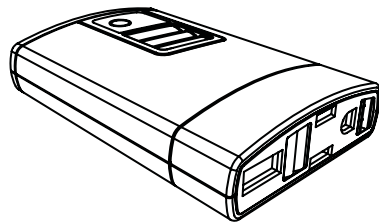


DURACELL[®]

POCKET INVERTER 100

t 1 408 987 6359

www.xantrex.com/support



Owner's Guide

About Xantrex

Xantrex Technology Inc. is a world-leading supplier of advanced power electronics and controls with products from 50 watt mobile units to one MW 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

DURACELL® is a registered trademark of The Gillette Company, used under license. All rights reserved.

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

Duracell® Pocket Inverter 100 Owner's Guide © 2007 Duracell. 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.

(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

June 2007 Revision B

Part Number

975-0340-01-01

Product Number

813-0281-07

Contact Information

Phone: 1 408 987 6359

Website: www.xantrex.com/support

Contents

1. Introduction	1
2. Important Safety Information	3
Warnings and Cautions	3
Additional Safety Guidelines	7
3. Safety Features	8
4. Inverter Features	9
5. Using the Inverter	10
Using the DC Cable with Cigarette Lighter Plug	10
6. Inverter Operation	12
Operating Guidelines	12
Battery Operating Time	14
Interference with Electronic Equipment	15
7. Troubleshooting	17
Replacing the Fuse	19
Recycling	20
8. Specifications	23
AC Power Output	23
USB Power Output	23
DC Power Specifications	24

Physical Specifications	24
9. Warranty and Return	25

1 Introduction

Thank you for purchasing the Duracell® Pocket Inverter 100. The Pocket inverter is part of a family of advanced high-performance power inverters from Xantrex, the leader in high-frequency inverter design. Connected to the 12 volt outlet in your vehicle, the Pocket inverter efficiently and reliably powers a wide variety of loads through both the AC outlet and USB port.

The Pocket inverter uses reliable solid state power electronics for years of safe, trouble-free operation and includes automatic safety monitoring circuitry to protect it, and your battery, from inadvertent overload conditions.

Read this guide before connecting or using the Pocket inverter, and save it for future reference. The main topics in the guide are:

- Safety information (page 3)
- Pocket inverter features (page 9)
- Instructions for connecting the inverter (page 10)
- Operating guidelines (page 12)

- Troubleshooting information (page 17)
- Specifications (page 23)
- Warranty and service information (page 25)

2 Important Safety Information

Misusing or incorrectly connecting the Pocket inverter may damage the equipment or create hazardous conditions for users. Read the following safety instructions and pay special attention to all Caution and Warning statements in the guide.

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

Cautions identify conditions or practices that may damage the unit or other equipment.

Warnings and Cautions



WARNING

Keep children away from the Pocket inverter. The inverter generates the same potentially lethal AC power as a normal household wall outlet. Treat the outlet with respect!



WARNING

The Pocket inverter housing may become uncomfortably warm, reaching 140° F (60° C) under extended high power operation. During operation, keep it away from materials that may be affected by high temperatures.



WARNING

Do not use the Pocket inverter in the presence of flammable fumes or gases, such as in the bilge of a gasoline powered boat, or near propane tanks. Do not use the Pocket inverter in an enclosure containing automotive-type, lead-acid batteries. These batteries, unlike sealed batteries, vent explosive hydrogen gas, which can be ignited by sparks from electrical connections.



WARNING: Shock hazard

Use caution when inserting an AC plug into the three-prong AC outlet. The prongs of an AC plug can become bent from misuse. If an AC plug is improperly inserted into the AC outlet, a bent prong can slip outside the inverter and become a shock hazard.



WARNING: Shock hazard

Grip the inverter carefully when inserting or removing an AC plug. Keep your fingers clear of the AC outlet. Ensure that your fingers do not contact the prongs of an AC plug when the plug is partially inside the inverter.



CAUTION: Output non-sinusoidal

Some chargers for small nickel-cadmium batteries can be damaged if connected to the Pocket inverter. Do not use the inverter with the following appliances:

- Small battery-operated appliances like rechargeable flashlights, some rechargeable shavers, and night lights that are plugged directly into an AC receptacle to recharge.
- Battery chargers used in hand power tools. These chargers display a warning label stating that dangerous voltages are present at the charger battery terminals.



CAUTION

Do not connect live AC power to the Pocket inverter's AC outlets. This will damage the inverter, and the damage is not covered by warranty. Do not connect any AC load that has its neutral conductor connected to ground to the Pocket inverter.

