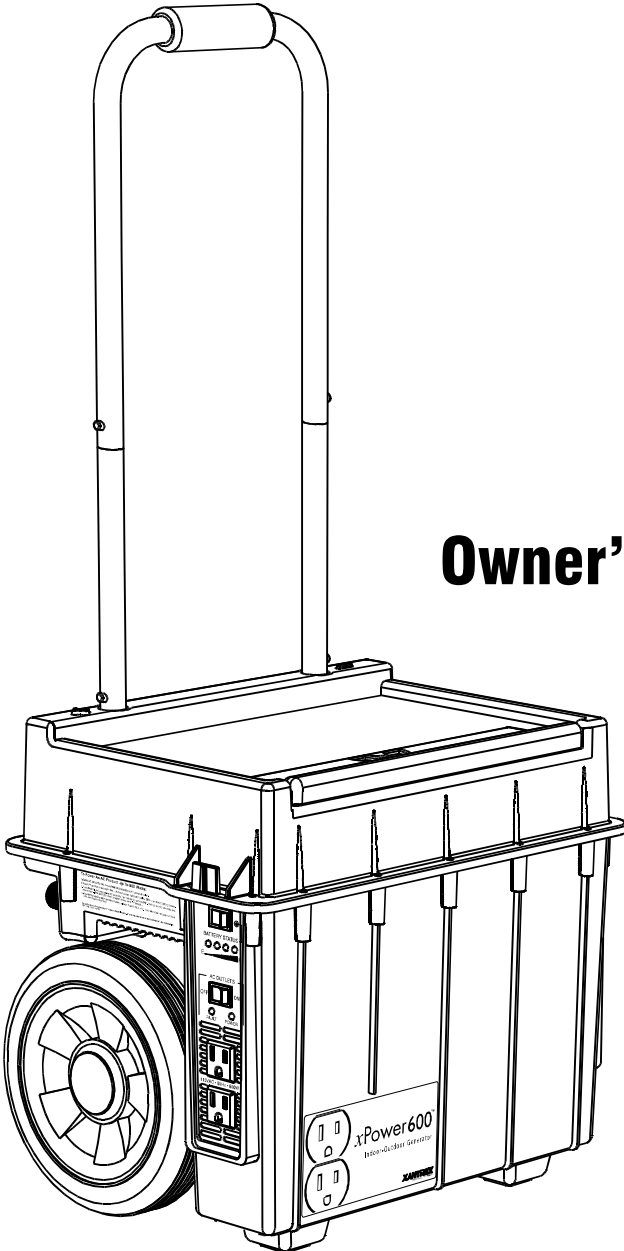


xPower600™

Indoor•Outdoor Generator

Owner's Manual



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1.0 Introduction

Thank you for purchasing xPower600™ the 600-watt electronic generator that's portable and rechargeable. Designed for both indoor and outdoor use, xPower600 can run a wide range of electrical products – from power tools to entertainment equipment, and even small appliances. xPower600's rugged, cart-like design gives you go-anywhere AC power and its "plug-in-and-forget" charging system keeps it fully charged and ready for use any time the power goes out. With an optional set of jump-start cables, xPower600 can even start a vehicle or boat.

Read this manual before using xPower600 and save it for future reference.

Be sure to charge xPower600 immediately after purchase (see Section 8.0). xPower600's "plug-in-and-forget" charging system is intended to be left permanently plugged into a wall outlet and will keep its battery fully charged and ready for use.

The following main topics are covered in this manual:

- How to use xPower600 as a source of 115 Volts AC to run household or workplace products.
- How to use xPower600 as a source of 12 Volts DC to run typical auto or marine accessories.
- How to use xPower600 to jump-start a vehicle.
- How to recharge xPower600's battery.



2.0 Safety First ... Before You Use xPower600

Misuse of xPower600 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 xPower600 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.

- xPower600 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 xPower600's AC outlets, its DC Power Socket, or the ventilation holes. Do not remove the covers on the High Power DC Terminals, unless connecting cables. Do not expose xPower600 to water.
- Do not, under any circumstances, connect xPower600's AC receptacle to power utility AC distribution wiring.
- Failure to follow the above safety instructions may result in personal injury and/or damage to xPower600.



WARNING! Explosion hazard.

- Do not use xPower600 where there are flammable fumes or gases, such as in the bilge of a gasoline powered boat, or near propane tanks. Do not use xPower600 in an enclosure containing automotive-type lead acid batteries. These batteries, unlike the sealed battery in the xPower600, 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.

- xPower600's internal inverter components may become uncomfortably warm, reaching 140°F (60°C) under extended high power operation. Ensure at least 15 cm (6 in) of air space is maintained on all sides and on top of xPower600. 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 xPower600.



- Do not expose xPower600 to temperatures in excess of 100°F (40°C).

3.0 Quick Start Guide

3.1 Overview

The following basic instructions are intended to provide a brief overview of xPower600's key features. For complete information, be sure to read this manual fully. Figure 1 below shows xPower600's key features and accessories.

