



**jazz**<sup>™</sup> | **Portable Power**  
**250**

**Owner's Guide**

## **About Xantrex**

Xantrex Technology Inc. is a world-leading supplier of advanced power electronics with a product line that ranges from 50-watt mobile units to 1 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.

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# 1 Introduction

Thank you for purchasing Jazz Portable Power 250™, your source for Power That Really Moves™. Easy to use and designed for years of reliable service, Portable Power 250 can run a wide variety of AC electrical products wherever you need household power for work or play. In addition, it's the product to have close at hand should your power go out at home or you need to jump-start a vehicle.

**Read this guide before using Portable Power 250 and save it for future reference.**

Be sure to charge Portable Power 250 immediately after purchase (see Section 8). Its automatic charging system is intended to be left permanently plugged into a household AC outlet to keep its battery fully charged and ready for use.

## 2 Safety First ...

Misuse of Portable Power 250 may result in danger to the user. We urge you to pay special attention to all **CAUTION** and **WARNING** statements. **CAUTION** statements identify conditions or practices that may result in damage to Portable Power 250 or to other equipment. **WARNING** statements identify conditions that may result in personal injury or loss of life.



**WARNING!** Shock hazard. Keep away from children.

- This product generates the same potentially lethal AC power as a normal household wall outlet. Treat it with the same respect that you would any AC outlet.
- Do not insert any objects into its AC outlet, DC Power Socket, the Jumper Cable Port, or the ventilation holes. Do not expose this product to water.
- Do not, under any circumstances, connect Portable Power 250's AC receptacle to utility power AC distribution wiring.
- Failure to follow the above safety instructions may result in personal injury and/or damage to the product.



**WARNING!** Explosion hazard.

- Do not use this product where there are flammable fumes or gases, such as in the bilge of a gasoline powered boat, or near propane tanks. Do not use this product in an enclosure containing automotive-type lead acid batteries. These batteries, unlike the sealed battery in Portable Power 250, vent explosive hydrogen gas which can be ignited by sparks from electrical connections.
- When working on electrical equipment, always ensure someone is nearby to help you in an emergency.



**WARNING!** Heated surface.

- Ensure at least 2 in (5 cm) air space is maintained on all sides of the unit. During operation, keep away from materials that may be affected by high temperatures such as blankets, pillows and sleeping bags.



**CAUTION**

- Do not connect any AC load, whose neutral conductor is connected to ground, to this product.
- Do not expose Portable Power 250 to temperatures in excess of 104°F (40°C).

# 3 Quick Start Guide

## 3.1 Overview

The following instructions provide a brief overview of Portable Power 250's key features. For complete information, be sure to read this manual fully. The diagram below presents product features and accessories.

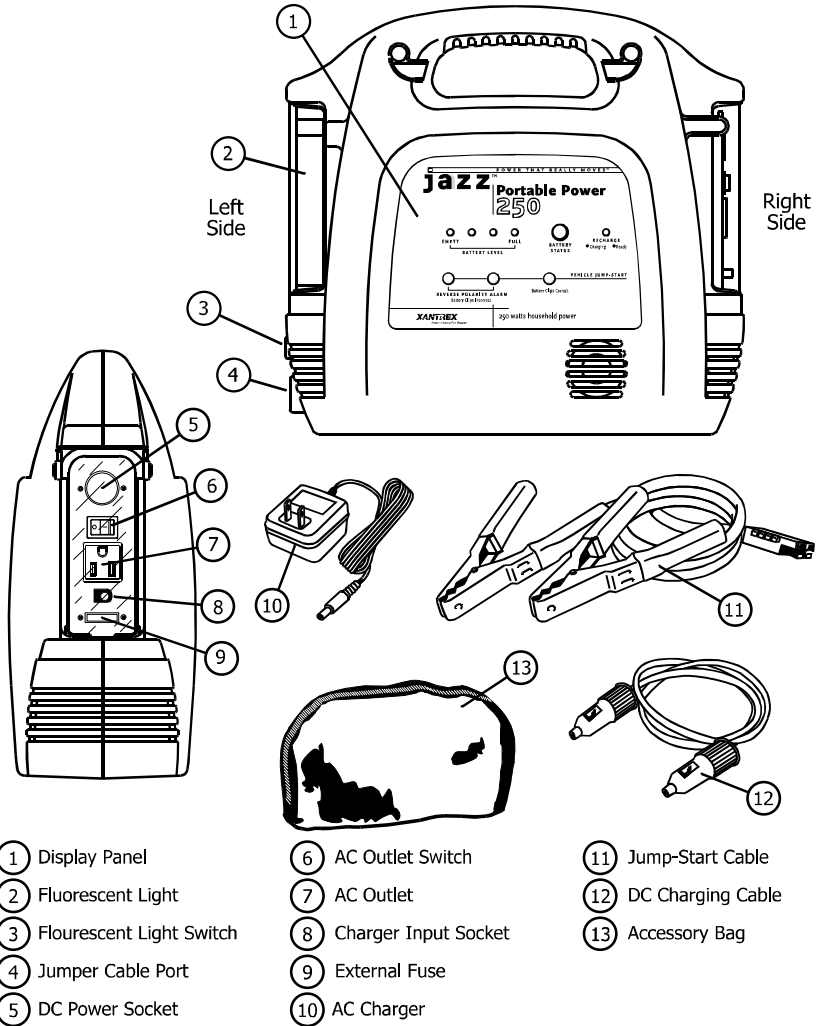


Figure 1 - Portable Power 250's Key Features

## 3.2 An Explanation of Power Ratings and Battery Life

**AC powered products** are rated by how much electrical power (in watts) they consume. Portable Power 250's internal AC inverter is capable of generating a maximum of 250 watts to power AC products plugged into its AC receptacle. As an example, a lamp with a 40 watt bulb can be operated from Portable Power 250 for up to 3 hours when its internal battery is fully charged.

