



## Owner's Manual for N-Verter™ Models

**NVD75-75 Watt**  
**NVD150S-150 Watt**  
**NVD175X-175Watt**

### Mobile DC -AC Power Inverter Units

#### Read Carefully and Completely Before Using

Efficient, quiet and portable  
 Direct Plug-in design  
 Adapts to any size 12VDC accessory outlet  
 Auto low battery shutdown to prevent battery damage

Lenmar Battery Solutions offers innovative products for consumers and encourages the safe and proper use of each power accessory to achieve the maximum performance of the product and the devices it powers. Read these instructions carefully to safely use your N-Verter.

Lenmar's N-Verter is an electronic device that converts low voltage DC (direct current) electricity from a battery to 110/120VAC (alternating current) standard household power. The AC output of this product is a modified sine wave with a voltage of 110/120 volts. With your Lenmar N-Verter you can power your laptops, computerized games, cell phones, camcorders, power tools, reading lamps, fans, and more.

**Important:** Before using your N-Verter, read and understand this owner's guide. Save these instructions—this owner's guide contains important safety instructions.

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### Troubleshooting

Symptom	Problem / Solution
An AC device is connected and turned on causing the N-Verter to shut down immediately.	The AC device has higher wattage demands or requires a larger start-up surge current than the N-Verter's maximum rating can allow. The N-Verter unit is too small for this device. A higher rated N-Verter is needed to deliver the power that the AC device demands. Otherwise, use only lower power AC devices.
Green LED on the N-Verter unit does not light and/or the AC device does not operate	On many vehicles, the ignition key must be "on" for power to be present at the cigarette lighter socket. Make sure the key is on.
	The N-Verter plug tip may be fitting too loosely. Use the slide control on the plug tip to adjust and ensure a snug fit and re-insert.
	Battery voltage may be too low. Recharge the vehicle's battery and attempt again.
	Vehicle fuse may be blown. Replace the vehicle's fuse with the same type and rating. Make sure you are not overloading the socket or the fuse will blow again.
Buzzing sound in audio systems	Many inexpensive stereos or portable players will buzz when connected to the N-Verter because the modified sine wave of the N-Verter is not properly filtered by the electronic device's power supply. Higher quality devices will not buzz with the N-Verter.
Television interference	If the television signal is weak, the use of the N-Verter will cause a visual disturbance. Move the N-Verter away from the TV, antennae and/or the antennae cables. You may attempt to merely adjust the placement of the antennae or cables. Inferior antennae and cables will also cause TV interference during operation of the N-Verter.

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### Safe Operating Guidelines

**WARNING! Shock hazard** The N-Verter generates the same AC power as a normal household wall outlet.

- Operate only in ventilated area away from flammables, flames and accumulating dangerous or explosive fumes
- Do not expose unit to water, rain or snow
- Always turn OFF unit by removing it from the DC cigarette lighter outlet when not in use
- Avoid exposure to direct sunlight and extreme temperatures (60-80°F or 15-25°C)
- Do not insert foreign objects into the outlet.
- Do not open the unit: no replaceable parts inside
- Consult motor vehicle's manual to determine cigarette lighter socket's maximum power rating and fuse rating before attempting use in vehicle.
- Unit will not and should not operate heat-generating appliances such as hair-dryers, microwave ovens, electric blankets, toasters, etc.
- Compatible only with vehicles that have 12VDC Negative Ground electrical systems

Failure to follow the above may result in personal injury or damage to the N-Verter.

### Special Features:

**NVD150S** – A swivel tip design allows you to adjust the N-Verter's position and avoid interference with the gear shift, cup holders, etc., in vehicles where the DC socket location causes problems with standard units.

**NVD175X** – An auxiliary DC socket is provided to allow the use of an additional 12VDC accessory. Be careful that the power requirements of the N-Verter and the additional DC accessory plugged into the auxiliary socket do not exceed the maximum power output of the vehicle's DC socket.