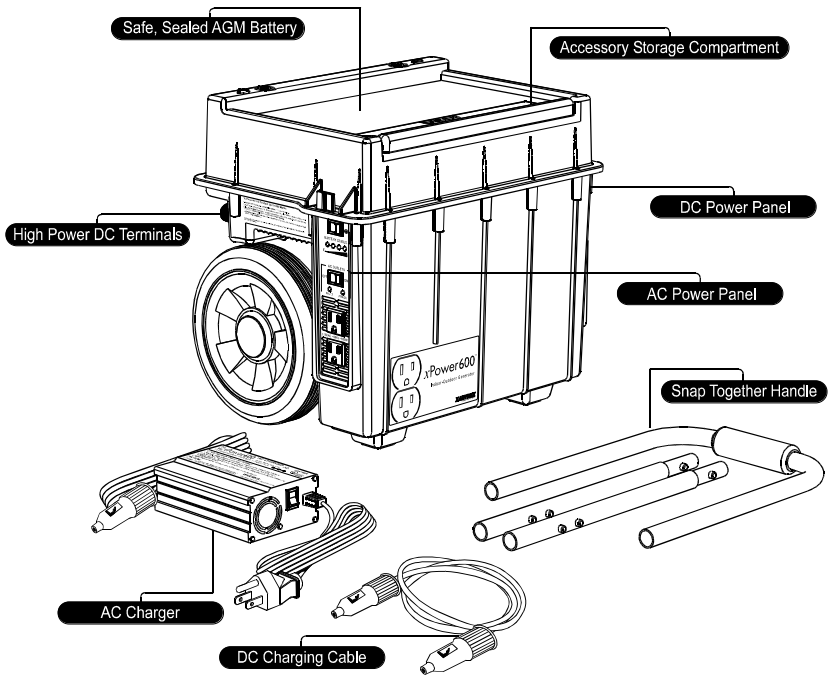


Figure 1 - Key Features and Accessories

3.2 An Explanation of Power Ratings and Battery Life

AC powered products are rated by how much electrical power (in Watts) they consume. xPower600 is capable of generating a maximum of 600 Watts (maximum continuous) to power AC products plugged into the AC outlets. As an example, a lamp with a 40 Watt light bulb can be operated from xPower600 for up to 6½ hours when xPower600's 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. For example, a small 12 Volt fluorescent light draws less than 0.7 Amps. When connected to xPower600's DC Power Socket, this light could be expected to operate for about 50 hours before xPower600's battery needs recharging. xPower600 is designed to 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 xPower600 will operate before recharging is required.

3.3 Operating 115 Volt AC Products

1. Ensure xPower600's battery is fully charged. See Section 8.0 for details.
2. Turn the AC Outlets switch ON. The green POWER light indicates AC power is available at the AC outlets.
3. Plug the AC product(s) you wish to operate into the AC outlet(s) and switch the appliance(s) ON, one at a time. xPower600 will operate most devices rated up to 600 Watts.
4. In the event of an overload, low battery voltage or overheating, the AC outlets will automatically shut down and its red FAULT light will illuminate. See Section 5.3 for details.
5. Fully recharge xPower600's battery as soon as possible after each use.

3.4 Operating 12 Volt DC Accessories

1. Ensure xPower600's battery is fully charged. See Section 8.0 for details.
2. Plug the accessory into xPower600's DC Power Socket, and switch the accessory on (if required). xPower600 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 xPower600's 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 xPower600

1. The battery's charge level may be seen by pressing the Battery Status switch on the AC Power Panel.
2. To recharge, plug the AC Charger into a standard 115 Volt AC outlet and the DC plug into the DC Power Socket (located on the DC Power Panel). The Recharge Indicator on the AC Charger will change from amber to green when charging is complete (8 to 10 hours). It is safe (and recommended) to leave the AC Charger connected indefinitely.
3. Charging may also be done from an automobile lighter socket. See Section 8.3 for details.

3.6 Using xPower600 to Jump-Start Your Vehicle

Due to potential dangers, see Section 7.0 for a detailed explanation.

4.0 Indicators, Controls and Connection Points

4.1 AC Power Panel

As shown in Figure 2 below, the AC Power Panel contains the Battery Status Switch, Battery Level Indicator, AC Outlets Switch, AC Power Light, Fault Light, and dual AC Outlets.

