



VEC010INV

START-IT® COMPACT ELITE™ JUMP-START SYSTEM

Rechargeable DC Power Supply - 12 volt

PORTABLE • CORDLESS • RECHARGEABLE



OWNER'S MANUAL & WARRANTY INFORMATION

THIS MANUAL CONTAINS IMPORTANT INFORMATION REGARDING SAFETY, OPERATION, MAINTENANCE AND STORAGE OF THIS PRODUCT. BEFORE USING, READ AND UNDERSTAND ALL CAUTIONS, WARNINGS, INSTRUCTIONS AND PRODUCT LABELS, PLUS YOUR VEHICLE'S BATTERY MANUFACTURER GUIDELINES. FAILURE TO DO SO COULD RESULT IN INJURY AND/OR PROPERTY DAMAGE.

4140 SW 28TH WAY, FT. LAUDERDALE, FL 33312
TEL 954-584-4446 • TOLL FREE: 866-584-5504 • FAX 954-584-5556
www.vectormfg.com

SAFETY INFORMATION

Save these instructions

Be sure to read and understand all WARNINGS and CAUTIONS before using this product. Please read this guide carefully before use to ensure optimum performance and avoid damage to the system or items that you are using it with.

WARNINGS: *WARNING STATEMENTS IDENTIFY CONDITIONS OR PRACTICES THAT MAY RESULT IN PERSONAL INJURY OR LOSS OF LIFE.*

- 1) When working with lead acid batteries, always make sure immediate assistance is available in case of accident or emergency.
- 2) Always use protective clothing and eyewear when using this product, contact with battery acid may cause blindness and/or severe burns. Be aware of first aid procedures in case of accidental contact with battery acid.
- 3) There is a risk of explosive gases being released when lead acid batteries are being charged or discharged. Failure to follow instructions may cause property damage, explosive hazard, and/or personal injury.
- 4) Make sure the safety switch is off before connecting battery clamps to discharged battery.
- 5) When charging unit from a 110/120 volt AC electrical outlet, in any wet or damp area, make sure that the outlet used is protected by a ground fault interrupt (GFCI) outlet.
- 6) When charging the unit near water, do not allow the electrical cords and outlets to get wet; electrical shock could result.
- 7) Jump-start procedures should only be performed in a safe, dry, well-ventilated area.
- 8) Always store battery clamps in built-in holsters when not in use. Never touch battery clamps together - this can cause dangerous sparks, power arcing, and/or explosion.
- 9) When using this unit in proximity to the vehicle's battery and engine, stand the unit on a flat, stable surface, and be sure to keep all clamps, cords, clothing, and body parts away from moving vehicle components.
- 10) Do not wear vinyl clothing when jump-starting a vehicle-friction can cause dangerous static electricity sparks. Remove all jewelry or metal objects that could cause short circuits or react with battery acid.
- 11) Always disconnect the negative (Black) jumper cable first: followed by the positive (Red) jumper cable.
- 12) Never allow red and black clamps to touch each other or another common metal conductor - this could cause damage to the unit and/or create sparking/explosion hazard. Always store battery clamps in built-in holsters when not in use.
- 13) Do not expose battery to fire or intense heat as it may explode. Before disposing of the battery, protect exposed terminals with heavy-duty electrical tape to prevent shorting (shorting can result in injury or fire).
- 14) Do not smoke, use matches or cigarette lighters while working on a vehicle's battery system.
- 17) Keep unit out of reach of children (whether stored, or in use)!

FIRST AID:

- **SKIN:** If battery acid comes in contact with skin, rinse immediately with water, then wash thoroughly with soap and water. If redness, pain, or irritation occurs, seek immediate medical attention.
- **EYES:** If battery acid comes in contact with eyes, flush eyes immediately for a minimum of 15 minutes - seek immediate medical attention.

IMPORTANT:

Although this unit is delivered in a partially-charged state - **you must fully charge it with the supplied 110/120 volt AC charger for a full 24 hours before using it for the first time.** You cannot overcharge the unit using the AC charger method.