**12-volt DC auto and marine accessories** are generally rated according to how much electrical current (in amperes or "amps") they draw from the battery. The built-in 12-volt fluorescent light draws less than 0.7 amps and will operate up to 23 hours with both bulbs illuminated, or about 46 hours with one bulb illuminated before the internal battery needs recharging. Portable Power 250 can supply up to 12 amps from its DC Power Socket.



**Remember:** The fewer watts an AC product uses, or the fewer amps a DC accessory draws, the longer Portable Power 250 will operate before recharging is required.

## 3.3 Operating AC Electrical Products

1. Ensure the internal battery is fully charged. (See Section 8 for details.)
2. Turn the AC inverter switch ON. The switch illuminates to indicate AC power is available at the AC outlet.
3. Plug the AC product you wish to operate into the AC outlet and switch the product ON. Portable Power 250 will operate most devices rated up to 230 watts.
4. In the event of an overload, low battery voltage, or overheating, the AC inverter will automatically shut down. (See Section 5.3 for details.)
5. Fully recharge the internal battery as soon as possible after each use.



### **3.4 Operating 12-Volt DC Products**

1. Ensure the internal battery is fully charged. (See Section 8 for details.)
2. Plug the accessory into the DC Power Socket, and switch the accessory on (if required). Portable Power 250 will operate any 12-volt DC auto or marine accessory that draws 12 amps or less.
3. Because the DC Power Socket is internally wired direct to the internal battery, extended operation of a 12-volt accessory may result in excessive battery discharge.  
**Important:** Care must be taken to ensure the battery does not become totally discharged. (See Section 6.1 for details.)

### **3.5 Recharging Jazz Portable Power 250**

1. The battery's charge level may be seen by pressing the Battery Status Button on the front of the product.
2. To recharge, plug the AC Charger into a household AC outlet and plug the AC Charger cord into the Charger Input Socket located below the AC outlet. The Recharge Indicator will change from amber to green when charging is complete (about 35 hours). It is safe (and recommended) to leave the AC Charger connected when Portable Power 250 is stored.
3. Charging may also be done from the 12-volt outlet or lighter socket in a vehicle. (See Section 8.3 for details.)

### **3.6 Using Jazz Portable Power 250 to Jump-Start a Vehicle**

Please review Section 7 for a detailed explanation.

## 4 Indicators, Controls and Connectors

Refer to Figure 1 in Section 3.1 and in Figure 2 below for the location of items described in this section.

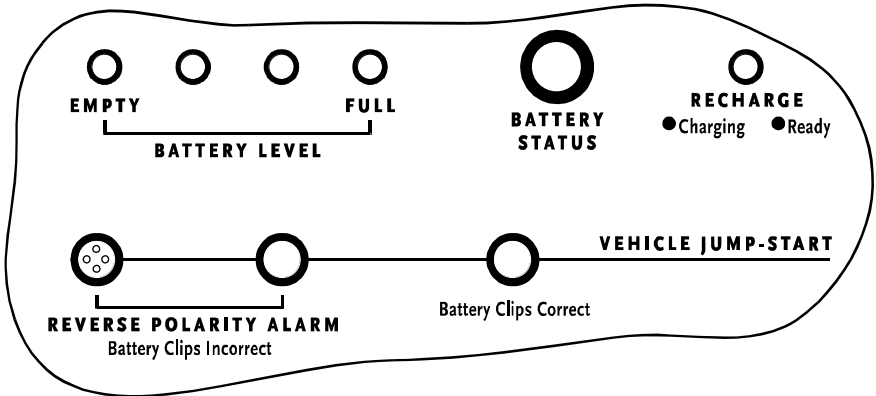


Figure 2 - Portable Power 250's Display Panel

### 4.1 Battery Level Indicators

The Battery Level Indicators show the state of charge of the internal battery. Its function is similar to the fuel gauge in a car. When pressing and holding the Battery Status Button, one or more of the four lights will illuminate, showing the approximate amount of charge remaining in the battery. Figure 3 shows the function of each light:

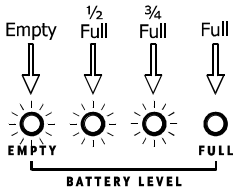


Figure 3

When the battery is fully charged, all four lights will illuminate. When discharged (empty), only the red light will illuminate and the battery must be recharged promptly. Figure 3 shows the battery is approximately  $\frac{3}{4}$  full.

Battery condition is indicated most accurately when the battery has been unused for 15 minutes. Pressing the Battery Status Button while supplying power to an AC or DC product may result in false battery charge level reading.

### 4.2 Recharge Indicator

The Recharge Indicator operates only when the battery is being recharged through the Charger Input Socket. It will not operate when other charging methods are used. When

charging the battery with the AC Charger, this light will glow amber, then change to green when the battery is fully charged. Once fully charged, the charging circuitry automatically switches into its charge maintenance mode.

