MSPB150

3-in-1 150 Watt DC to AC Power Inverter

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Please read this user manual carefully before using your **MSPB150 DC to AC Power Inverter**.

For customer assistance and technical support call 1-866-622-7979 Monday through Friday, 8:00 AM to 5:00 PM Eastern Time, or write: techsupport@roadprobrands.com.

Save this user manual for future reference.

Thank you for purchasing the MSPB150 power inverter, a solution to using low wattage household power while on the road. Please read and understand all of the information provided in this manual before operating or installing. If properly used, the inverter will give you years of reliable service. For safe and optimum performance, the inverter must be installed and used properly. Carefully read and follow the guidelines in this manual giving special attention to the CAUTION and WARNING statements. Keep this manual for reference should troubleshooting be necessary.

SAFETY WARNINGS AND INSTRUCTIONS

READ ALL INSTRUCTIONS

CAUTION: This owner's guide provides information that could prevent damage to your inverter or equipment connected to it. Failure to follow all instructions listed below may result in electric shock, fire, and serious injury or loss of life.

SAFETY INSTRUCTIONS

WARNING: This product or its power cord contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

WARNING: Incorrect installation or misuse of the MSPB150 could result in personal injury or damage to the inverter and/or attached equipment. Read and follow the directions in the owner's manual.

WARNING: Shock hazard. Keep away from children. This is not a toy!

DO NOT insert any foreign objects into the MSPB150's outlets, vents or fan openings.

DO NOT expose the MSPB150 to rain, water or any other liquids, or use when wet.

DO NOT connect the MSPB150 to utility power distribution systems or branch circuits.

WARNING: HEATED CASE AND SURFACE

The case of the MSPB150 may become very warm. Be sure that there is at least 4 inches of unobstructed air space around the entire surface of the inverter at all times. During use, DO NOT place materials that could be damaged by heat on or near the MSPB150.

WARNING: EXPLOSION HAZARD

DO NOT operate the MSPB150 near flammable fumes or gases such as the bilge of a gasoline power boat or near propane tanks.

DO NOT operate the MSPB150 in an enclosed area that contains automotive type lead-acid batteries. This type of battery emits explosive hydrogen gas, which can be ignited by sparks.

SAVE THESE INSTRUCTIONS

WARNING: TO REDUCE THE RISK OF INJURY OR PROPERTY DAMAGE: Follow these instructions and those published by the manufacturer of any equipment you intend to use with this inverter. Review cautionary markings on these products.

CAUTION

DO NOT connect any AC device which has its neutral conductor connected to ground.

DO NOT expose the MSPB150 to air temperatures in excess of 104°F.

DO NOT use the MSPB150 on the following items:

1. Small battery-operated appliances such as flashlights, razors and night lights that can be plugged directly into an AC outlet to recharge.
2. Certain battery chargers for battery packs used in hand power tools. These chargers will have a “Warning Label” indicating that dangerous voltages are present at the battery terminals.

INTRODUCTION

Congratulations on purchasing your new inverter. Read this user manual and follow the instructions carefully before using your new inverter.

This power inverter is configured to supply continuous power in the form of two 110-volt AC outlets, two 5-volt USB charging ports and one 12-volt DC outlet to run most small household or electronic appliances.

HOW THIS INVERTER WORKS:

The inverter is an electronic device that inverts 12-volt DC car battery power to 110-volt household power.

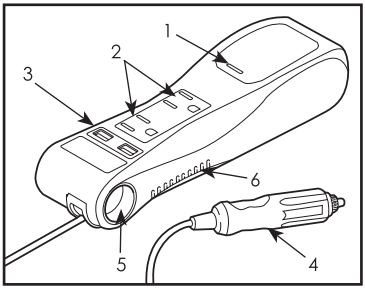
MSPB150 WAVEFORM OUTPUT:

The output waveform of your MSPB150 is referred to as “square wave” or “modified sine wave.” Some very sensitive electronic equipment and some medical equipment (listed below) may not operate satisfactorily on “square wave” or “modified sine wave.” It is a stepped waveform designed to have characteristics similar to the pure sine wave shape of utility power. A waveform of this nature is suitable for most AC loads (including linear and switching power suppliers used in electronic equipment, transformers and motors).

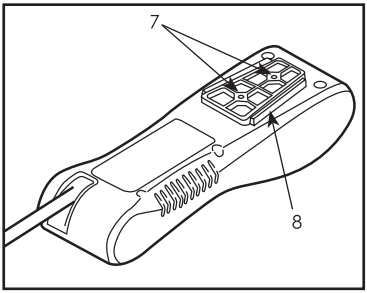
The problems described above do not occur with most battery-operated equipment. The vast majority of these items use a separate charger or transformer that plugs into the AC outlet and produces a low voltage output. If the label on your adapter states that it produces a low voltage (AC or DC) output (30 volts or less) then the MSPB150 will operate the item safely. Some of the following items may not operate properly on a “square wave” inverter.

- Laser printers, photocopiers, and magneto-optical hard drives.
- Certain laptop computers.
- Some battery chargers for cordless tools and razors.
- Digital clocks with radios.

FEATURES



1. Power LED indicator
2. 110-volt AC outlets
3. (2) USB 2100mA power outlets
4. 12 V DC accessory plug
5. DC outlet with LED light
6. Ventilation slots
7. Holes for mounting bracket
8. Hang bracket



OPERATING INSTRUCTIONS

- The power LED indicator lights blue when the inverter is properly connected to 12-volt DC power source. The AC, USB and DC output outlets are ready to use. (If the power LED indicator light flashes blue or no light indication, refer to the Troubleshooting Section of this manual.)
- To turn the unit off, disconnect it from the 12-volt DC power source.