CAUTIONS:

Caution statements advise against certain conditions and practices that may result in damage to vehicles, appliances and/or the START-IT Compact Elite Jump-start System.

- 1) Use only the supplied cords/adapters for recharging this unit. Do not recharge for more than 3-4 hours maximum using 12 volt DC method. Recharge unit after each use.
- 2) All ON/OFF switches should be in the OFF position when the unit is charging or not in use. Make sure all switches are in the OFF position before connection to a power source or load.
- 3) Never insert anything other than the supplied power/recharging cords or recommended appliance power/recharging cords into the 12 volt DC charging/power socket on this unit. Do not use any accessory that is not recommended or provided by the manufacturer.
- 4) Do not use this unit to operate appliances that draw more than 12 amps.
- 5) This system is designed to be used only on vehicles with 12 volt DC battery systems. Do not connect to a 6 volt or 24 volt battery system.
- 6) This system is not designed to be used as a replacement for a vehicular battery. Do not attempt to operate a vehicle that does not have a battery installed.
- 7) Vehicles that have on-board computerized systems may be damaged if vehicle battery is jump-started. Before jump-starting, read the vehicle owner's manual to confirm that external-starting assistance is advised.
- 8) Excessive engine cranking can damage a vehicle's starter motor. If the engine fails to start after the recommended number of attempts, discontinue jump-start procedures and look for other problems that may need to be corrected.
- 9) Although this unit contains a non-spillable battery, it is recommended that unit be kept upright during storage, use, and recharging. To avoid possible damage that may shorten the unit's working life, protect it from direct sunlight, direct heat, and/or moisture.
- 10) Check unit periodically for wear and tear. Replace worn or defective parts immediately; contact Vector customer service department at (954) 584-4446 or toll-free (954) 584-5504.
- 11) Do not attempt to jump-start a frozen battery.
- 12) Never submerge this unit in water.
- 13) All wires, cables, and cords must be positioned so they cannot be tripped over or damaged by moving parts, by pinching, or abrading.

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1. INTRODUCTION

This product has a sealed lead acid battery that should be kept at full charge. Recharge before first use, immediately after each use, and every six months if not used. Failure to do this may reduce the battery life dramatically.

Congratulations! You have just purchased one of the finest Jump-Starter and 12 volt DC Systems (VEC010S) on the market today. We have taken numerous steps in quality control and in manufacturing processes to ensure that your product arrives in top condition and that it will perform to your satisfaction.

In the rare event that your portable power source contains a damaged or missing item, does not perform as specified, or requires warranty service, please call our Technical Support Toll Free (866) 584-5504. Our technical service representative will expedite delivery of your part. If your product needs warranty service, our technical service representative will help you obtain the fastest remedy possible under the warranty. Save your purchase receipt, it is required for warranty service.

The Start-it® Compact Elite™ is designed to be the ideal work, emergency and recreation power source by powering DC appliances on the road, at the beach or wherever your travels take you. It can also be used with other Vector 12 volt DC cordless, portable, rechargeable appliances rated at 12 amps maximum. For information about Vector appliances, contact Vector Manufacturing, Ltd. at (866) 584-5504.

1.1 FEATURES

Battery Charge Status

A series of (3) LED's are arranged (2 red and 1 green) to display the level of charge (low to full) in the battery. The left most RED LED indicates minimum battery charge. Charge the battery when only a single LED is lit. The "center" LED (RED) indicates moderate battery charge level. When the GREEN LED is lit, the battery is at "full charge." The "charge status" LED's will light when the charge status button switch is pressed, or automatically during AC recharge operation. During DC charging, the button switch can be pressed periodically to monitor the recharging progress.

12 Volt DC Accessory Outlet

This accessory outlet is provided for use with appliances that are compatible. The DC accessory outlet also allows for DC recharging from a vehicle or other 12 volt source.



AC Recharge Port

Located just below the 12 volt DC outlet, the AC port is also covered by a rubber cap. The AC recharge adapter's barrel connector plugs into this port during recharge.

