors, and night lights that can be plugged directly into an AC receptacle to recharge.
- Some chargers for battery packs used in power hand tools. These affected chargers display a warning label stating that dangerous voltages are present at the battery terminals.

Contents

Important Safety Instructions

Precautions When Working With Batteries	vi
Precautions for Using Rechargeable Appliances	vii

1 Introduction

Quality Power	1-1
Ease of Use	1-2
Comprehensive Protection	1-2

2 Features

AC Panel	2-2
DC Panel	2-4
Remote Switch	2-5

3 Operation

Turning the Inverter On and Off	3-1
Operating Several Loads at Once	3-2
Display Screen	3-2
Operating Limits	3-3
Power Output	3-3
Input Voltage	3-3
Inverter Loads	3-4
High Surge Loads	3-4
Trouble Loads	3-4
Routine Maintenance	3-5
Recharging Your Batteries	3-5

4 Troubleshooting

Common Problems - - - - - 4-1

 Buzz in Audio Equipment - - - - - 4-1

 Television Reception - - - - - 4-1

Troubleshooting Reference - - - - - 4-2

A Specifications

Electrical Performance - - - - - A-1

Physical Specifications - - - - - A-2

Accessory - - - - - A-2

Warranty and Return Information - - - - - WA-1

1

Introduction

The **XPower Inverter 5000** has been designed to give you quality power, ease of use, and reliability.

Please take a few moments to read this chapter to familiarize yourself with the main performance features and protection features.

Quality Power

The **XPower Inverter 5000** is designed for use in recreational vehicles (RVs), light and heavy duty truck applications, and other in-vehicle applications.

- The inverter provides up to 4000 W of continuous power. It is designed to handle loads such as microwaves, refrigerators, freezers, circular saws, and small air compressors.
- The inverter's high surge capability lets you handle many hard-to-start loads, including large TVs, refrigerators, and freezers.
- The cooling fan in the inverter is thermally activated and comes on when the inverter becomes warm. The fan turns off automatically after the inverter has cooled.

Ease of Use

Superior features and rugged durability have been combined with ease of use:

- The inverter is compact, lightweight, and easy to operate.
- Loads can be powered directly from the AC outlets.
- Easy-to-read indicators on the front panel let you monitor system performance at a glance.
- Remote On/Off switch (part number: 100-0830-01-01) lets you control the inverter from a convenient location—up to 10 feet (3 m) away—while the inverter itself is mounted out of sight.

Comprehensive Protection

The inverter is equipped with numerous protection features to guarantee safe and trouble-free operation:

Low battery alarm Alerts you if the battery has become discharged to 11.0 V or lower.

Low battery voltage shutdown Shuts the inverter down automatically if the battery voltage drops below 10.5 V. This feature will limit battery discharge.

High battery voltage shutdown Shuts the inverter down automatically if the input voltage rises to 15.5 V or more.

Overload and short-circuit shutdown Shuts the inverter down automatically if a short-circuit is detected in the load connected to the inverter's output, or if the loads connected to the inverter exceed the inverter's operating limits.

Over-temperature shutdown Shuts the inverter down automatically if its internal temperature rises above an acceptable level.

Back-EMF (backfeed) protection Shuts the inverter down automatically if a motor that is connected to the AC outlet overloads or if an AC source is connected to the AC outlet.

GFCI-protected outlets Provides standard ground fault detection and protection to prevent severe or fatal electric shocks.

DC terminal over temperature protection Monitors the DC terminals to prevent inverter or cable overheating due to loose connections or undersized DC cables.

2

Features

Chapter 2, “Features” describes the main features of the **XPower Inverter 5000**. Familiarize yourself with them before operating the inverter.