### **4.3 Vehicle-Jump Start Indicators**

There are two indicators that pertain to the vehicle jump-start feature; one is labeled Battery Clips Correct and the other is labeled Battery Clips Incorrect. When using the Jump-Start Cables supplied, the green Battery Clips Correct light will illuminate when the Jump-Start Cables are correctly connected to the positive and negative terminals of the vehicle battery you want to “boost”. If the Jump-Start Cables are not correctly connected to the battery terminals, the red Battery Clips Incorrect light will illuminate and the alarm will sound.

Portable Power 250 can detect a reverse polarity condition caused by incorrectly connecting the Jump-Start Cables to a battery and automatically cancel the flow of current through the Jump-Start Cables. This important feature prevents sparking at the battery terminals and potential damage to your vehicle’s electrical system. (See Section 7.1.)

### **4.4 Charger Input Socket**

The AC Charger supplied connects to this socket when recharging is required. Other low power charging devices can also be connected here. (See Sections 8.2 and 8.5 for full details.)

### **4.5 DC Power Socket**

The DC Power Socket is a cigarette lighter style connector used for powering 12-volt DC auto or marine products, and for recharging Portable Power 250 from a 12-volt outlet in a vehicle. (See Sections 6 and 8.3.)

### **4.6 AC Outlet**

The integrated AC inverter converts 12 volts DC (supplied by the internal battery) to 110 volts AC. A standard 3-prong AC outlet supplies this 110 volts AC power for running your AC electrical products. See Section 5 for complete details on using the AC inverter.

## **4.7 AC Outlet Switch**

The AC outlet has an ON/OFF switch (located above the AC outlet) which illuminates when the switch is turned on indicating power is available at the AC outlet.

## **4.8 Audio Alarm**

Three types of conditions will set off the audio alarm. A low battery voltage condition, an over-temperature condition, and a reverse polarity connection. (See Sections 4.3 and 5.3.)

## **4.9 Jumper Cable Port**

The Jumper Cable Port supplies high-power DC current and is located on the lower left side of the unit. This port is wired directly to the internal battery. The Jump-Start Cables supplied connect to the Jumper Cable Port when you need to boost a vehicle's starting battery. Be sure to read Section 7 for full details before attempting to jump-start a vehicle. This port can also be used to connect an external battery to Portable Power 250 to increase operating time. See Section 9 for more information.

# 5 Powering AC Electrical Products

## 5.1 General Information

Portable Power 250 is capable of powering most 110-volt AC products and equipment that use 230 watts or less. Its AC output waveform, called a “quasi-sine wave” or “modified sine wave”, is designed to function similarly to the sine wave shape of utility power.



**CAUTION:** Do not use Portable Power 250 with the following equipment:

- Small battery operated products such as rechargeable flashlights, some rechargeable shavers, and night-lights that are plugged directly into an AC receptacle to recharge.
- Certain battery chargers for battery packs used in hand power tools. These chargers will have a warning label stating that dangerous voltages are present at the charger’s battery terminals.

The power, or “wattage”, rating of AC products is the average power they use. During the first moments after they are switched on, many products such as televisions, monitors, and products with motors, consume much more power than their average rating. Although this product can supply momentary surge power greater than 250 watts, some products may exceed its capabilities and trigger the inverter’s safety overload shutdown circuit. See details in Section 5.3 for the reset procedure.

## 5.2 Connecting Your AC Electrical Products

The following steps assume you have fully charged Portable Power 250’s battery. (See Section 8.)

1. Open the protective covering on the unit’s right side. Turn on the AC Outlet ON/OFF Switch. In the ON state, the switch illuminates indicating AC power is available at the AC outlet. See Figure 1 in Section 3.1.
2. Plug the AC product you wish to operate into the AC outlet and switch the product on. The product should operate normally, just as it would if plugged into a wall receptacle.

3. As the AC product is operated, you can check the level of the battery as detailed in Section 4.1. This will give you an idea of how much time remains until the battery needs recharging.
4. When the battery becomes nearly discharged, or “empty”, a low voltage warning will sound. This will give you time to shut down a computer, for example. If this warning is ignored, the inverter will switch off automatically a few minutes later to prevent battery damage. (See Section 5.3 for full details.)
5. Fully recharge the internal battery as soon as possible after each use. (See Section 8.)

### **5.3 Automatic Overload, Overheating, and Low Battery Protection**

Portable Power 250’s inverter has built-in protection against output overload and from overheating. If an AC product rated higher than 230 watts (or which draws excessive surge power at start up) is connected, or if the inverter exceeds a safe temperature, power to the AC outlet will automatically shut off.

If an over temperature condition caused the shut down, the audio alarm will sound. To reset, unplug the product, turn off the AC Power ON/OFF Switch, and let the inverter cool.

If an overload condition caused the shut down, unplug the product and confirm that the product power requirement is 230 watts or less before attempting to restart the product. In the case of an extreme overload, the 30-amp external fuse located below the AC outlet will open. It will be necessary to replace this fuse in order for power to flow to the AC outlet. Replace only with a 30 A, 32 Vdc, automotive blade type fuse which is available at many auto parts stores.

If the battery is allowed to discharge excessively, damage may occur. To prevent this, an audio warning alerts you when the internal battery is nearly discharged (10.7 volts). If this warning is ignored, the inverter will automatically switch off when the battery reaches “empty” (10.0 volts). Promptly recharge the battery. (See Section 8.)