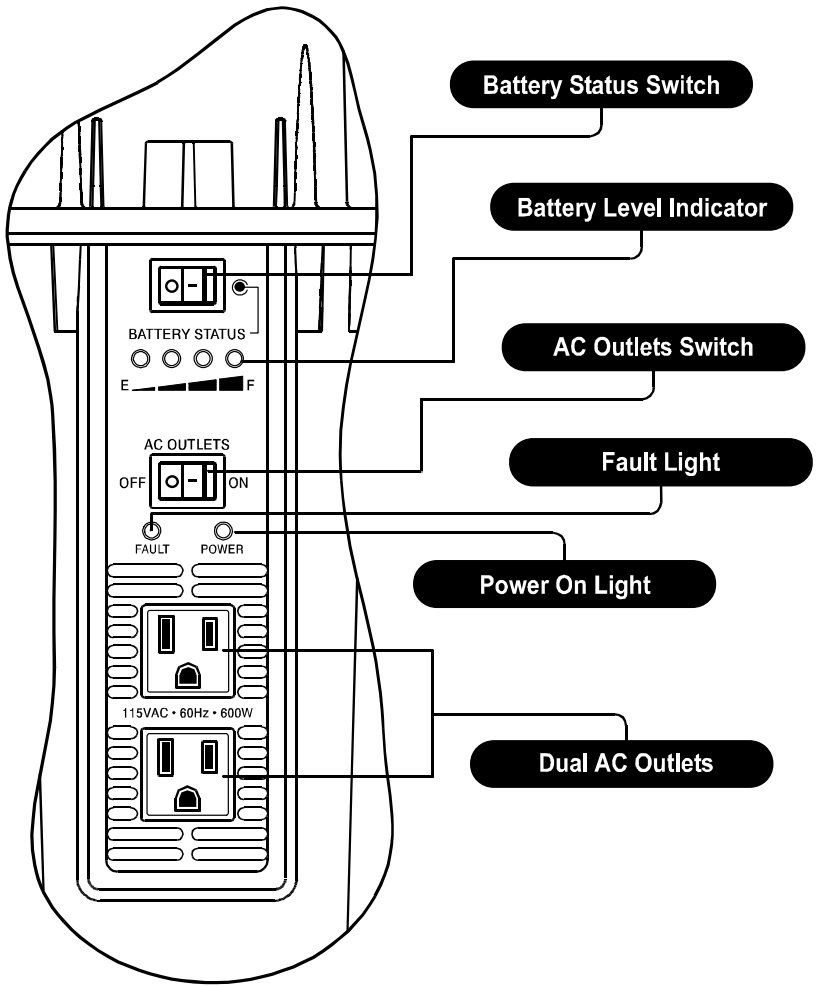


Figure 2 - View of AC Power Panel

4.1.1 Battery Status Switch / Battery Level Indicator

The Battery Level Indicator shows the state of charge of xPower600's battery. Its function is similar to the fuel gauge in a car. When pressing and holding the Battery Status Switch, one or more of the four lights in the display will illuminate, showing the approximate amount of charge remaining in the battery. The following diagram shows the function of each light:

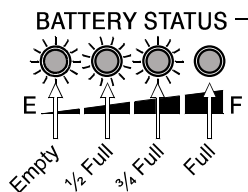


Figure 3 - Battery Shown at 3/4 Full

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 to be approximately $\frac{3}{4}$ full.

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

4.1.2 AC Outlets Switch / POWER Light / AC Outlets

Turning this switch ON supplies power to both AC Outlets. An audio tone sounds briefly when the AC Outlets are turned on. The POWER light illuminates to confirm the AC Outlets are on. Turning this switch OFF cuts power to the AC Outlets. The POWER Light is off when the AC Outlets are off.



IMPORTANT: The vents around the AC Outlets allow the xPower600's internal cooling fan to exhaust warm air created by the circuitry that converts 12 Volts DC into 115 Volts AC. This area should never be covered or blocked when xPower600 is used. The internal cooling fan runs any time the AC Outlets Switch is on and is essential for maintaining optimal performance.

4.1.3 FAULT Light

The FAULT Light illuminates when automatic shutdown occurs as a result of low battery voltage, over load, or over temperature conditions. See Section 5.3 for details.

4.2 DC Power Panel

As shown in Figure 4 below, the DC Power Panel contains the DC Power Socket, which provides 12 Volts for operating automotive and marine type products. The DC Power Socket also serves as the input for recharging with either the AC Charger or DC Charging Cable. See Section 8.0 for details.