Additional Safety Guidelines

- Do not insert foreign objects in the Pocket inverter outlets or other openings.
- Never connect the inverter to power utility AC distribution wiring.
- Do not use the Pocket inverter in temperatures over 100° F (40° C).
- Do not expose the Pocket inverter to water, rain, snow, or spray.

Failure to follow these safety guidelines may cause personal injury and/or damage to the Pocket inverter. It may also void your product warranty.

3 Safety Features

These advanced safety features are built into the Pocket inverter:

- Electronic overload protection with automatic shutdown
- User-replaceable 8 A Slow-blow fuse
- Low battery voltage shutdown
- High-input voltage protection with automatic shutdown
- Overheat protection with automatic shutdown
- Output short circuit protection.

4 Inverter Features

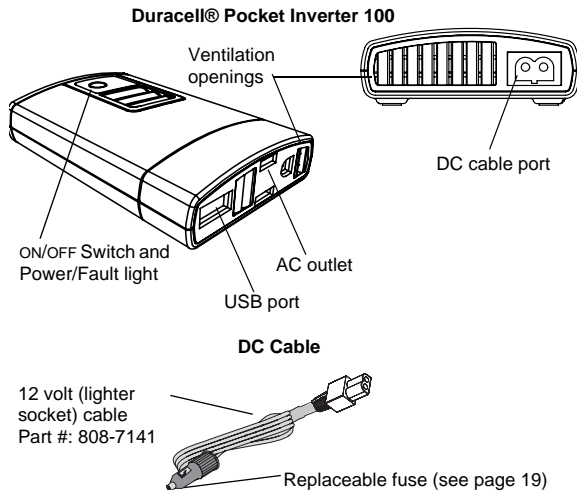


Figure 1 Features and Accessories

5 Using the Inverter

Through its AC outlet, the Pocket inverter is capable of powering most 120 V AC products that use 100 W or less. The Pocket inverter can also power or charge most consumer electronics that have USB power ports.

The Pocket inverter's AC output waveform, called "modified sine wave," is designed to function similarly to the sine wave shape of utility power.

Using the DC Cable with Cigarette Lighter Plug

Due to the limitations of 12 V outlets in vehicles or boats, the Pocket inverter should only be used to supply AC power to products that require 100 W (about 0.8 A) or less.

1. Plug the DC cable (Xantrex part number: 808-7141) into the DC cable port on the Pocket inverter. Observe correct polarity. See Figure 2.



CAUTION: Reverse polarity damage

When plugging in the DC cable, ensure that the plug aligns with the DC cable port. Failure to do so will result in reverse polarity and a blown fuse.

2. Insert the cigarette lighter plug into the 12 V outlet.
3. Plug the device you want to operate into the Pocket inverter. See “Inverter Operation” on page 12.
4. When the inverter is not in use, unplug it from the 12 V outlet to prevent slight discharge of the battery.

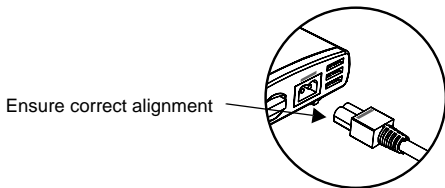


Figure 2 Connecting the Inverter and DC Cable

6 Inverter Operation

1. When properly connected to a 12 V outlet, and when the ON/OFF switch is in the ON position, the light will glow blue, indicating the inverter is ready.
2. Plug the product(s) you want to operate into the AC outlet or USB port and switch them on (if necessary).

Operating Guidelines

- As the battery is used, its voltage begins to fall. When the Pocket inverter senses that the voltage at its DC input has dropped to 10.5 V, the inverter automatically shuts down and the light glows red, indicating a fault. This prevents the battery from being damaged. Turn off any devices that the Pocket inverter is powering.

Important: Vehicle batteries are designed to provide brief periods of very high current needed for engine starting. They are not intended for constant deep discharge. Regularly operating the Pocket inverter from a vehicle battery until low-voltage shutdown occurs will shorten the life of the battery.

- If an AC product rated higher than 100 W is plugged into the Pocket inverter, the inverter will shut down. The red fault light comes on.
- If the Pocket inverter exceeds a safe operating temperature, due to insufficient ventilation or a high-temperature environment, it automatically shuts down. The red fault light comes on.
- Should a defective battery charging system cause the battery voltage to rise to dangerously high levels, the Pocket inverter automatically shuts down. The red fault light comes on.