## **5.4 Interference with Electronic Equipment**

### **5.4.1 Buzzing Sound in Audio Systems**

Some inexpensive stereo systems and “boom-boxes” will emit a buzzing sound from their loudspeakers when operating from the AC outlet of Portable Power 250. This is because the power supply in the equipment does not adequately filter the modified sine wave produced by the AC inverter. Unless the stereo can be operated directly from Portable Power 250’s 12-volt DC Power Socket, the only solution is a sound system with a higher quality internal power filter.

### **5.4.2 Television Interference**

Portable Power 250’s AC inverter is shielded to minimize interference with TV signals. In some cases, particularly with weak TV signals, some interference may still be visible in the form of scrolling lines across the screen. In this case, take the following corrective measures:

1. Use an extension cord to position Portable Power 250 as far away as possible from the television, antenna and cables.
2. Adjust the orientation of Portable Power 250, television, antenna and cables to minimize interference.
3. Maximize TV signal strength by using a better antenna, and ensure a shielded antenna cable is used.
4. Try a different TV. Different models of TV sets vary greatly in their susceptibility to interference.

## 5.5 AC Product Operating Times

Below are examples of AC products that may be operated by Portable Power 250 with estimated operating times.

<b>Examples of AC Electrical Products</b>	<b>Watts (1)</b>	<b>Hours (2)</b>
Cordless Telephone (stand by time)	5	37
Home Security System	5	37
Clock Radio	8	20
Portable Stereo	10	15
Fluorescent Work Light	14	9
Fireplace Fan	20	7
Laptop Computer	25	6
Table Lamp	40	3
Color TV - 13"	60	2.5

- (1) Represents actual power consumption as measured on sample products.
- (2) Operating times assume a fully charged battery and may vary based on model/brand used.

Portable Power 250 will not operate AC products rated at more than 230 watts continuous, such as hair dryers, microwave ovens, and toasters.



## **6 Powering 12-Volt DC Products**

### **6.1 Connecting 12-Volt DC Products**

Portable Power 250 can operate any product that is intended to run from a vehicle's lighter socket. Simply insert the DC product's plug into the DC Power Socket located on the right side of the unit. Portable Power 250's DC Power Socket will operate any 12-volt DC auto, marine, or other portable 12-volt product that draws 12 amps or less. Follow these steps after fully charging Portable Power 250's battery. (See Section 8).

1. Plug the 12-volt product into the DC Power Socket, and switch the product on (if required).
2. The 12-volt product will operate until the battery runs out of power. Refer to step 4 (below) to avoid battery damage due to excessive discharge.
3. If the 12-volt product is drawing more than 12 amps (or has a short circuit defect), Portable Power 250's internal circuit breaker will switch off power to the 12-volt product. If this occurs, unplug the 12-volt product and the breaker will automatically reset after a few seconds.
4. The DC Power Socket does not automatically switch off when the battery is discharged. To protect the battery against damage resulting from total discharge, it is strongly recommended that the AC inverter is switched on, even when powering a 12-volt product. This will enable the inverter's alarm to warn you when the 12-volt product has nearly depleted the battery. The power used by the inverter to monitor the battery's charge level is negligible.
5. Fully recharge Portable Power 250's battery as soon as possible after each use. (See Section 8.)

### **6.2 Built-in Fluorescent Light**

The switch to turn the fluorescent light on is located on the left side of Portable Power 250, below the fluorescent light. Slide the switch toward the right and stop at the first setting to illuminate one tube or the second setting to illuminate both tubes. With the internal battery fully charged, Portable Power 250 will illuminate both lamps for about 23 hours.

Should tube replacement be necessary, first turn off the light, then remove the clear cover by grasping it on each side at the top and pulling the top of the cover away from the unit. Gently grasp the tube and rotate  $\frac{1}{4}$  turn to remove. Insert the replacement tube and rotate  $\frac{1}{4}$  turn to lock in place. Attach clear cover.

### 6.3 DC Product Operating Times

Below are examples of DC products that may be operated by Portable Power 250 with estimated operating times.

Examples of 12-volt DC Products	Watts (1)	Hours (2)
Cellular Telephone (3)	6	33
Fluorescent Light (built-in to unit)	8	23
Stereo/CD Player	10	17
Portable Cooler	30	3.5
Coffee Maker	85	1
Tire Inflator	100	0.8

- (1) Represents actual power consumption as measured on sample products.
- (2) Operating times assume a fully charged battery and may vary based on model/brand used.
- (3) Represents talk time available from 11 recharge cycles.