AC Panel

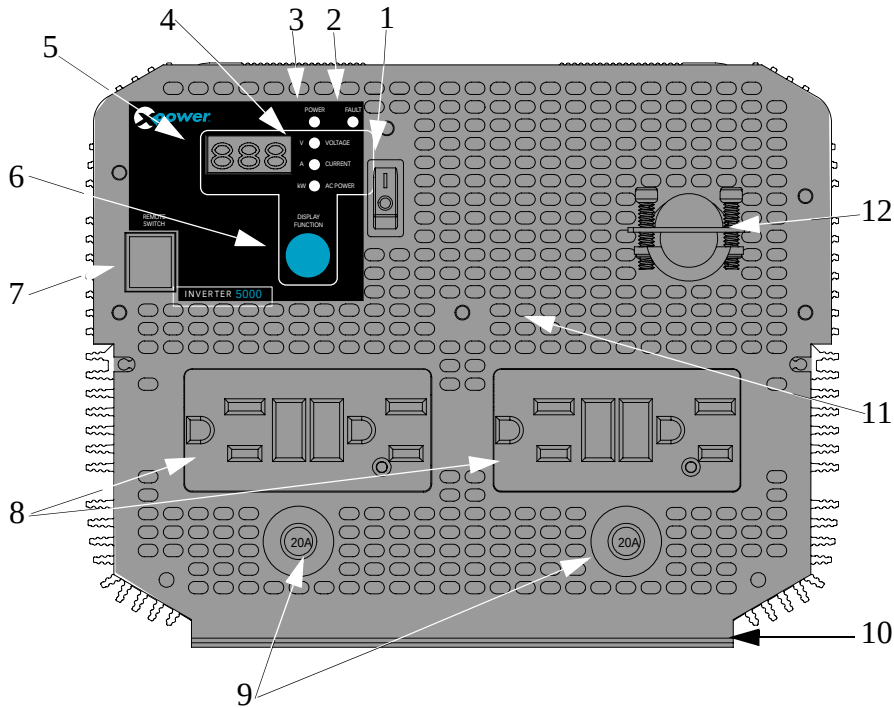


Figure 2-1 AC Panel

Feature	Description
1	On/Off Switch turns the inverter's control circuit on and off. This switch is not a power disconnect switch. Disconnect DC power before working on any circuits connected to the inverter.
2	Fault light (red): indicates the inverter has shut down due to inverter overload, over-temperature, under voltage, over voltage, AC output short circuit, or AC back-EMF (backfeed) protection shutdown.
3	Power light (green): indicates the inverter is operating.
4	Status indicator lights: VOLTAGE, CURRENT, AC POWER When lit, each light indicates which status is being displayed.

Feature	Description
5	Status Display: Shows Voltage, Current or AC Power. VOLTAGE: Indicates battery voltage at the input terminal of the inverter in volts (V). CURRENT: Indicates current drawn from the battery by the inverter in amps (A). AC POWER: Indicates the output power being drawn from the inverter in utilized kilowatts (kW).
6	Display Function Button Press this to display battery voltage, battery current and AC output power.
7	Remote On/Off Switch Connector Port: For connecting the Remote On/Off Switch. The remote switch and a 10-foot communications cable is included with the inverter.
8	Two duplex GFCIs: Each GFCI has two three-prong AC outlets and is connected in series with a 20 A circuit protector.
9	Two 20 A circuit protectors
10	Mounting Flanges (front and rear) allow you to mount the inverter permanently.
11	Ventilation Openings must not be obstructed for the proper operation of the inverter.
12	AC Knockout with strain-relief clamp: For hardwiring the inverter and securing the cables.