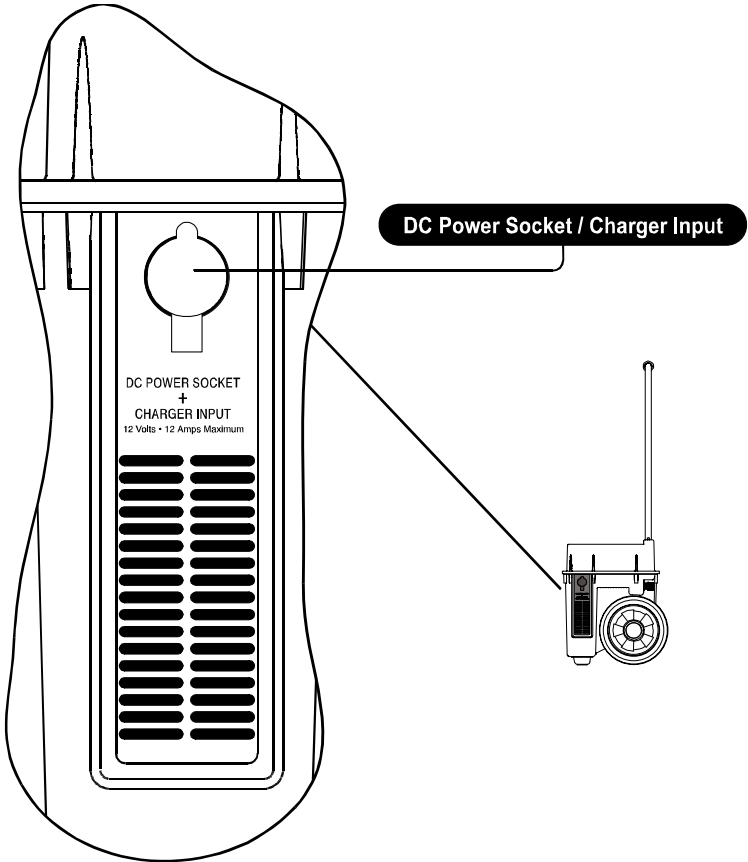


Figure 4 - View of DC Power Panel

IMPORTANT: The vents below the DC Power Socket allow the xPower600's internal cooling fan to intake air. This area should never be covered or blocked when xPower600 is used. The internal cooling fan runs any time the AC Outlets Switch is on and is essential for maintaining optimal performance.

4.3 High Power 12 Volt DC Terminals

As shown in Figure 5 below, the High Power DC Terminals are wired directly to xPower600's battery and supply power for jump-starting a vehicle. See Section 7.1 for details. These terminals also can be used to connect an external battery, which can increase xPower600's total battery capacity and extend operating times. See Section 9.0 for details.

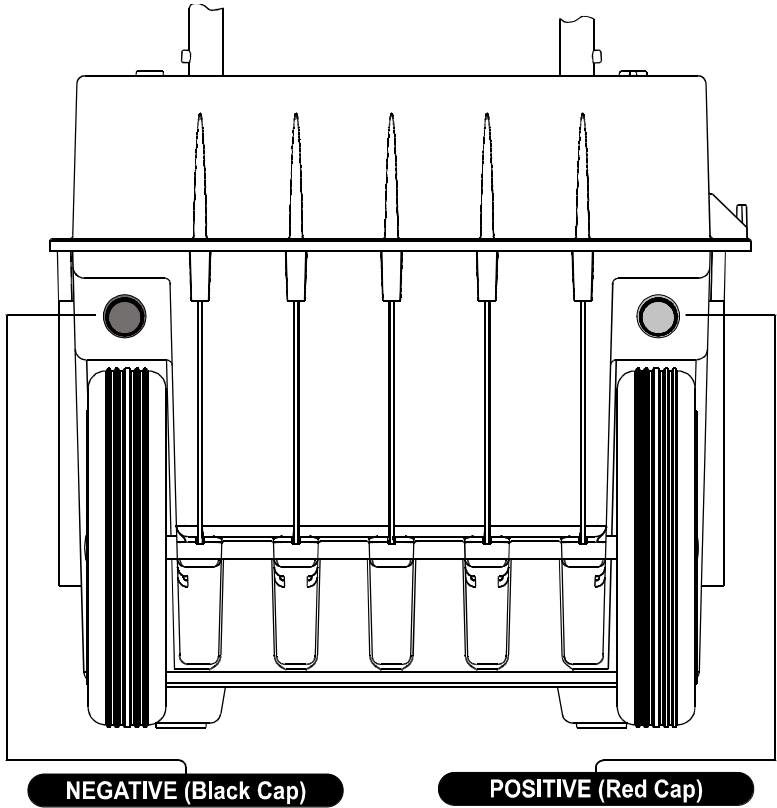


Figure 5 - View of High Power DC Terminals

5.0 Powering 115 Volt AC Products

5.1 General Information

xPower600 is capable of powering most 115 Volt AC products and equipment that use 600 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 xPower600 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 power they use. During the first moments after they are switched on, many products such as power tools or pumps, consume much more power than their average rating. Although xPower600 can supply momentary surge power greater than 600 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. If this problem occurs when attempting to operate several products at the same time, try first switching on the AC Outlets with all products switched off, then one by one switch each on, starting with the high surge product first.

5.2 Connecting Your AC Products

The following steps assume you have fully charged xPower600’s battery. See Section 8.0.

1. Turn on the AC Outlets Switch located on the AC Power Panel. The green POWER light illuminates to confirm AC power is now on and available at the two AC Outlets. See Figure 2 in Section 4.1.
2. Plug the AC product you wish to operate into one of the two AC outlets and switch the product on. The product should operate normally, just as it would if plugged into a wall outlet at home.
3. While operating the AC product you can check the level of the battery as detailed in Section 4.0. This will tell you the approximate charge level of the battery and whether you are approaching the point when recharging is required.

4. As 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 details.
5. Fully recharge xPower600's battery as soon as possible after each use. See Section 8.0.

5.3 Automatic Protection: Overload, Overheating and Low Battery

xPower600 has built-in protection against output overload and from overheating. If an AC product rated higher than 600 Watts (or which draws excessive surge power at start up) is connected, or if the inverter exceeds a safe temperature, it will automatically shutdown. The green POWER light will go off and the red FAULT light will switch on. To reset, unplug the product and turn the AC Outlets Switch off for 5 seconds, then turn it back on. Normal operation should resume. If not, turn the AC Outlets Switch off again and allow xPower600 to cool for several minutes. While AC power is off, press the Battery Status Switch to make sure the charge level is sufficient.