LED Area Light

Located on the center of the control panel, this twin LED area light will provide proper lighting while changing a tire or connecting the Compact Elite™ to a battery. This area light is efficient and will continuously operate for (50) hours with a fully charged battery. The area light is activated by the On/Off switch located on the lower right side of the control panel.

1. ON/OFF Safety Power Switch (no key required, no key to get lost!).
2. Cordless/rechargeable, includes AC and DC charging adapters
3. Includes non-spillable, maintenance-free, heavy duty, 9 amp hour, sealed, lead-acid battery.
4. Requires no maintenance (other than recharging) for optimum operation.
5. Heavy duty, industrial grade copper clamps, and #6AWG jumper cables with exclusive recessed cable holsters.
6. Exclusive cable storage channels that keep jumper cables out of the way until they are needed.
7. 110 volt AC charger is Underwriter Laboratories safety tested and listed.
8. Easy-to-read LED battery charge status display - activated by pressing the charge status button and automatically activated during AC recharge.

Refer to Sections 4.1 and 4.2 for use of AC recharge adapter and DC/DC charging adapter.

1.2 START-IT COMPACT ELITE APPLICATIONS

- **Jump-start** Most batteries of engines with a standard 12 volt DC battery system: boat, small truck, car, airplane, RV, personal watercraft, snowmobile, tractor, etc.
- **Operate** (using 12 amp rated 12 volt accessory outlet): 12 volt DC fans, fluorescent worklights, air compressors, spotlights, TVs, portable radios, cassette or CD players, and more. The unit can quick-charge a cellular phone by using the phone's 12 volt DC adapter cord.
- **Illuminate areas** under the hood, inside tents and work areas while changing tires, etc.

NOTE: Other Vector appliances may also be used with this Compact Elite Jump-tarter, as long as they do not exceed the 12 amp limit of the jump-starter's 12 volt DC outlet.

READ INSTRUCTION MANUAL AND PRODUCT LABELING CAREFULLY, BEFORE USING THIS PRODUCT. FOLLOW RECOMMENDED WARNINGS, CAUTIONS, AND SAFETY PROCEDURES, AND MANUFACTURER'S GUIDELINES FOR YOUR VEHICLE BATTERY.

IMPORTANT

This unit is delivered in a partially charged state - you must fully charge it before using it for the first time. Initial AC charge should be for 24 hours.

2. USE AS A JUMP-START SYSTEM

2.1 JUMP-START WARNINGS

1. There is risk of explosive gas being released when batteries are improperly charged or discharged. Failure to follow instructions may cause property damage, explosion hazard, and/or personal injury.
2. Never smoke while jump-starting.
3. Only attempt to jump-start a vehicle or boat in a well ventilated area.
4. This power system is to be used ONLY on vehicles or boats with 12 volt DC battery systems.
5. Do not attempt to jump-start a frozen battery.
6. Do not wear vinyl clothing when jump-starting a vehicle — friction can cause dangerous static electricity sparks.
7. Remove all metal jewelry - this can cause short circuits. Always use protective eyewear when jump-starting: contact with battery acid may cause blindness and/or severe burns.
8. Never touch red and black clamps together - this can cause dangerous sparks, power arcing, and/or explosion.
9. Do not attempt to jump-start a frozen battery
10. After use as jump-starter, turn OFF power safety switch. Keep out of reach of children.
11. Vehicles that have on-board computerized systems may be damaged if vehicle battery is jump-started. Before jump-starting this type of vehicle, read the vehicle's owner's manual to confirm that external-starting assistance is advised.
12. Power safety switch should be off prior to jump-starting.
13. Excessive engine cranking can damage the vehicle's starter motor. If the engine fails to start after the recommended number of attempts, discontinue jump-start procedure and look for other problems that need to be corrected.
14. If vehicle to be started has a positive grounded system (positive battery terminal is connected to chassis): replace steps 4 and 5 of the jump-start procedure (page 8) with the following steps A and B, and then proceed to step 11.
 - A. Connect negative (-) black clamp to vehicle battery's negative terminal.
 - B. Connect positive (+) red clamp to vehicle chassis or a solid, non-moving, metal vehicle component or body part. DO NOT clamp directly to positive battery terminal or moving part.
15. Replace worn or defective parts immediately - contact Vector customer service department (954)584-4446 or toll free (866) 584-5504.