DC Panel

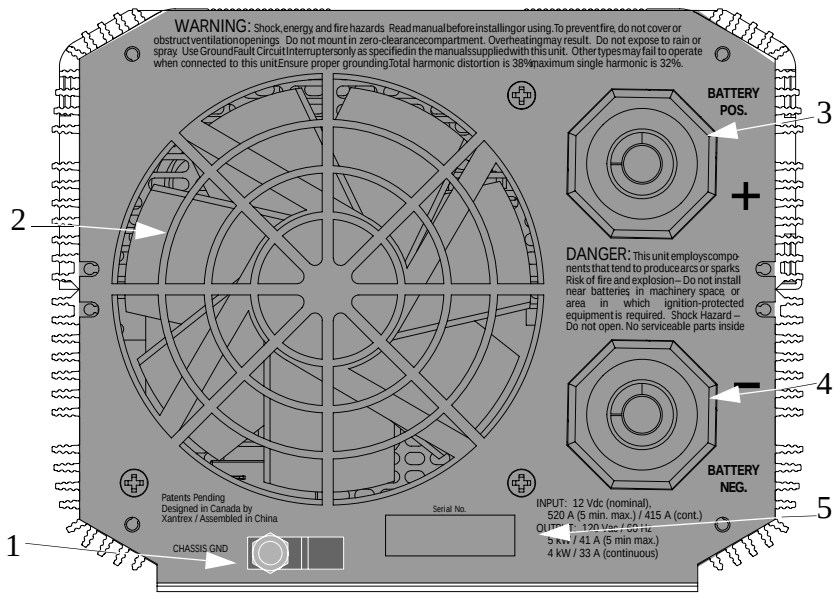


Figure 2-2 DC Panel

Feature	Description
1	Chassis Ground Lug connects to vehicle chassis.
2	Ventilation Opening and Fan Assembly must not be obstructed for the proper operation of the inverter.
3	Negative (-) DC Input Terminal connects to one end of the negative battery cable. The other end of the negative battery cable is connected to the negative terminal of the battery.
4	Positive (+) DC Input Terminal connects to one end of the positive battery cable. The other end of the positive battery cable is connected to the positive terminal of the battery.
5	Serial number of your inverter.

Remote Switch

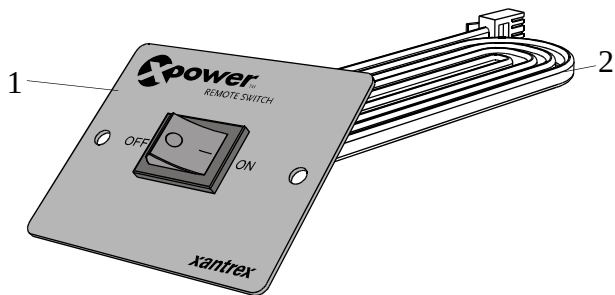


Figure 2-3 Remote Switch

Feature	Description
1	Remote On/Off Switch turns the inverter’s control circuit on and off. This switch is not a power disconnect switch. Disconnect DC power before working on any circuits connected to the inverter.
2	Communications Cable is 10 feet (3 m) long. This cable can be replaced and/or extended with a standard telephone cable up to a maximum total length of 25 feet (7.5 m).

3

Operation

Chapter 3 explains how to operate the inverter efficiently and effectively. Specifically, this chapter:

- Gives procedures for operating the inverter from the front panel
- Discusses operating limits and inverter loads
- Discusses battery charging frequency
- Provides information about routine maintenance

Turning the Inverter On and Off

The On/Off switch on the inverter's front panel turns the control circuit in the inverter on and off.

To turn the inverter on and off from its front panel:

- Move the On/Off switch to the On position to turn the inverter on.
- Move the On/Off switch to the Off position to turn the inverter off.
When the switch is Off, the inverter draws a very low current from the battery.

To turn the inverter on and off from the remote switch:

- Move the On/Off switch to the On position to turn the inverter on.
- Move the On/Off switch to the Off position to turn the inverter off.
When the switch is Off, the inverter draws a very low current from the battery.

Important: TURNING THE INVERTER OFF WHEN NOT IN USE.

The inverter draws less than 600 mA from the battery with the On/Off switch turned on and no load connected, but draws far less than this with the switch turned off. If the switch is left on, even with no loads the inverter will eventually discharge the battery.

To prevent unnecessary battery discharge, turn the inverter off when you are not using it.



WARNING: Shock and energy hazard

The inverter's On/Off switch (on the front panel and remote switch) does not disconnect DC battery power from the inverter. You must disconnect DC power before working on any circuits connected to the inverter.

Operating Several Loads at Once

If you are going to operate several loads from the inverter, turn them on separately after you have turned the inverter on.

Turning loads on separately helps to ensure that the inverter does not have to deliver the starting current for all the loads at once, and will help prevent an overload shutdown.

Display Screen

You can monitor important status information on the LED (light emitting diode) display screen.

To select which information the screen displays, press the Display Function button. The VOLTAGE, CURRENT and AC POWER lights indicate what information the screen is showing.

Battery Voltage Indicator

The BATTERY VOLTAGE INDICATOR indicates the DC voltage at the input terminals of the inverter. At low input currents, this voltage is very close to the battery voltage. At high input currents, this voltage is lower than the battery voltage because of the voltage drop across the cable and DC connections.