If the battery is allowed to discharge excessively, damage may occur. To prevent this, xPower600 has a built-in audible warning that alerts you when the battery is nearly discharged and that recharging is needed. If this warning is ignored, xPower600 will automatically switch off the AC Outlets and the red FAULT light will illuminate when the battery reaches “empty”. xPower600's internal fan will continue running and the FAULT light will remain on until the AC Outlet's Switch is turned off. Promptly recharge xPower600 to help maintain the internal battery. See Section 8.0.

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 output of xPower600. This is because the power supply in the equipment does not adequately filter the modified sine wave produced by xPower600. Unless the stereo can be operated directly from xPower600’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

xPower600 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 xPower600 as far away as possible from the television, antenna, and cables.
2. Adjust the orientation of xPower600, 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 Battery Operating Times

Below are typical AC products and equipment that may be operated by xPower600 with estimated operating times. See Section 9.0 for information about connecting to an external battery to increase operating time.

Operating times will vary depending on the battery charge level and the actual AC product being operated.

xPower600 will not operate AC products rated at more than 600 Watts, such as hair dryers, toasters, and major appliances or large power tools.

AC Powered Products	Watts ¹	Hours
Radio	8	50
Fluorescent Work Light	14	20
Ink Jet Printer ²	15	18
Portable Stereo	20	15
Laptop Computer	25	10
Small Refrigerator ³	90	10
Table Lamp	35	6
Hot Glue Gun	40	5
Blender	45	5
13" TV	52	4.5
19" TV-VCR	70	3.5
Computer with 15" Monitor	150	2
Jigsaw	200	1
Hedge Trimmer	230	0.8
Power Drill (up to 5 Amps)	300	0.5
Grass String Trimmer	420	0.4
Leaf Blower	600	0.3
Shop Vac	600	0.3

- 1 Represents actual power consumption as measured on sample products. Ratings on product labels may vary from actual power consumption.
- 2 Not recommended for use with laser printers.
- 3 Assumes 30% duty cycle.

6.0 Powering 12 Volt DC Accessories

6.1 Connecting 12 Volt DC Accessories

xPower600 can operate any accessory that is intended to run from a vehicle's lighter socket. Simply insert the accessory's plug into the DC Power Socket on xPower600's DC Power Panel. xPower600's DC Power Socket will operate any 12 Volt DC auto, marine or other 12 Volt accessory that draws 12 Amps or less. The following steps assume you have first fully charged xPower600's battery according to instructions in Section 8.0.

1. Plug the accessory into xPower600's DC Power Socket, and switch the accessory 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 an accessory that draws more than 12 Amps (or which has a short circuit defect) is connected, xPower600's internal circuit breaker will immediately switch off power to the accessory. If this occurs, unplug the accessory and the breaker will automatically reset after a few seconds.
4. Fully recharge xPower600's battery as soon as possible after each use.



IMPORTANT: The DC Power Socket does not automatically switch off the load when the battery is discharged. To protect the battery against damage resulting from total discharge, it is strongly recommended that the AC Outlets Switch is turned on, even when powering 12 Volt accessories only. This will enable the xPower600's alarm to warn you when the 12 Volt accessory has nearly depleted the battery. The battery power used by xPower600 to monitor the battery's voltage level is negligible.

6.3 Battery Operating Times

Below are typical DC accessories that may be operated by xPower600 with estimated operating times.

Operating times will vary depending on the battery charge level and the specific accessory being operated.

DC Powered Products	Watts ¹	Hours
Cellular Telephone ²	6	70
Fish Finder / Depth Sounder	7	60
Flourescent Light	8	50
Portable Cooler	30	8
Bilge Pump	36	7
Car Vacuum	85	3
Spot Light	100	2
Tire Inflator	100	2

- 1 Represents actual power consumption as measured on sample products. Ratings on product labels may vary from actual power consumption.
- 2 Represents talk time available from 24 recharge cycles.

7.0 Vehicle or Boat Engine Starting Assistance

7.1 Jump-Starting Direct to the Battery

xPower600 may be used to jump-start a 12 Volt vehicle or small boat engine using standard jump-start cables available from most auto parts stores.

Jump-starting causes very high current surges and possible sparking. Unless care is taken, the possibility of battery explosion exists. Read the safety warnings in Section 2.0 before proceeding, then follow these instructions exactly. Before proceeding, remove the Terminal Covers (rotate counter clockwise) and place them in xPower600's Accessory Storage Compartment.



WARNING: Connect only in the following order and make sure the polarity is correct. The battery's positive terminal is identified as being larger in diameter than the negative terminal. In most vehicles it has a red wire connected to it. Do not proceed until you are sure you have identified the positive terminal.