2.2 FIRST AID

- **SKIN:** If battery acid comes in contact with skin, rinse immediately with water, then wash thoroughly with soap and water. If redness, pain, or irritation occurs, seek immediate medical attention.
- **EYES:** If battery acid comes in contact with eyes, flush eyes immediately for a minimum of 15 minutes - seek immediate medical attention.

FIGURE 2

2.3 JUMP-START PROCEDURE

1. Turn OFF ignition and all accessories before making cable connections.
2. Make sure the Compact Elite's power safety switch is turned OFF.
3. Observe jump-starting negative or positive ground system, as follows:
Negative ground (negative battery terminal connected to chassis) - most common.
4. Connect positive (+) red clamp to vehicle's positive battery terminal.
5. Connect negative (-) black clamp to chassis or a solid, non-moving, metal vehicle component or chassis part, make sure cables are not in path of moving belts or fan.
6. Turn ON unit's power safety switch.
7. Start vehicle (crank engine in 3 - 6 second bursts) if engine won't start within 6 seconds let the Compact Elite's internal battery cool 3 minutes before another attempt.
8. After vehicle starts, turn portable power safety switch to OFF position.
9. Leave engine running.
10. Remove clamps. First, disconnect the clamp connected to the engine or chassis, followed by the clamp connected to the battery positive terminal.
11. Carefully press negative (black) jumper cable wire into storage channel starting at end away from the clamp.
12. Squeeze negative (black) clamp handles and clamp onto holster.
13. Carefully press positive (red) jumper cable wire into storage channel starting at end away from the clamp.
14. Squeeze positive (red) clamp handles and clamp onto holster.
15. Recharge unit as soon as possible.

3. USE AS A 12 VOLT DC PORTABLE POWER SUPPLY

This portable power source is also for use with all 12VDC accessories equipped with a male accessory outlet plug and are rated up to 12 amps.

WARNING! NEVER INSERT A CIGARETTE LIGHTER INTO ACCESSORY OUTLET.

CAUTION: Make sure that the unit's power safety switch is ALWAYS in the off position when using the unit's 12 volt DC accessory outlet

1. Lift up the cover of the unit's 12 volt DC outlet.
2. Insert the 12 volt DC plug from the appliance into the 12 volt accessory outlet on the unit.
DO NOT EXCEED A 12 AMP LOAD.
3. Switch on the appliance, as usual.
4. Periodically press the battery charge level pushbutton to check battery status.

CAUTION: DO NOT OPERATE APPLIANCES THAT DRAW MORE THAN 12 AMPS.

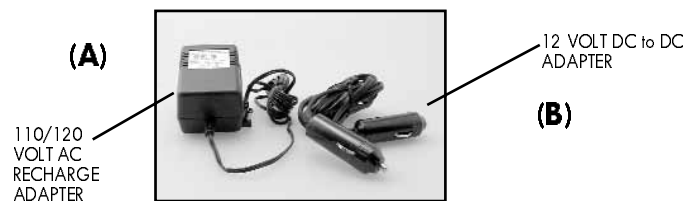
4. CHARGING/RECHARGING

Lead-acid batteries require routine maintenance to ensure a full charge and long battery life. All batteries lose energy from self-discharge over time and more rapidly when they are at higher temperatures. Therefore, batteries need periodic charging to replace energy lost through self-discharge. When the unit is not in use, Vector recommends that the battery is recharged at least every 60 days.

NOTE: RECHARGING BATTERY AFTER EACH USE WILL PROLONG BATTERY LIFE; FREQUENT HEAVY DISCHARGES BETWEEN RECHARGES WILL REDUCE BATTERY LIFE. OVERCHARGING WILL REDUCE BATTERY LIFE.