## **7 Vehicle or Boat Engine Starting Assistance**

### **7.1 Jump-Starting Direct to the Battery**

With the Jump-Start Cables supplied, Portable Power 250 may be used to jump-start a vehicle or boat that has a 12-volt starting battery. Portable Power 250 has a special jump-start safety feature that eliminates the sparking that sometimes occurs when jump-start cables are connected to a battery. Because of this important feature, the instructions below are different from those often supplied with other jump-start products or booster cables. Follow these steps only when using Portable Power 250:

1. Turn off the vehicle or boat ignition, and all accessories.
2. Engage the park or emergency brake and place the transmission in park or neutral.
3. If jump-starting a boat engine, purge the engine compartment and bilge of all fumes before jump-starting.
4. Connect the Jump-Start Cables to the Jumper Cable Port on the left side of the unit. (See Figure 1.)
5. Position Portable Power 250 on a flat stable surface near the battery and clear of all moving parts of the engine.
6. Connect the red positive (+) clip at the end of the Jump-Start Cables to the positive (+) terminal of the engine battery. The battery's positive terminal is usually larger in diameter than the negative terminal. In most vehicles it has a red wire connected to it.
7. Connect the black negative (-) clip at the end of the Jump-Start Cables to the engine block, cylinder head, or other stationary heavy metal part of the motor, or to the negative (-) battery terminal.
8. If the positive and negative clips are properly connected, the green Battery Clips Correct light will illuminate. If the clips are not properly connected the Reverse Polarity Alarm will sound and the red Battery Clips Incorrect light will illuminate. Remove both clips to cancel the alarm and repeat steps 6 and 7.

9. After the clips are properly connected and the green Battery Clips Correct light is illuminated, make sure that Portable Power 250 and the Jump-Start Cables are clear of belts and fans before attempting to start the engine.



**WARNING:** Do not remove the Jump-Start Cables from the Jumper Cable Port when the positive and negative clips are connected to the vehicle battery terminals. This will disable the jump-start safety feature and could result in sparking and explosion.

10. After the vehicle is started and while the cables are still connected, you can run the vehicle's engine at fast idle for 2 minutes to fast-charge Portable Power 250's battery. After recharging, remove the red clip first and black clip second. The Jump-Start Cables should be removed from Portable Power 250 only after the clips are removed from the battery terminals.

## 7.2 Jump-Starting via a Vehicle's Lighter Socket

The following procedure is often sufficient to start a vehicle when its battery is not completely dead.

1. Connect your vehicle's cigarette lighter socket (or 12-volt outlet) to Portable Power 250's DC Power Socket using the DC Charging Cable supplied. You may need to switch the vehicle's ignition to the "accessory" position to allow power to flow from the lighter socket to the vehicle's battery.
2. Wait 15 minutes while Portable Power 250 partially charges your vehicle's battery. Then remove DC Charging Cable from the Portable Power 250's DC Power Socket and from the vehicle's cigarette lighter socket.
3. If your vehicle does not start, attempt to jump-start as described in Section 7.1.
4. Fully recharge the internal battery as soon as possible after each use. (See Section 8.)

## 8 Recharging Jazz Portable Power 250

### 8.1 General Information on Batteries and Charging

#### 8.1.1 Charging Options

These charging methods are possible with Portable Power 250:

- Charging with the fully automatic “plug-in-and-forget” AC Charger.
- Charging from your vehicle with the DC Charging Cable as you drive .
- Charging from a generator equipped with a 12-volt battery charging outlet.
- Charging from a solar panel.

#### 8.1.2 Battery Self-Discharge and Shelf Life

All rechargeable batteries gradually discharge when left standing. Periodic charging is necessary to maintain maximum battery capacity. The AC Charger supplied with Portable Power 250 is designed to regulate the charging process, ensuring the battery is always fully charged, but never overcharged. To ensure safe recharging and maximum battery life, charge only with Xantrex supplied or approved products.



**CAUTION:** Due to inherent self-discharge, lead acid batteries must be charged at least every 3 months, especially in a warm environment. Leaving a battery in a discharged state, or not recharging every 3 months, risks permanent damage.



**CAUTION:** Do not attempt to recharge Portable Power 250's battery if it is frozen. A frozen battery should be gradually warmed to 32°F (0°C) before charging.

### 8.2 Recharging with the AC Charger

Recharging with the AC Charger is a true “plug-in-and-forget” charging method. To use it, follow these steps:

1. Disconnect any 12-volt DC products and switch the inverter and fluorescent light OFF.
2. Plug the AC Charger into a standard AC wall outlet.

3. Insert the AC Charger cable end into the Charger Input Socket located on the unit's right side below the AC outlet.
4. As Portable Power 250 charges, the Recharge Indicator will glow amber. A typical recharge may take up to 35 hours.
5. When fully charged, the Recharge Indicator changes to green and Portable Power 250 is ready to use.
6. Once fully charged, charging current automatically reduces to a low maintenance level and Portable Power 250 may be left permanently connected to the AC Charger. In addition, should your utility power be interrupted, the charging process will automatically restart when power returns.



**Note:** Battery Level readings will not be accurate until the battery has “rested” for 15 minutes after charging.



**CAUTION:** Do not use Portable Power 250 to operate any AC products or DC accessories while charging with the AC Charger.

### 8.3 Recharging from Your Vehicle

Using the DC Charging Cable, Portable Power 250 can be recharged as you drive. Simply plug either end of the DC Charging Cable into Portable Power 250's DC Power Socket and the other end into the vehicle's cigarette lighter socket or 12-volt accessory outlet. Most of Portable Power 250's capacity will be restored in 1 to 3 hours while the motor is running. Although the charge regulation circuitry in Portable Power 250 does not operate with this charging method, most vehicle voltage regulators will ensure Portable Power 250 is not overcharged. This charging method must not be used with vehicles having abnormally high voltage electrical systems that operate above 15 volts DC. Disconnect the DC Charging Cable from both sockets once Portable Power 250 is fully charged or when your vehicle's motor is not running. Do not leave Portable Power 250 permanently connected to the vehicle's lighter socket or 12-volt accessory outlet.