CAUTION: TO REDUCE THE RISK OF PROPERTY DAMAGE:

Always connect the inverter to the 12-volt DC power source before plugging any devices into the unit.

DO ensure that the wattage of all equipment simultaneously plugged into the inverter does not exceed 150 watts of continuous power.

OPERATING TIPS

The inverter should only be operated in locations that are:

DRY - Do not allow water or any liquids to come into contact with inverter.

COOL - Surrounding air temperature should ideally be 50°-69°F. Keep the inverter away from direct sunlight, when possible.

WELL VENTILATED - Keep the area around the inverter clear to ensure free air circulation around the unit. Do not place items on or over the inverter during operation.

OVERLOAD PROTECTION:

If the inverter is overloaded, the blue power LED will blink. To restore normal operation, disconnect the load and wait for 3 minutes to load the power below 150W.

LOW VOLTAGE PROTECTION:

If the input voltage drops to 11 volts or less, the inverter will shut down to protect the battery; the blue power LED will be out. To restore normal operation, return the DC input voltage to at least 12 volts. The inverter will automatically return to normal operation.

HIGH VOLTAGE PROTECTION:

If the DC input voltage rises above 15 volts, the inverter will shut down to protect itself; the blue power LED will be out. To restore normal operation, return the DC input voltage to less than 15 volts. The inverter will automatically return to normal operation.

CAUTION: Although the inverter has protection against over-voltage, it may still be damaged if the input voltage were to exceed 16.3 volts.

THERMAL SHUTDOWN PROTECTION:

The inverter will automatically shut down when the unit becomes overheated, and it will auto reset after it cools down.

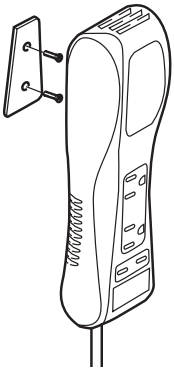
NOTE: Internal inverter temperature can rise due to being operated in a high heat environment or due to the fan or vents being blocked during operation (even in relatively cool outside air). To restore normal operation, turn the unit off and allow it to cool. The inverter will automatically return to normal operation after it has cooled.

SHORT CIRCUIT PROTECTION:

If the AC output short circuits, the inverter will shut down to protect itself. You should take away the short circuit load, then restore to the normal operation.

DUAL USB OUTLET: The USB outlet will supply 5 volts at 2.1 Amps to charge and power cell phones, iPod®, iPad® and other small electronics.

MOUNTING WITH BRACKET



The unit can be mounted on any flat, secure surface, especially inside the vehicle, by installing the hang bracket located at the back of the unit.

1. Mount the hang bracket with two screws (included) on any flat secure surface.
2. To attach the inverter to the hang bracket, slide the unit downward into the hang bracket.
3. To detach the unit, gently slide inverter upward off the hang bracket.

CAUTION: TO REDUCE THE RISK OF PROPERTY DAMAGE:

Only use the hang bracket for mounting the inverter.
The hang bracket is not intended to support additional weight.
Do not attach to or hang anything from the mounted inverter.

OPERATING LIMITS

POWER OUTPUT:

The inverter can deliver 150 watts for about 4 hours. The inverter must cool for 15 minutes before it can resume operation at 150 watts. To prevent overloading of the inverter, or your vehicle's power outlet, only one device should be operated at a time from the MSPB150's dual AC outlets and 12-volt DC port.

NOTE: Operating time will vary depending upon the type, capacity charge level of the battery, and the power draw of the AC products you are using. With a normal vehicle battery and a 100 watt load (such as a small television) you can expect an operating time of 4 hours or above. It is recommended that you start your vehicle once an hour when using the MSPB150 for extended periods of time to prevent draining the battery.

WARNING: To prevent personal injury or loss of life, never start or leave your engine running in a poorly ventilated area such as a garage.

HELPFUL FORMULAS:

- To convert AMPS to WATTS: AMPS x VOLTS = WATTS
- To convert WATTS to AMPS: WATTS ÷ VOLTS = AMPS
- These formulas yield a close approximation of the continuous loads of a product.

ESTIMATED WATTS USED BY COMMON APPLIANCES & TOOLS

APPLIANCE	APPROX WATTS
Cell Phone	10
VCR	40-60
CD or DVD Player	40
Xbox® Console	100
7" to 10" LCD Television	50-150
Laptop Computer (recharge battery)	150

TROUBLESHOOTING

PROBLEM/SYMPTOM	POSSIBLE CAUSES	SOLUTION
Low output voltage	Overloaded	Reduce the load
No output voltage	Low input voltage	Let battery recharge
No power when operating at 150W	Thermal shutdown	Allow inverter to cool down. Reduce load.
No LED light up	Fuse blown out	Replace fuse

SPECIFICATIONS

Rated Input Voltage	11V - 15V
AC Output Voltage	104V - 127V
Number of AC Receptacles	Two (3 prong)
Output Frequency	60Hz +/-2 Hz
Inverter Efficiency	85%
No Load Current Draw	<0.65A
Over-Voltage Shut Down	15V-16.3V
Low-Voltage Shut Down	10V+/-0.5V
Fuse (glass tube)	20A
USB Port	Two (2.1A)
Output Waveform	Modified Sine Wave
Operating Temperature	14°F (-10°C) ~ 104°F (40°C)

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

1 YEAR LIMITED WARRANTY

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