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### Specifications:

#### Model - NVD75

Maximum output power 75W (15 min.)  
 Surge output power 200W (5 sec.)  
 Continuous output power 60W (4 hr.)  
 Output frequency 60HZ+/-2HZ  
 Output voltage range 105V-125V AC , Modified Sine Wave  
 Input voltage range 11.5V-14V DC  
 AC receptacle 1x 3 Prong Socket  
 Dimensions 4.5 x 2.25 x 1.25 inches

#### Model - NVD150S

Maximum output power 150W (5 min.)  
 Surge output power 300W (5 sec.)  
 Continuous output power 140W (4 hr.)  
 Output frequency 60+/-2HZ  
 Output voltage range 105V-125V AC , Modified Sine Wave  
 Input voltage range 11.5V-15V DC  
 AC receptacle 1x 3 Prong Socket  
 Dimensions 5.25 x 2.5 x 1.75 inches

#### Model - NVD175X

Maximum output power 175W (15 min.)  
 Surge output power 300W (5 sec.)  
 Continuous output power 140W (4 hr.)  
 Output frequency 60+/-2HZ  
 Output voltage range 105V-125V AC , Modified Sine Wave  
 Input voltage range 11.5V-15V DC  
 AC receptacle 1x 3 Prong Socket  
 Dimensions 5 x 3.25 x 1.75 inches

All units also incorporate low voltage shut-off, over voltage shut-off, over-heat protection and short-circuit protection.

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### Operating your N-Verter

1. Plug the N-Verter into your vehicle's lighter socket. If the socket is too wide and the plug tip of the unit fits loosely, use the slide control on the plug tip to adjust the negative connectors and ensure a snug fit. The green LED will light up when power is present.

**Note:** Many vehicles remove power from the cigarette lighter outlet when the ignition key is turned off!

2. Plug an AC device into the three-prong AC receptacle and then turn it on. Ensure your device draws less than the continuous power rating of your N-Verter. To avoid discharging the battery, always remove the N-Verter from the lighter socket when not in use.

**WARNING!** When using your N-Verter with the vehicle's engine turned off, the battery is being drained. Be careful to re-start the engine or otherwise recharge the battery periodically to avoid draining the battery too deeply. The internal "low voltage shut-off" of the N-Verter does not guarantee that the remaining power left in the battery is enough to start the vehicle.

**WARNING! Hot surface** The N-Verter housing may become uncomfortably warm, reaching 65°C (150°F) under extended high power operation. During operation, keep the N-Verter from materials that may be affected by high temperatures.

### Modified Sine-Wave Output

THE OUTPUT OF THE N-VERTER IS NON-SINUSOIDAL. This type of output can typically be incompatible with small battery-operated products such as rechargeable flashlights, some rechargeable shavers, and nightlights that plug directly into an AC receptacle to recharge as well as certain battery chargers for battery packs used with power tools. If you wish to use one of these types of items with the N-Verter, monitor its temperature for the first ten minutes to insure excessive heat is not produced. The production of excessive heat indicates the device is not suitable for use with the N-Verter. The overheating does not occur with most devices which use their own AC adapters. The N-Verter is compatible with most of these chargers and AC adapters.

### Limited 3 Year Warranty

This limited warranty starts from the date of original purchase and expires three years thereafter. If, during this period, any part, because of manufacturing defects or workmanship, fails to function properly under normal use it will be repaired at no charge for parts and labor or, at our option, the product will be replaced. The following is excluded: damages from delay or loss of use of equipment or damaged batteries, malfunctions resulting from misuse, tampering, unauthorized repairs, modifications or accident.

Package the unit and its accessories carefully using ample padding material to prevent damage in transit and ship it prepaid and insured to:

LENMAR ENTERPRISES, INC.  
 4035 Via Pescador  
 Camarillo, CA 93012 USA

When sending in product for service, your package should include evidence of date and place of purchase. Enclose \$10.00 for shipping and handling for addresses in the U.S. and \$15.00 in Canada. For outside the U.S. and Canada, freight will vary depending upon ship-to address.

For additional questions, comments or to explore other Lenmar battery solutions, visit our web site at: [www.lenmar.com](http://www.lenmar.com) or call 800/424-2703 from 9AM – 5PM PST.

6.