Battery Current Indicator

The BATTERY CURRENT INDICATOR displays the current draw from the battery in amps. It will not indicate current draw from other loads connected to the battery.

Output Power Indicator

The OUTPUT POWER INDICATOR indicates the AC output power in kW.

Operating Limits

Power Output

The **XPower Inverter 5000** can deliver up to 4000 W continuous and up to 5000 W for five minutes.

Input Voltage

The allowable inverter input (battery) voltage ranges are shown in the following table:

Operating Condition	Voltage Range	Comment
Normal	11–15 V	
Optimum Performance	12.0–13.0 V	
Low Voltage Alarm	11.0 V or less	The audible low battery alarm sounds.
Low Voltage Shutdown	less than 10.5 V	The inverter shuts down to protect the battery from being over-discharged.
High Voltage Shutdown	15.5 V or more	The inverter shuts down to protect itself from excessive input voltage. Note: Although the inverter incorporates over-voltage protection, it can still be damaged if input voltage exceeds 16 V.
High Voltage Alarm	15.0 V	The audible high voltage alarm sounds.

Inverter Loads

The inverter will operate most AC loads continuously within its power rating of 4000 W. However, some appliances and equipment may be difficult to operate, and other appliances may actually be damaged if you try to operate them with the inverter. Please read [“High Surge Loads”](#) and [“Trouble Loads”](#) carefully.

High Surge Loads

Some induction motors used in freezers, pumps, and other motor-operated equipment require high surge currents to start. The inverter may not be able to start some of these motors even though their rated current draw is within the inverter’s limits. The inverter will normally start single-phase motors rated at 1½ hp or less.

If a motor refuses to start, observe the BATTERY VOLTAGE INDICATOR while trying to start the motor. If the indicator drops below 11 V while the inverter is trying to start the motor, this low voltage condition may be why the motor won’t start. Make sure that the battery connections are good and that the battery is fully charged. If the connections are good and the battery is charged, but the voltage still drops below 11 V, you may need to use a larger battery or DC input cables that are larger gauge and/or shorter length.

Trouble Loads



CAUTION: Equipment damage

Some equipment may be damaged by the inverter’s modified sine wave output.

Some appliances, including the types listed below, may be damaged if they are connected to the inverter:

- Electronics that modulate RF (radio frequency) signals on the AC line will not work and may be damaged.
- Speed controllers found in some fans, power tools, kitchen appliances, and other loads may be damaged.
- Some chargers for small rechargeable batteries can be damaged. See [“Precautions for Using Rechargeable Appliances”](#) on page vii for details.
- Metal halide arc (HMI) lights can be damaged.

If you are unsure about powering any device with the inverter, contact the manufacturer of the device.

Routine Maintenance



WARNING: Shock and energy hazard

Disconnect DC power before performing any routine maintenance work or before working on any circuits connected to the inverter.

Minimal maintenance is required to keep your inverter operating properly. Periodically you should:

- Clean the exterior of the inverter with a damp cloth to prevent the accumulation of dust and dirt.
- Ensure that the DC cables are secure and fasteners are tight.
- Make sure ventilation openings on the AC and DC panels of the inverter are not obstructed by blankets and similar items and/or clogged with accumulated dust and dirt.

Recharging Your Batteries

When possible, recharge your batteries when they are about 50% discharged or earlier. This gives the batteries a much longer life cycle than recharging when they are more deeply discharged.

The **XPower Inverter 5000** has a battery low voltage shutdown at 10.5Vdc. With moderate to heavy loads, this will protect against over-discharging the battery. If the inverter is running only light loads it is advisable to recharge before the inverter low voltage shutdown point is reached.

4

Troubleshooting

Chapter 4 will help you identify the source of most problems that can occur with the inverter.

If you have a problem with the inverter, please review this chapter before contacting place of purchase.

If you are unable to solve a problem and need to contact place of purchase, record the information in the form “[Information About Your System](#)” on page WA-5.

Common Problems

Buzz in Audio Equipment

Some inexpensive stereo systems may emit a buzzing noise from their loudspeakers when operated from the inverter. This occurs because the power supply in the audio system does not adequately filter the modified sine wave produced by the inverter. The only solution is to use a sound system that has a higher quality power supply.