CAUTION

Although the Pocket inverter incorporates protection against over-voltage, it may still be damaged if the input voltage exceeds 16 V.

- In the event of an overload, low battery voltage or overheating, the Pocket inverter automatically shuts down.

Battery Operating Time

Operating time will vary depending on the charge level of the battery, its capacity and the power level drawn by the particular AC load, USB load, or combination of both. With a typical vehicle battery and a 80 W load, an operating time of 4 to 5 hours or more can be expected.

When using a vehicle battery as a power source, it is strongly recommended to start the vehicle every hour or two to recharge the battery before its capacity drops too low. The Pocket inverter can operate while the

engine is running, but the normal voltage drop that occurs during starting of the engine may trigger the inverter's low voltage shutdown feature.

Interference with Electronic Equipment

Generally, most AC products operate with the Pocket inverter just as they would with household AC power. Below is information concerning two possible exceptions.

Buzzing sound in audio systems and radios

Some inexpensive stereo systems and AM-FM radios have inadequate internal power supply filtering and “buzz” slightly when powered by the Pocket inverter. Generally, the only solution is an audio product with a higher quality filter.

Television interference

The Pocket inverter is shielded to minimize its interference with TV signals. However, with weak TV signals interference may be visible in the form of lines scrolling across the screen. The following should minimize or eliminate the problem:

- Increase the distance between the Pocket inverter and the TV, antenna and cables.
- Adjust the orientation of the Pocket inverter, television, antenna and cables.
- Maximize TV signal strength by using a better antenna and use shielded antenna cable where possible.

7 Troubleshooting

PROBLEM: AC product will not operate, no inverter lights are ON.

Possible cause	Remedy
Battery is defective.	Check battery and replace if required.
Loose connections.	Check connections.
Fuse is blown.	Replace fuse (see page 19).

PROBLEM: Measured inverter output is too low.

Possible cause	Remedy
Standard “average-reading” AC voltmeter used to measure output voltage, resulting in an apparent reading 5 to 15 V too low.	Inverter’s “modified sine wave” output requires “true RMS” voltmeter for accurate measurements.

Possible cause	Remedy
Battery voltage is too low.	Recharge battery.

PROBLEM: AC product will not operate, red FAULT light ON.

Possible cause	Remedy
AC product(s) connected are rated at more than the inverter's continuous power rating; overload shutdown has occurred.	Use a product with a power rating less than the inverter's continuous power rating.
AC product is rated less than the inverter's continuous power rating; high starting surge has caused overload shutdown.	Product exceeds inverter's surge capability. Use a product with starting surge power within the inverter's capability.
Battery is discharged.	Recharge battery.

Possible cause	Remedy
The inverter has overheated due to poor ventilation and has shut down.	Unplug inverter from DC socket and allow to cool for 15 minutes. Remove objects covering unit. Move the inverter to a cooler place. Reduce load if continuous operation is required. Restart.

PROBLEM: Unit does not recharge with DC charging cable.

Possible cause	Remedy
8 A fuse in the DC charging cable has blown.	Replace the fuse

Replacing the Fuse

The lighter cable for the Pocket inverter has a replaceable 8 A Slow-blow fuse. Remove the blown fuse from the plug by gently unscrewing the tip of the lighter plug, and replace the fuse with a Littelfuse Slo-Blo[®] fuse, Littelfuse catalog number 313 008.

Recycling

If it's rechargeable, it's recyclable!

Xantrex recognizes its responsibility as a global citizen and is continually striving to reduce the environmental impact of the work we do and the products we create. We have taken a step forward to limit our impact on the natural environment by initiating a battery recycling program. Xantrex is a licensee of the Rechargeable Battery Recycling Corporation ("RBRC"), a non-profit public service organization dedicated to recycling used rechargeable batteries. Through RBRC's national program and the availability of recycling depots for Pb batteries, Xantrex customers can recycle rechargeable batteries in a convenient and environmentally friendly way.

If one of your Xantrex battery-integrated products has reached the end of its useful life, we urge you to dispose of the product correctly and safely. Xantrex recommends taking the following steps to recycle your product depending on battery chemistry and size.

Ni-MH, Li-ion or small Pb Batteries (up to 2 lbs. or 1 kg)

If you are recycling a product that contains a Ni-MH, Li-ion or small Pb battery (up to 2 lbs. or 1 kg) then you can simply drop it off at the battery drop-box located at any one of the following major retailers.