The battery can be recharged using an AC or DC adapter. (See FIGURES 3A and 3B)

FIGURE 3



Check the battery charge level by pressing the battery status button. The LED charge status display will indicate the level of battery charge. When only one red LED lights, recharge the unit.

4.1 AC RECHARGE

The AC recharge adapter is a UL approved "wall" type unit that operates from any 110/120 volt, 60 Hz AC supply that has a standard North American outlet. The adapter has a barrel connector that plugs into the unit's recharge port.

Make sure the safety switch and worklight are turned OFF during AC recharge. When a powered AC recharge adapter is plugged into the recharge port, the battery charge level display will automatically activate. As recharge progresses, the red LEDs will light one by one. Charge the unit until the battery charge level display lights or flashes the green FULL LED. Continue to recharge for one to two hours, and then disconnect the recharge adapter. AC recharge system is an automatic taper charge and can be left connected to the main unit for long periods. (See FIGURE 1 for AC recharge port location).

4.2 DC TO DC RECHARGE

Recharging the Compact Elite from an external DC power source requires the use of the DC/DC adapter. This adapter has a male DC connector at each end. (See FIGURE 3B)

Unlike the AC recharge method, DC recharge does NOT automatically activate the "battery status" display and provide a taper charge. Battery status can still be monitored by pressing the battery status check switch.

CAUTION: Make sure ON/OFF Safety Switch and Area Light are Turned OFF During Recharge As This May Slow Recharge Function

Procedure:

1. Insert the DC adapter plug into the Compact Elite's 12 volt accessory outlet.
2. Plug the other DC plug into an accessory outlet in a vehicle, power supply or other 12 volt DC source.
3. Charge until the "green" battery status indicator is lit.
(DO NOT EXCEED 3 HOURS MAXIMUM)
4. After charging, disconnect the cables and store them properly.

WARNING! Do Not DC Charge for more than 3 Hours Maximum.
Do Not Leave Unattended while DC Charging.

5. MAINTENANCE/REPLACEMENT PARTS

For replacement parts (bulbs, batteries, charging adapters, etc.), contact Vector Technical Support: (954) 584-4446 or toll free (866) 584-5504. There are no user serviceable parts inside the unit. Periodically, the cables and connectors should be inspected for damage, corrosion, dust, and dirt. If surfaces are dirty, they can be wiped clean with a cloth moistened with water and a drop of detergent. Contacts can be wiped clean with a dry cloth.

WARNINGS: DO NOT OPERATE UNIT IF THERE IS ANY EVIDENCE OF DAMAGE. THE PRODUCT MUST BE RETURNED TO VECTOR FOR TESTING AND REPAIR. REPLACE ANY DAMAGED CHARGING ADAPTERS IMMEDIATELY BEFORE FURTHER USE.

6. BATTERY DISPOSAL

Contains a maintenance-free, sealed, non-spillable, lead acid battery, which must be disposed of properly. Recycling is required - contact your local authority for information. Failure to comply with local, state and federal regulations can result in fines or imprisonment.

WARNINGS

- Do not dispose of the battery in fire, as this may result in an explosion
- Before disposing of the battery, protect exposed terminals with heavy-duty electrical tape to prevent shorting (shorting can result in injury or fire)
- Do not expose battery to fire or intense heat, as it may explode



7. SPECIFICATIONS

Jump-Start Clamps	300 Amps - Heavy Duty Copper
Jumper Cables	#6AWG Welding Cable
Peak Amps.	600
Instant Amps	300
Battery High Density AGM	12 Volt, 9 Amp Hour, Sealed, Lead-Acid
Worklight Bulb	12 volt, 110 mA festoon type
Accessory Outlet Protection	12 Amps Self-Resetting Breaker
Height	9.5 in (24.13 cm)
Width	8 in (20.3 cm)
Depth	5 in (12.7 cm)
Weight	8.10 lbs (3.6 kg)

8. WARRANTY

2 YEAR LIMITED WARRANTY PROGRAM

This limited warranty program is the only one that applies to this product, and it sets forth all the responsibilities of Vector Manufacturing, Ltd., regarding this product. There is no other warranty, other than those described herein.