Television Reception

When the inverter is operating, it can interfere with television reception on some channels. If interference occurs, try the following:

1. Make sure that the chassis ground screw on the rear of the inverter is solidly connected to the ground system of your vehicle.
2. Make sure that the television antenna provides an adequate (“snow-free”) signal, and that you are using good quality cable between the antenna and the television.
3. Keep the cables between the battery and the inverter as short as possible, and ensure that the positive and negative cables are run very close to each other. This minimizes radiated interference from the cables.
4. Move the television as far away from the inverter as possible.
5. Do not operate high power loads with the inverter while the television is on.

Troubleshooting Reference



WARNING: Electrical shock and burn hazard

Do not disassemble the inverter. It does not contain any user-serviceable parts. Attempting to service the inverter yourself could result in an electrical shock or burn.

Some of the following Solutions should be referred to a qualified electrician or electrical service person.

Table 4-1 Troubleshooting Reference

#	Error/Warning Code on Display	Problem	Possible Cause	Solution
1	<i>EO1</i> : Flashing Fault LED: Flashing Alarm: Beeping	Inverter is in undervoltage shutdown.	<i>EO5</i> warning code is ignored. (See possible causes under error # “3” in this table).	See solution under error # 5 in this table.
2	<i>EO2</i> : Flashing Fault LED: Flashing Alarm: Beeping	Inverter is in overvoltage shutdown.	High input voltage	Make sure the inverter is connected to a 12 V battery. Check the voltage regulation of the charging system.
3	<i>EO3</i> : Flashing Fault LED: Flashing Alarm: Beeping	Inverter is in overload shutdown. Inverter is in short circuit shutdown.	<i>EO6</i> warning code is ignored. (See possible causes under error # 8 in this table). Inverter has short-circuited.	See solution under error # 6 in this table. Disconnect DC power to the inverter. Have a qualified electrician check the AC output connections, wiring, and appliances for indications of short circuits.

Table 4-1 Troubleshooting Reference

#	Error/Warning Code on Display	Problem	Possible Cause	Solution
	<i>E03</i> : Flashing Fault LED: Flashing Alarm: Beeping	Inverter is in back-EMF (backfeed) protection shutdown.	The AC output is being supplied with back-EMF (backfeed).	Check that no other source of electrical power is connected to the AC output circuits of the inverter. If motor loads are on the inverter, it is possible that a motor shutdown caused back-EMF (backfeed). If the problem persists, the motor may not be able to be operated by this inverter.
4	<i>E04</i> : Flashing Fault LED: Flashing Alarm: Beeping	Inverter is in internal over temperature shutdown.	<i>E07</i> warning code is ignored. (See possible causes under error # 8 in this table).	See solution under error # 7 in this table.
5	<i>E05</i> : Flashing Fault LED: Flashing Alarm: Beeping	Inverter's Input Under Voltage Warning Alarm is on.	Poor battery condition Poor DC wiring	Charge the battery. Install a new battery. Use proper cable size and lengths and make solid connections. For more information, refer to "Selecting Cable Sizes" starting on page 2-6 of the Installation Guide.
6	<i>E06</i> : Flashing Fault LED: Flashing Alarm: Beeping	Inverter's output overload warning alarm is on.	Load applied is above the continuous operation limit.	Reduce the load if continuous operation is required.
7	<i>E07</i> : Flashing Fault LED: Flashing Alarm: Beeping	Internal over temperature warning alarm is on.	Inverter ventilation openings are obstructed. Ambient temperature is too high. Load applied is above the continuous operation limit.	Improve ventilation. Make sure the inverter's ventilation openings are not obstructed. Reduce the ambient temperature. Reduce the load if continuous operation is required.