1. Turn off the vehicle or boat ignition, and all accessories.
2. Engage the vehicle's park or emergency brake and place the transmission in park (automatic) or neutral (manual).
3. Purge the area where connections will be made of all fumes before making any connections.
4. Position xPower600 so that it is a convenient distance from the battery that supplies power to the engine you wish to start, but will not cause the jump-start cables to come in contact with any moving parts of the engine. If helpful, remove xPower600's handle to improve placement.
5. Do not connect the jump-start cables to xPower600 yet. First connect the cable's red positive (+) clamp to the positive (+) terminal of the engine's battery.
6. Making sure the cables are clear of the engine's belts and fans, take the other end of the jump-start cables and connect the red positive (+) clamp to xPower600's Positive Terminal (red).
7. As far from the battery as possible, connect the cable's black negative (-) clamp to the engine block, cylinder head, or other stationary heavy metal part of the engine. Do not attach the black negative clamp to the engine's battery terminal.

8. Take the other end of the jump-start cables and connect the black negative (-) clamp to xPower600's Negative Terminal (black). You are now ready to start the engine.
9. If the vehicle fails to crank, disconnect the jump-start cables in reverse order of steps 5-8. Ensure that the contact areas are clean, then repeat steps 5 through 8.
10. After the vehicle is started and while the cables are still connected, it is a good idea to run the motor at fast idle for 5 minutes to fast-charge xPower600's battery. After recharging, remove the jump-start cables in the reverse order of steps 5-8.

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

The following simple procedure is often sufficient to start a vehicle when its battery has sufficient power to "crank the engine" slightly, but not start it.

1. Connect your vehicle's cigarette lighter socket to xPower600's DC Power Socket using the DC Charging Cable. You may need to switch the ignition key to the "accessory" position to supply power to the lighter socket.
2. Wait 15 minutes while xPower600 partially charges your vehicle's battery, then remove the DC Charging Cable before attempting to start the engine.
3. If your vehicle does not start, attempt to jump-start as described in Section 7.1.



CAUTION: Do not attempt to start your vehicle while the DC Charging Cable is connected to the vehicle's 12 Volt outlet or lighter socket. Remove the DC Charging Cable first, then start your vehicle. This will prevent the fuse protecting the vehicle's 12 Volt outlet from blowing.

8.0 Recharging xPower600

8.1 General Information on Batteries and Charging

8.1.1 Charging Options

These charging options are possible with xPower600:

- Charging with the fully automatic “plug-in-and-forget” AC Charger.
- Charging from your vehicle as you drive with the DC Charging Cable.
- 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 xPower600 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 xPower600'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

xPower600's 5 Amp AC Charger offers the convenience of “plug-in-and-forget” recharging.

To use the AC Charger, follow these steps:

1. Disconnect any 12 Volt DC accessories and turn the AC Outlets Switch off.
2. Insert the DC plug end into the DC Power Socket, which is also labeled Charger Input.

3. Plug the other end of the AC Charger into a standard 115 Volt AC receptacle.
4. As xPower600 charges, its Recharge Indicator will illuminate amber. A typical recharge will take between 8-10 hours.
5. When fully charged, the Recharge Indicator changes to green and xPower is ready to use.
6. Once xPower600 is fully charged, charging voltage and current automatically reduce to a low maintenance level and xPower600 may be left permanently connected to its AC Charger. Should your utility power be interrupted, the charging process will automatically restart when power returns.
7. If the Recharge Indicator illuminates red, disconnect the AC Charger from AC power and from xPower600 immediately. Red illumination indicates a short circuit condition in the output cable / DC plug (the section from the AC Charger to xPower600) or a possible defect in the DC Power Socket. Should this occur, contact Xantrex Customer Service for assistance. See Section 13.0 for details.



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



CAUTION: Do not use xPower600 to operate any AC products or DC accessories while charging with the AC Charger.



CAUTION: Do not use xPower600's AC Charger to recharge nickel-cadmium or dry-cell batteries commonly used with home appliances and electronic equipment. These batteries may burst and cause personal injury or damage property.

8.3 Recharging from Your Vehicle

Using the DC Charging Cable, xPower600 can be recharged as you drive. Simply plug either end of the DC Charging Cable into xPower600's DC Power Socket, and the other end into the vehicle's cigarette lighter socket or 12 Volt accessory outlet. Most of xPower600's capacity will be restored in 4 to 6 hours while the motor is running.

When using the DC Charging Cable there is no automatic charge regulation; however, most vehicle voltage regulators will ensure xPower600 is not overcharged. This charging method must not be used with vehicles having abnormally high voltage systems that operate above 15 Volts DC.

Disconnect the DC Charging Cable at both ends once xPower600 is fully charged or when your vehicle's motor is not running. Do not leave xPower600 permanently connected to the vehicle's lighter socket or 12 Volt accessory outlet.



CAUTION: While xPower600 is being recharged with the DC Charging Cable from your vehicle, do not operate AC products over 120 Watts from its AC Outlets.

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

Recharging xPower600 from a generator using the AC Charger is possible, but could require extended generator running time before xPower600 is fully charged. Since many generators have an auxiliary regulated 12 Volt DC output designed for charging 12 Volt batteries, using this power source will result in a shorter recharge time. If the generator has a cigarette lighter style socket for its 12 Volt output, follow the connection instructions in Section 8.3.

Most of xPower600's capacity will be restored in about 4 to 6 hours when using a generator's regulated 12 Volt DC output. Level of charge can be verified by checking the Battery Level Indicator 15 minutes after disconnecting the charging source.