In Canada: Battery Experts, Battery Plus, Bell World, FIDO, Future Shop, The Home Depot, Home Hardware, London Drugs, Makita Factory Service Centers, Personal Edge, Revy, Sears, The Sony Store, The Source by Circuit City, TELUS Mobility and Zellers

In the USA: Alltel, Batteries Plus, Black & Decker, Cingular Wireless, Circuit City, The Home Depot, Lowe's, Milwaukee Electric Tool, Office Depot, Orchard Supply, Porter Cable Service Centers, RadioShack, Remington Product Company, Sears, Staples, Target, US Cellular and Verizon Wireless

If you are not sure of the drop-box nearest you, simply call 1-877-2-RECYCLE to find the retail collection nearest you.

Pb Batteries (larger than 2 lbs. or 1 kg)

If you need to recycle a Pb battery that is larger than 2lbs. (1kg) then you may take one of the following three steps to recycle your battery:

- dispose of your battery product 'as is' at a battery disposal location or waste disposal location nearest you.
- send your battery product 'as is' back to Xantrex for proper recycling of the battery (see address below).

Xantrex Technology Inc.

Attn: Battery Recovery

5917 195th Street NE

Arlington, WA

USA, 98223

- dispose of the battery inside your product, by first removing it (simple disassembly may be required) and then taking it to a Sears Automotive Facility in your area where it can be dropped off for proper recycling.

* If you are not sure of a Sears Automotive Facility nearest you simply go to www.Sears.com and select store locator.

8 Specifications

Specifications are subject to change without notice.

AC Power Output

AC output voltage (nominal)	120 V AC
Continuous AC output power	80 W
Peak AC output power	100 W
Maximum AC output surge power	160 W
AC output frequency	60 ± 1 Hz
AC output waveform	Modified sine wave

USB Power Output

DC output voltage	5 V DC
DC output current (max.)	0.5 A DC

DC Power Specifications

DC input voltage range	10.5–15.5 VDC
Battery drain with no AC load (at 12 V input)	0.4 A
Efficiency (maximum)	85%
Low battery shutdown point (nominal)	10.5 V
High battery shutdown point (nominal)	15.5 V

Physical Specifications

Ambient operating temperature range	0 °C–40 °C (32 °F–104 °F)
Dimensions (L × W × H)	5 1/8 × 3 3/16 × 23/32 in. (130 × 81 × 18 mm)
Weight	0.5 lb. (227 g)

9 Warranty and Return

Warranty

What does this warranty cover? This Limited Warranty is provided by Xantrex Technology, Inc. ("Xantrex") and covers defects in workmanship and materials in your Pocket inverter. This warranty period lasts for 6 months from the date of purchase at the point of sale to you, the original end user customer. You require proof of purchase to make warranty claims.

What will Xantrex do? Xantrex will, at its option, repair 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 and Hawaii are excluded. Contact Xantrex Customer Service for details on freight policy for return shipments outside of the contiguous United States and Canada.

How do you get service?

If your product requires troubleshooting or warranty service, contact your dealer.

If you are unable to contact your dealer, or the dealer is unable to provide service, contact Xantrex directly at:

Telephone: 1 408 987 6359

Website: www.xantrex.com/support

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? This Limited Warranty does not 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.

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 ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSSES, COSTS OR EXPENSES HOWEVER ARISING WHETHER IN CONTRACT OR TORT INCLUDING WITHOUT RESTRICTION ANY ECONOMIC LOSSES OF ANY KIND, ANY LOSS OR DAMAGE TO PROPERTY, ANY PERSONAL INJURY, 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 and provinces 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 or province to province.

Warning: Limitations On Use

Please refer to your product manual for limitations on uses of the product.

SPECIFICALLY, PLEASE NOTE THAT THE POCKET INVERTER SHOULD NOT BE USED IN CONNECTION WITH LIFE SUPPORT SYSTEMS OR OTHER MEDICAL EQUIPMENT OR DEVICES. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, XANTREX MAKES NO REPRESENTATIONS OR WARRANTIES REGARDING THE USE OF THE XANTREX POCKET INVERTER IN CONNECTION WITH LIFE SUPPORT SYSTEMS OR OTHER MEDICAL EQUIPMENT OR DEVICES.

Please note that the Pocket inverter is not intended for use as an uninterruptible power supply and Xantrex makes no warranty or representation in connection with any use of the product for such purposes.

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

Return Procedure

1. 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.
2. 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.
3. 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.

Out of Warranty Service

If the warranty period for your Pocket inverter 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 inverter may be serviced or replaced for a flat fee.

To return your Pocket inverter 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 33.

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.