Table 4-1 Troubleshooting Reference

#	Error/Warning Code on Display	Problem	Possible Cause	Solution
8	EE9: Flashing Fault LED: Flashing Alarm: Beeping	Inverter's DC terminal is in over temperature shutdown.	Loose connection between the inverter's DC terminal and the DC input battery cable. The DC input battery cable is undersized.	Tighten the connection at the terminal to a torque of 18–20 ft-lbs (24–27 Nm) Use the recommended size of battery cables. For more information, refer to “Selecting Cable Sizes” starting on page 2-6 of the Installation Guide.
9	N/A	Low output voltage (96 VAC–104 VAC)	You are using a voltmeter that cannot accurately read the RMS voltage of a modified sine wave.	Use a true RMS reading voltmeter such as the Fluke 87.
10	N/A	Low output voltage on a true RMS reading voltmeter.	Low input voltage and the load is close to maximum allowable power.	Check the connections and DC cables and check if the battery is fully charged. Recharge the battery if it is low. Reduce the load.
11	N/A	No AC output voltage; no DC input voltage indication.	The inverter is off. No power to the inverter. Battery disconnect switch or breaker is off.	Turn the inverter on. Check if the DC cables are connected from battery to the inverter. Close battery disconnect switch or breaker.

Table 4-1 Troubleshooting Reference

#	Error/Warning Code on Display	Problem	Possible Cause	Solution
12	N/A	No AC output voltage; there is DC input voltage indication.	Inverter fuse open. GFCI outlet tripped. The inverter could have been connected with reverse DC input polarity.	Inverter fuses are not user-replaceable. Return the inverter. See the Warranty section for return information. If AC voltage is present on one AC outlet but not on the other, then the GFCI protection on the outlet may have tripped. Disconnect all loads and push the Reset button on the GFCI outlet. Reconnect the load to the receptacle that was tripped, and if it trips again, the load or its wiring is faulty and must be serviced by a qualified service personnel. The inverter has been damaged. Return the inverter. See the Warranty section for return information. NOTE: Damage caused by reverse polarity is not covered by the warranty.

A

Specifications

[Appendix A](#) contains electrical performance and physical specifications, for the inverter.

Important: Specifications are subject to change without notice.

Electrical Performance

Output power at 25°C (77°F) ambient temperature and 12 Vdc input:	
• Maximum continuous output power	4000 W
• 5 minute rating	5000 W
• Surge rating	10000 W
Output power at 40°C (104°F) ambient temperature and 12 Vdc input:	
• Maximum continuous output power	3500 W
Max output current	
• Continuous	33 Aac
• 5 minute rating	41 Aac
Output voltage range	120 Vac RMS $\pm$ 10%
Output waveform	Modified sine wave
Output frequency	60 $\pm$ 1 Hz
Input voltage range	10.5–15.5 Vdc (12.0 Vdc nominal)
Max input current	
• Continuous	415 Adc
• 5 minute rating	520 Adc
Low battery alarm	11.0 V
Low battery cutout	10.5 V
Peak efficiency	90%
No load current draw (switch is on)	<0.6 Adc
No load current draw (switch is off)	<0.5 mAdc

Physical Specifications

Length	18 1/2" (47 cm)
Width	8" (20 cm)
Height	6 1/4" (16 cm)
Weight	24.1 lb. (10.9 kg)

Accessory

Remote On/Off switch (Part number: 100-0830-01-01)	On/Off Switch with 10-foot communications cable.
---	--

Warranty and Return Information

Warranty

What does this warranty cover and how long does it last? This Limited Warranty is provided by Xantrex Technology Inc. ("Xantrex") and covers defects in workmanship and materials in your **XPower Inverter 5000**. This Warranty Period lasts for **12 months** from the date of purchase at the point of sale to you, the original end user customer, unless otherwise agreed in writing. You will be required to demonstrate proof of purchase to make warranty claims.

This Limited Warranty is transferable to subsequent owners but only for the unexpired portion of the Warranty Period. Subsequent owners also require original proof of purchase as described in "What proof of purchase is required?"

What will Xantrex do? During the Warranty Period Xantrex will, at its option, repair the product (if economically feasible) or replace the defective product free of charge, provided that you notify Xantrex of the product defect within the Warranty Period, and provided that Xantrex through inspection establishes the existence of such a defect and that it is covered by this Limited Warranty.

Xantrex will, at its option, use new and/or reconditioned parts in performing warranty repair and building replacement products. Xantrex reserves the right to use parts or products of original or improved design in the repair or replacement. If Xantrex repairs or replaces a product, its warranty continues for the remaining portion of the original Warranty Period or 90 days from the date of the return shipment to the customer, whichever is greater. All replaced products and all parts removed from repaired products become the property of Xantrex.