**CAUTION:** While Portable Power 250 is being recharged with the DC Charging Cable from your vehicle, do not operate AC products over 120 Watts from the AC inverter at the same time.

## 8.4 Recharging with a Generator's 12-Volt DC Power Outlet

Recharging Portable Power 250 from a generator using the AC Charger is possible, but would require extended generator running time. Since many generators have an auxiliary regulated 12-volt DC output designed for charging 12-volt batteries, using this power source will result in much faster charging. If the generator has a cigarette lighter style socket for its 12-volt output, follow the connection instructions in Section 8.3.

Most of Portable Power 250's capacity will be recharged in about 1 to 3 hours. The charge level can be verified using Portable Power 250's Battery Level Indicator after disconnecting from the charging source as explained in Section 4.1.



**CAUTION:** The generator output must be intended for battery charging. An unregulated output or one that exceeds 15 volts DC can damage the battery.

## 8.5 Recharging with a Solar Panel

Small unregulated 12-volt solar panels rated to produce a maximum of 3 amps (or 40 watts) can be used to charge Portable Power 250 via the Charger Input Socket. You will need to purchase a standard 5.5 mm OD x 2.5 mm ID "DC Coaxial (Barrel Type) Connector" to mate with the Charger Input Socket. Connect the solar panel's positive (red) wire to the coaxial plug's inner contact and the solar panel's negative (black) wire to the plug's outer contact. Once the connector is inserted into the Charger Input Socket and the solar panel is placed in the sun, Portable Power 250 will charge automatically just as with the AC Charger. (See Section 8.2.) A 3-amp solar panel will charge Portable Power 250 in about 8 hours in direct sunlight.

# 9 Connecting to an External Battery

## 9.1 Extended Operating Time

Much longer battery operating time is possible when connecting Portable Power 250 to a larger external battery. For example, an external 60 amp-hour battery will give approximately 3 to 4 times the operating time of Portable Power 250's internal battery.



**WARNING:** Use a sealed, non-spillable battery for indoor use. Common auto and marine batteries are not suitable for indoor use unless their fumes are vented outdoors. They contain acid, which is hazardous if spilled. Wear eye protection and protective clothing when connecting Portable Power 250 to an external battery.

## 9.2 Connecting an External Battery

The external battery is connected using the Jump-Start Cables as follows:

1. Connect the Jump-Start Cables to the Jumper Cable Port on the left side of Portable Power 250.
2. Connect the red positive (+) clip at the end of the Jump-Start Cables to the positive (+) terminal of the external battery.
3. Connect the black negative (-) clip at the end of the Jump-Start Cables to the negative (-) terminal of the external battery.
4. If the positive and negative clips are properly connected, the green Battery Clips Correct light will illuminate. If the clips are not properly connected the Reverse Polarity Alarm will sound and the red Battery Clips Incorrect light will illuminate. Remove both clips to cancel the alarm and repeat steps 2 and 3.
5. When the external battery is discharged or no longer needed, remove the red clip first, then remove the black clip before recharging Portable Power 250.



**WARNING:** Do not remove the Jump-Start Cables from the Jumper Cable Port when the positive and negative clips are connected to the terminals of the external battery. This will disable the jump-start safety feature and could result in sparking and explosion.



# 10 Battery Replacement

## 10.1 General Information About Battery Life

The battery used in Portable Power 250 is a high quality, state-of-the-art design that will serve as a reliable power source for years when properly maintained.

To maximize battery life it is important to recharge Portable Power 250's battery after each use. Recharge fully every three months if placed in storage, and store in a location that maintains a temperature range of 32°F to 86°F (0°C to 30°C). Also, discharging the battery below 10.0 volts will damage the battery and shorten its life.



**IMPORTANT:** The battery is covered under warranty only when it is properly maintained.

## 10.2 Replacing Jazz Portable Power 250's Internal Battery

Before attempting to replace the battery, make sure any charging cables, DC accessories, or AC products are disconnected from Portable Power 250 and that the AC Power ON/OFF Switch and fluorescent light switch are turned off. Also, read this entire section before disassembling the unit.



**WARNING:** To avoid potentially serious injury follow these precautions when working with batteries:

1. Someone should be within range of your voice or close enough to come to your aid when you work near a lead-acid battery.
2. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
3. Wear complete eye protection and clothing protection. Avoid touching your eyes while working near batteries.
4. 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.
5. Keep a supply of baking soda on hand in the area of the batteries. Baking soda neutralizes lead-acid battery electrolyte.
6. NEVER smoke or allow a spark or flame in vicinity of the engine or batteries.

7. Be careful not to drop a metal object on the battery or allow a metal tool to simultaneously touch the positive and negative cable ends or battery terminals. It might spark or short-circuit the battery or other electrical parts and cause an explosion.
8. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead-acid battery. A lead-acid battery produces a short circuit current high enough to weld a ring or other similar objects to metal, causing a severe burn.

If you do not know how to safely remove and install higher amperage batteries, have this task performed by a qualified service technician.

Follow these steps to replace the battery:

1. Place Portable Power 250 upright and on a stable and level surface. Unscrew the 4 fasteners that hold the Battery Cover on the back of Portable Power 250 and remove the cover. Place the fasteners in the cover for safe keeping.
2. With Portable Power 250 still upright, slide the battery out. Using a screw driver and small adjustable wrench, remove the nut and bolt that hold the internal positive and negative cables to their respective battery terminals. Note how the nut, bolt, and washers attach the internal cable to the old battery terminal and make certain they are positioned in the same order when connecting the cables to the terminals of the new battery.