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

A 12 Volt solar panel rated to produce a maximum of 12 Amps can be used to charge xPower600 via the DC Power Socket. Once the solar panel's DC plug is inserted into the DC Power Socket and the solar panel is placed in the sun, xPower600 will charge automatically just as with the AC Charger. With direct sunlight, a typical 3 Amp solar panel will charge xPower600 in about 16 hours. If the solar panel does not have a regulated output, disconnect it immediately after xPower600 is charged.



CAUTION: A solar panel with an unregulated output left connected after charging is complete, or one with an output that exceeds 15 Volts DC, can damage the battery.

9.0 Connecting to an External Battery

9.1 Extended Operating Time

Much longer battery operating time is possible when connecting xPower600 to a larger external battery. For example, an external 60 Amp-Hour battery will provide approximately 150% more operating time than xPower600's internal battery alone.



WARNING: Explosion hazard. 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.



WARNING: Battery acid is corrosive. Wear eye protection and protective clothing when working with batteries.

9.2 Connecting an External Battery

Follow these steps using standard jump-start cables available at most auto parts stores:



WARNING: Connect only in the following order and make sure the polarity is correct. The battery's positive terminal is identified as being larger in diameter than the negative terminal. In most vehicles it has a red wire connected to it. Do not proceed until you are sure you have identified the positive terminal.

1. Remove the Terminal Covers (rotate counter clockwise) and place them in xPower600's Accessory Storage Compartment.
2. Connect the red positive (+) clamp on one end of the jump-start cables to the positive terminal of the external battery.
3. Using the clamps on the other end of the jump-start cables, connect the red positive (+) clamp to xPower600's positive (+) DC Terminal (red).
4. Connect the black negative (-) clamp of the jump-start cables to the negative terminal of the external battery.
5. Take the other end of the jump-start cable and connect the black negative (-) clamp to xPower600's negative DC Terminal (black).
6. Disconnect the external battery in reverse order of steps 2-5.

10.0 Battery Replacement

10.1 General Information About Battery Life

The battery used in xPower600 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 xPower600'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° to 100°F (0° to 40°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 xPower600's Internal Battery

Before attempting to replace the battery, make sure any charging cables, DC accessories, or AC products are disconnected from xPower600 and that the AC Outlets Switch is 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 extra cautious to reduce the risk of dropping a metal tool on the battery. It might spark or short-circuit the battery or other electrical parts that may 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 the like to metal, causing a severe burn.

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

Follow these steps to replace the battery:

1. Remove handle from xPower600.
2. Unscrew the 16 fasteners that secure the upper housing (black) to the lower housing (yellow) and the 4 fasteners located in Accessory Storage Compartment. Place the fasteners in the Accessory Storage Compartment for safe keeping.
3. With battery still nested in the lower housing, first remove the battery terminal bolt and disconnect the negative (-) cable sets from the negative battery terminal. After the negative cable set is removed, disconnect the positive (+) cable set. Note how the cables attach to the old battery and make certain they are positioned in the same order when connected to the new battery.



Note: Before removing the old battery from the housing, it may be helpful to tape the positive (or negative) cables together and in the same order as attached to battery terminal. Mark on the taped cable set “positive” or “negative” to eliminate the possibility of reconnecting incorrectly to the new battery.

4. When installing the new battery, the positive (+) cable set and the negative (-) cable set must be connected to the battery terminals in the same order and position as on the old battery. Securely fasten the bolt, washer, and nut that holds the cable set on each battery terminal, but do not over tighten. Check the battery manufacture’s torque setting to ensure the bolt and nut are correctly tightened. Connect the positive (+) cables first, then the negative (-) cables. Do not proceed until you are sure cable polarity is correct. Reverse polarity will damage the unit.
5. Dispose of the old battery in an environmentally responsible manner.



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

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 xPower600:

Manufacturer	Part Number
Topin	TP12-40B
Toyo	6FM40

If you are not able to find a replacement battery, please contact Xantrex Customer Service. See Section 13.0 for the telephone number or email address.

11.0 Troubleshooting

Problem: AC product will not operate, red FAULT light is on.

Possible Cause	Suggested Remedy
Product rated more than 600 Watts, safety overload circuit has tripped.	Use an AC product with a power rating less than 600 Watts.
Product is rated less than 600 Watts, high starting surge has tripped overload.	AC product may exceed xPower600's surge capability. Use an AC product with starting surge power within xPower600's capability.
Battery is discharged (alarm is sounding).	Turn off all AC and DC products and recharge battery.
xPower600 has overheated due to poor ventilation.	Turn AC Outlets Switch OFF and allow unit to cool for 15 minutes. Remove objects covering ventilation areas, then restart.

Problem: Run time is less than expected.

Possible Cause	Suggested Remedy
xPower600 battery is not fully charged.	<i>Recharge using AC Charger, until Recharge Indicator is green.</i>
AC product power consumption is higher than expected.	<i>Check AC product power or "wattage" rating (or current draw for DC accessories) and compare with tables in Sections 5.5 and 6.2.</i>

Problem: Measured voltage at AC Outlets is too low.