Xantrex covers both parts and labor necessary to repair the product, and return shipment to the customer via a Xantrex-selected non-expedited surface freight within the contiguous United States and Canada. Alaska, Hawaii and outside of the United States and Canada are excluded. Contact Xantrex Customer Service for details on freight policy for return shipments from excluded areas.

How do you get service? If your product requires troubleshooting or warranty service, contact your merchant. If you are unable to contact your merchant, or the merchant is unable to provide service, contact Xantrex directly at:

Telephone: 1 800 670 0707 (toll free North America)

1 408 987 6030 (direct)

Fax: 1 800 994 7828 (toll free North America)

Email: customerservice@xantrex.com

Website: www.xantrex.com

Direct returns may be performed according to the Xantrex Return Material Authorization Policy described in your product manual. For some products, Xantrex maintains a network of regional Authorized Service Centers. Call Xantrex or check our website to see if your product can be repaired at one of these facilities.

What proof of purchase is required? In any warranty claim, dated proof of purchase must accompany the product and the product must not have been disassembled or modified without prior written authorization by Xantrex.

Proof of purchase may be in any one of the following forms:

- The dated purchase receipt from the original purchase of the product at point of sale to the end user; or
- The dated dealer invoice or purchase receipt showing original equipment manufacturer (OEM) status; or
- The dated invoice or purchase receipt showing the product exchanged under warranty.

What does this warranty not cover? Claims are limited to repair and replacement, or if in Xantrex's discretion that is not possible, reimbursement up to the purchase price paid for the product. Xantrex will be liable to you only for direct damages suffered by you and only up to a maximum amount equal to the purchase price of the product.

This Limited Warranty does not warrant uninterrupted or error-free operation of the product or cover normal wear and tear of the product or costs related to the removal, installation, or troubleshooting of the customer's electrical systems. This warranty does not apply to and Xantrex will not be responsible for any defect in or damage to:

- a) the product if it has been misused, neglected, improperly installed, physically damaged or altered, either internally or externally, or damaged from improper use or use in an unsuitable environment;
- b) the product if it has been subjected to fire, water, generalized corrosion, biological infestations, or input voltage that creates operating conditions beyond the maximum or minimum limits listed in the Xantrex product specifications including high input voltage from generators and lightning strikes;
- c) the product if repairs have been done to it other than by Xantrex or its authorized service centers (hereafter "ASCs");
- d) the product if it is used as a component part of a product expressly warranted by another manufacturer;
- e) the product if its original identification (trade-mark, serial number) markings have been defaced, altered, or removed;
- f) the product if it is located outside of the country where it was purchased; and
- g) any consequential losses that are attributable to the product losing power whether by product malfunction, installation error or misuse.

Disclaimer

Product

THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED BY XANTREX IN CONNECTION WITH YOUR XANTREX PRODUCT AND IS, WHERE PERMITTED BY LAW, IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS, GUARANTEES, REPRESENTATIONS, OBLIGATIONS AND LIABILITIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE IN CONNECTION WITH THE PRODUCT, HOWEVER ARISING (WHETHER BY CONTRACT, TORT, NEGLIGENCE, PRINCIPLES OF MANUFACTURER'S LIABILITY, OPERATION OF LAW, CONDUCT, STATEMENT OR OTHERWISE), INCLUDING WITHOUT RESTRICTION ANY IMPLIED WARRANTY OR CONDITION OF QUALITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE TO THE EXTENT REQUIRED UNDER APPLICABLE LAW TO APPLY TO THE PRODUCT SHALL BE LIMITED IN DURATION TO THE PERIOD STIPULATED UNDER THIS LIMITED WARRANTY.