**IMPORTANT:** The location of the positive and negative terminals vary from one battery manufacturer to another. Check your replacement battery polarity carefully before connecting the battery cables.

3. After removing the old battery, position the new battery close to the back of Portable Power 250. Make certain the positive battery terminal is next to the red (+) internal cable and the negative terminal is next to the black (-) internal cable.
4. Securely fasten the bolt, washer, and nut that holds the red positive cable to the positive battery terminal and the black negative cable to the negative battery terminal. Do not over tighten the nut and bolt. Make sure cable polarity is correct. Reverse polarity will damage the unit and could cause serious injury.

5. Replace battery cover and 4 fasteners.
6. Dispose of the old battery in an environmentally responsible manner.

### 10.3 Obtaining a Replacement Battery

Replacement batteries are available in many areas from stores that specialize in higher amperage, deep cycle batteries. The following batteries are approved for use with Portable Power 250.

<b>Replacement Battery</b>	<b>Where To Buy</b>
Panasonic (#LCR-12V17P)	<b>Panasonic</b> Ph: 1-800-833-9626 internet: <a href="http://www.pasc.panasonic.com">www.pasc.panasonic.com</a>
	<b>Digi-Key</b> Ph: 1-800-344-4539
Yuasa (#NP18-12B-HYC)	<b>Yuasa</b> Ph: 1-800-962-1287 (Eastern U.S.) Ph: 1-800-423-4667 (Western U.S.) internet: <a href="http://www.yuasa-exide.com">www.yuasa-exide.com</a>

If you are not able to find a replacement battery, please contact Xantrex Customer Service. See Section 13 for the telephone number or email address.

# 11 Troubleshooting

## **PROBLEM: AC product will not operate, no audio alarm.**

### Possible Cause

Product rated more than 230 watts, safety overload circuit has tripped.

Appliance is rated less than 230 watts, high starting surge has tripped overload.

### Suggested Remedy

Use an AC product with a power rating less than 230 watts.

AC product may exceed Portable Power 250's surge capability. Use an AC product with starting surge power within the unit's surge rating.

## **PROBLEM: AC product will not operate, audio alarm is sounding**

### Possible Cause

Battery has discharged to 10.0 volts.

Inverter has overheated due to poor ventilation or excessively warm environmental conditions.

### Suggested Remedy

Turn off AC product and recharge battery.

Turn inverter OFF and allow to cool for 15 minutes. Clear blocked fan opening or remove objects covering the unit then restart.

## **PROBLEM: Run time is less than expected.**

### Possible Cause

Internal battery is not fully charged.

AC product power consumption is higher than expected.

### Suggested Remedy

Recharge using AC Charger, until Recharge Indicator is green.

Check AC product power or "wattage" rating (or current draw for DC products) and compare with tables in Sections 5.5 and 6.3.

**PROBLEM: Measured inverter output voltage is too low.**

Possible Cause

Use of standard “average” reading AC voltmeter to read output voltage.

Battery is almost “empty”.

Suggested Remedy

“Modified-sine wave” output of inverter requires “true RMS” reading meter, such as Fluke 87 series multimeter, for accurate measurement.

Check Battery Level Meter and recharge battery as needed.

**PROBLEM: Charging light is OFF when AC Charger is connected.**

Possible Cause

No AC power at wall receptacle.

Suggested Remedy

Ensure power is available at receptacle.

## 12 Specifications\*

### 12-Volt DC Section

Internal battery type	sealed, AGM lead acid
Internal battery voltage (nominal)	12 V
Internal battery capacity (minimum)	17 Ah
DC Power Socket (maximum continuous load)	12A
DC Power Socket circuit breaker (with auto reset)	12A
Built-in fluorescent lamp (replaceable)	two, 4 W bulbs
Jump-start cables	39" (1 m), 8 AWG

### AC Power Section

Output power – continuous / 10 minutes / surge	230 / 250 / 500 W
Output voltage	110 $\pm$ 5 Vac
Output frequency	60 Hz $\pm$ 4 Hz
Output waveform	modified sine wave
No load current draw	<0.20 A
Input voltage range	10.0–15.0 Vdc
Low battery alarm / shutdown	At 10.7 / 10.0 Vdc
Overload / over temperature shutdown	yes, automatic
Output short circuit protection	yes
Operating temperature range	0°–40° C (32°–104° F)

### Charging System

AC charger bulk charging current (maximum)	500 mA
Peak charging voltage (nominal)	14.5 V
Charge restart voltage (nominal)	12.9 V
Float charge after full charge is completed (nominal)	1 mA
AC Charger input socket maximum current	3 A

### Mechanical Specifications

Weight	18.0 lbs (8.2 kg)
Dimensions (L x W x H)	12.5 x 5.1 x 11.8 in 31.7 x 13.0 x 30.0 cm

\*Specifications subject to change without notice.

## **13 Limited Warranty (USA and Canada only) and Out-of-Warranty Service Information**

**What Does This Warranty Cover?** Xantrex manufactures its products from parts and components that are new or equivalent to new, in accordance with industry standard practices. This warranty covers any defects in workmanship or materials.