Possible Cause	Suggested Remedy
Use of standard "average" reading AC voltmeter to read output voltage.	"Modified-sine wave" output of xPower600 requires "true RMS" reading meter, such as Fluke 87 series multimeter, for accurate measurement.
Battery is almost "empty".	Check Battery Level Indicator and recharge battery as needed.

Problem: Charging light is OFF when AC Charger is connected.

Possible Cause	Suggested Remedy
No AC power at wall outlet.	Ensure power is available at wall outlet.

12.0 Specifications

12-Volt DC Section

Internal battery type	Sealed Lead Acid, AGM
Internal battery voltage (nominal)	12 Volts DC
Internal battery capacity	40 Amp-Hours
Maximum load current through 12 Volt DC Power Socket (continuous)	12 Amps
DC Power Socket circuit breaker rating (internal, automatic reset)	12 Amps

115-Volt AC Section

AC output voltage (nominal)	115 Volts AC
Maximum continuous AC output power	600 Watts
Maximum AC surge power	1200 Watts
AC output frequency	60 Hz \pm 4 Hz
AC output waveform	Modified Sine Wave
Battery drain with no load/outlets on	0.3 Amps
Operating/storage temperature	32° - 100°F (0° - 40°C)
Low battery alarm trigger point (nominal)	10.7 Volts
Low battery shutdown point (nominal)	10.0 Volts

Charging System

AC charger - bulk charging current (maximum)	5 Amps
Bulk charge to float charge transition voltage (peak charging voltage)	14.4 Volts
Float charge to bulk charge transition voltage (charge restart voltage)	13.6 Volts

Mechanical

Dimensions (L x W x H) without handle	12.1" x 15.6" x 14.8" (30.7cm x 39.6cm x 37.6cm)
Height (with handle)	38" (96.5cm)
Weight	48 lbs (21.8kg)

13.0 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 12 months from the date of purchase except for the battery (see details below). Implied warranties of merchantability and fitness for a particular purpose are limited to twelve 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? With the exception of the internal battery, 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.

What Will Xantrex Do To Remedy A Battery Defect? Xantrex will replace a battery free of charge, should it be found defective within 6 months of purchase. During the balance of the 12 month warranty period, Xantrex will charge a fee of \$60 US to replace the original battery with a new battery when the product is returned under warranty.

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) 420-1585 (toll free) 1-800-670-0707
BY FAX:	(604) 420-2145 (toll free) 1-800-994-7828
BY EMAIL:	support.xpower@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 xPower600 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 \$175.00 US (\$260.00 CDN). To return your xPower600 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.

14.0 Other Products from Xantrex

Xantrex develops, manufactures and markets power electronic products. Our goal is to offer you top quality products that convert and control electric power. We specialize in DC to AC inverters, battery chargers, backup power supplies and other products associated with mobile or power backup applications.

xPower300 Called the “emergency power generator”, the xPower300 provides 300 Watts of portable AC power and can even jump-start vehicles. Accessories include an emergency light, jump-start cables, AC charger, DC charging cables, and carry case.

PORTAWATTZ 150 Inverter An ultra compact and versatile inverter, the Portawattz 150 provides 150 Watts of AC power for running everything from small TVs and VCRs to laptop computers. It is also ideal for recharging many of the battery-operated devices found on the market today (e.g. camcorders, cellular phones, etc.).

PORTAWATTZ 300 Inverter The PORTAWATTZ delivers 300 Watts of AC power yet is still small enough to store in your vehicle’s glove box. It’s ideal for running small power tools, full size TV sets, desktop computers and other applications that are beyond the power capacity of the PORTAWATTZ 150.

PORTAWATTZ 600 Inverter Designed for recreational and industrial applications, the PORTAWATTZ 600 produces 600 Watts of continuous power from a 12 Volt DC source, and can run loads ranging from power drills to bread makers. It is also ideal for operating a computer, inkjet printer, and fax machine simultaneously.

PORTAWATTZ 1000 Inverter A compact 1000 Watt inverter designed for installation in trucks, vans, boats and RV’s. This inverter can operate tools and equipment and even many smaller microwave ovens.

PORTAWATTZ 1750 Inverter A compact 1750 Watt inverter designed for permanent installation in a boat, vehicle, or remote home. This inverter can operate power tools, kitchen appliances, and a wide range of other electrical and electronic equipment.

PORTAWATTZ 3000 Inverter The perfect inverter for running multiple loads simultaneously, or almost any household appliance.

The PROsine line of True Sine Wave Inverters and Inverter-Chargers High-tech, high-power, high-efficiency, True Sine Wave output inverters and inverter-chargers provide 1000 to 3000 Watts at a fraction of the size and weight of older, low frequency technology.

The TRUECHARGE line of smart Battery Chargers Microprocessor controlled for precise charging under all conditions and for maximum battery capacity and life, these full 3-stage battery chargers provide 10 to 40 Amps of charging current.

Contact your Xantrex retailer for more information or visit our web site at <http://www.xantrex.com>.

XANTREX
Smart Choice For Power
www.xantrex.com