IN NO EVENT WILL XANTREX BE LIABLE FOR: (a) ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, LOST REVENUES, FAILURE TO REALIZE EXPECTED SAVINGS, OR OTHER COMMERCIAL OR ECONOMIC LOSSES OF ANY KIND, EVEN IF XANTREX HAS BEEN ADVISED, OR HAD REASON TO KNOW, OF THE POSSIBILITY OF SUCH DAMAGE, (b) ANY LIABILITY ARISING IN TORT, WHETHER OR NOT ARISING OUT OF XANTREX'S NEGLIGENCE, AND ALL LOSSES OR DAMAGES TO ANY PROPERTY OR FOR ANY PERSONAL INJURY OR ECONOMIC LOSS OR DAMAGE CAUSED BY THE CONNECTION OF A PRODUCT TO ANY OTHER DEVICE OR SYSTEM, AND (c), ANY DAMAGE OR INJURY ARISING FROM OR AS A RESULT OF MISUSE OR ABUSE, OR THE INCORRECT INSTALLATION, INTEGRATION OR OPERATION OF THE PRODUCT.

Exclusions

If this product is a consumer product, federal law does not allow an exclusion of implied warranties. To the extent you are entitled to implied warranties under federal law, to the extent permitted by applicable law they are limited to the duration of this Limited Warranty. Some states, provinces and jurisdictions do not allow limitations or exclusions on implied warranties or on the duration of an implied warranty or on the limitation or exclusion of incidental or consequential damages, so the above limitation(s) or exclusion(s) may not apply to you. This Limited Warranty gives you specific legal rights. You may have other rights which may vary from state to state, province to province or jurisdiction to jurisdiction.

Return Material Authorization Policy

Before returning a product directly to Xantrex you must obtain a Return Material Authorization (RMA) number and the correct factory "Ship To" address. Products must also be shipped prepaid. Product shipments will be refused and returned at your expense if they are unauthorized, returned without an RMA number clearly marked on the outside of the shipping box, if they are shipped collect, or if they are shipped to the wrong location.

When you contact Xantrex to obtain service, please have your instruction manual ready for reference and be prepared to supply:

- The serial number of your product
- Information about the installation and use of the unit
- Information about the failure and/or reason for the return
- A copy of your dated proof of purchase

Record these details on page WA-5.

Return Procedure

Package the unit safely, preferably using the original box and packing materials. Please ensure that your product is shipped fully insured in the original packaging or equivalent. This warranty will not apply where the product is damaged due to improper packaging.

Include the following:

- The RMA number supplied by Xantrex Technology Inc. clearly marked on the outside of the box.
- A return address where the unit can be shipped. Post office boxes are not acceptable.
- A contact telephone number where you can be reached during work hours.
- A brief description of the problem.

Ship the unit prepaid to the address provided by your Xantrex customer service representative.

If you are returning a product from outside of the USA or Canada In addition to the above, you **MUST** include return freight funds and are fully responsible for all documents, duties, tariffs, and deposits.

If you are returning a product to a Xantrex Authorized Service Center (ASC) A Xantrex return material authorization (RMA) number is not required. However, you must contact the ASC prior to returning the product or presenting the unit to verify any return procedures that may apply to that particular facility and that the ASC repairs this particular Xantrex product.

Out of Warranty Service

If the warranty period for your product has expired, if the unit was damaged by misuse or incorrect installation, if other conditions of the warranty have not been met, or if no dated proof of purchase is available, your unit may be serviced or replaced for a flat fee.

To return your product for out of warranty service, contact Xantrex Customer Service for a Return Material Authorization (RMA) number and follow the other steps outlined in "Return Procedure" on page WA-3.

Payment options such as credit card or money order will be explained by the Customer Service Representative. In cases where the minimum flat fee does not apply, as with incomplete units or units with excessive damage, an additional fee will be charged. If applicable, you will be contacted by Customer Service once your unit has been received.

Information About Your System

As soon as you open your **XPower Inverter 5000** package, record the following information and be sure to keep your proof of purchase.

- ☐ Serial Number _____
- ☐ Product Number **813-5000**
- ☐ Purchased From _____
- ☐ Purchase Date _____

If you need to contact Customer Service, please record the following details before calling. This information will help our representatives give you better service.

- ☐ Type of installation (e.g. RV, truck) _____
- ☐ Length of time inverter has been installed _____
- ☐ Battery/battery bank size _____
- ☐ Battery type (e.g. flooded, sealed gel cell, AGM) _____
- ☐ DC wiring size and length _____
- ☐ Alarm sounding? _____
- ☐ Description of indicators on front panel _____
- ☐ Appliances operating when problem occurred _____
- ☐ Description of problem _____