**How Long Does The Coverage Last?** This warranty lasts for 6 months from the date of purchase (see details below). Implied warranties of merchantability and fitness for a particular purpose are limited to months from date of purchase. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

**What Does This Warranty Not Cover?** This warranty will not apply where the product 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. Xantrex does not warrant uninterrupted operations of its products. Xantrex shall not be liable for damages, whether direct, incidental, special, or consequential, or economic loss even though caused by the negligence or fault of Xantrex. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

**What Will Xantrex Do?** Xantrex will, at its option, repair or replace the defective product free of charge. Xantrex will, at its own option, use new and/or reconditioned parts made by various manufacturers in performing warranty repair and building replacement products. If Xantrex repairs or replaces a product, its warranty term is not extended. Xantrex owns all parts removed from repaired products.

**How Do You Get Service?** In order to qualify for the warranty, dated proof of purchase must be provided and the product must not be disassembled or modified without prior authorization by Xantrex. If your product requires warranty service, please return it to the place of purchase along with a copy of your dated proof of purchase. If you are unable to contact your merchant, or the merchant is unable to provide service, contact Xantrex directly:

BY PHONE: (604) 422-8595  
1-800-670-0707  
BY FAX: (604) 420-2145  
1-800-994-7828  
BY EMAIL: support.jazz@xantrex.com

You must obtain a Return Material Authorization (RMA) number from Xantrex before returning a product directly to Xantrex. Do not return a product to Xantrex without first obtaining an RMA number. When you contact Xantrex to obtain service, be prepared to supply the serial number of your product and its date of purchase as well as information about the installation or use of the unit.

If you are returning a product from the USA or Canada, follow this procedure:

1. Obtain an RMA number and a shipping address from Xantrex.  
*Product(s) returned without an RMA number or shipped collect, will be refused.*
2. Package the unit safely, preferably using the original box and packing materials. Include the RMA number, a copy of your dated proof of purchase, a return address where the repaired unit can be shipped, a contact telephone number, and a brief description of the problem.
3. Ship the unit to the address provided in Step 1, freight prepaid. Obtaining proof of delivery is recommended.

**How Other Laws Apply:** This warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

**For Our Canadian Customers:** When used herein “implied warranties of merchantability and fitness for a particular purpose” includes all warranties and conditions, express or implied, statutory or otherwise, including without limitation implied warranties and conditions of merchantability and fitness for a particular purpose.

**Service Out Of Warranty:** If the warranty period for your Jazz Portable Power 250 has expired, if the unit was damaged due to misuse, incorrect installation or if other conditions of the warranty have not been met, or if no dated proof of purchase is available, your unit may be serviced/replaced for a minimum flat fee of \$80.00 US (\$120.00 CDN). To return your Jazz Portable Power 250 for out of warranty service, contact Xantrex customer service for a Return Material Authorization (RMA) number and follow the other steps outlined in the section “How Do You Get Service?” above. Options for payment (e.g. credit card or money order) will be explained by the customer service representative. In cases where the minimum flat fee does not apply (e.g. 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 is received. The minimum flat fee is subject to change without notice.



## 14 Other Products from Xantrex

Jazz Portable Power 250 is part of the Jazz family of power products. Other models in this series include the Jazz 150, Jazz 300, and Jazz 500 power inverters, which convert 12-volt battery power to household AC power and are designed for use in a vehicle. These inverters are small, light weight, and highly portable.

Other Xantrex brands include:

**PORTAWATTZ™** – DC to AC power inverters ranging from 150 to 3000 watts and designed for permanent installation in a vehicle or boat.

**PROsine™** - High performance sine wave inverters and inverter-chargers built to handle commercial and industrial use.

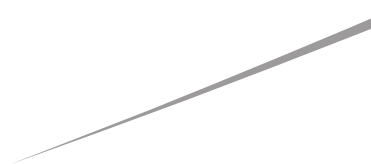
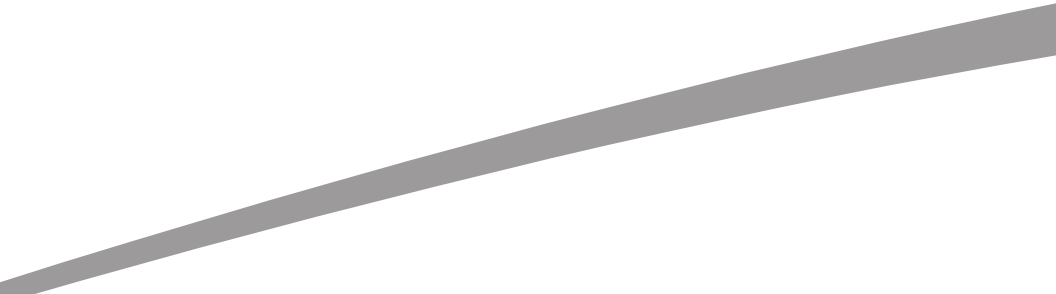
**xPower™** – Portable AC power products that have a built-in 12-volt battery and can be safely used inside or outdoors.

**TRUECHARGE™** – A high quality line of “smart” battery chargers.

For more information on these and other advanced power products contact your Xantrex retailer or visit our web site at <http://www.xantrex.com>.

## NOTES

## NOTES



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**fax:** 1.800.994.7828  
**email:** [support.jazz@xantrex.com](mailto:support.jazz@xantrex.com)  
**web:** [www.xantrex.com](http://www.xantrex.com)