This Vector Manufacturing, Ltd. product is warranted, to the original purchaser only, to be free of defects in materials and workmanship for two years from the date of purchase without additional charge. The warranty does not extend to subsequent purchasers or users. Vector Manufacturing, Ltd. will not be responsible for any amount of damage in excess of the retail purchase price of the product under any circumstances. Incidental and consequential damages are specifically excluded from coverage under this warranty.

This product is not intended for commercial use. This warranty does not apply to accessories or damage to units from misuse or incorrect installation. Misuse includes wiring or connecting to improper polarity power sources.

RETURN/REPAIR POLICY: Defective products, other than accessories, may be returned postage prepaid to Vector Manufacturing. Any defective product, other than accessories, that is returned to Vector Manufacturing within 30 days of the date of purchase will be replaced free of charge. If such a product is returned more than 30 days but less than two years from the purchase date, Vector Manufacturing will repair the unit or, at its option, replace it free of charge.

If the unit is repaired, new or reconditioned replacement parts may be used, at Vector Manufacturing's option. A unit may be replaced with a new or reconditioned unit of the same or comparable design. The repaired or replaced unit will then be warranted under the terms of the remainder of the warranty period. The customer is responsible for the shipping charges on all returned items after 30 days. During the warranty period, Vector Manufacturing, Ltd. will be responsible for the return shipping charges.

LIMITATIONS: This warranty does not cover accessories, bulbs, fuses and batteries, defects resulting from normal wear and tear (including chips, scratches, abrasions, discoloration or fading due to usage or exposure to sunlight), accidents, damage during shipping to our service facility, alterations, unauthorized use or repair, neglect, misuse, abuse, failure to follow instructions for care and maintenance, fire, flood and Acts of God.

If your problem is not covered by this warranty, call our Technical Support Department at (954) 584-4446 or Toll Free at (866) 584-5504 for general repair information and charges if applicable. You may also contact us through our website at www.vectormfg.com.

STATE LAW RIGHTS: This warranty gives you specific legal rights. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the exclusions or limitations stated herein may not apply. This warranty gives the purchaser specific legal rights; other rights, which vary from state to state, may apply.

TO REQUEST WARRANTY SERVICE FOR THIS PRODUCT: Contact Vector Manufacturing Technical Support by telephone, fax or mail. We suggest that you keep the original packaging in case you need to ship the unit. When returning a product, include your name, address, phone number, dated sales receipt (or copy) and a description of the reason for return and product serial number. After repairing or replacing the unit, we will make every effort to return it to you within four weeks.

WARRANTY ACTIVATION: Please complete Warranty Activation Card and mail to Vector Manufacturing. Enter "VEC010INV" as Model and "Compact Elite Jump Start System" as Product Type. All Vector Manufacturing, Ltd. products must be registered within 10 days of purchase to activate this warranty. Mail the completed registration form, along with a copy of the original sales receipt to:

ATTN.: CUSTOMER SERVICE / VECTOR MANUFACTURING, Ltd.
4140 SW 28th Way, Ft. Lauderdale, FL 33312
PH: 954-584-4446 • TOLL FREE: 866-584-5504 • Fax: 954-584-5556.
You may also contact us at our web site www.vectormfg.com.

WARRANTY IS NON-TRANSFERABLE AND NON-REFUNDABLE.

1 YEAR LIMITED WARRANTY PROGRAM

This limited warranty program is the only one that applies to this product, and it sets forth all the responsibilities of Vector Manufacturing, regarding this product. There is no other warranty, other than described herein. This Vector Manufacturing product is warranted, to the original purchaser only, to be free of defects in materials and workmanship for one year from the date of purchase without additional charge. The warranty does not extend to subsequent purchasers or users. Vector Manufacturing will not be responsible for any amount of damage in excess of the retail purchase price of the product under any circumstances. Incidental and consequential damages are specifically excluded from coverage under this warranty. This product is not intended for commercial use. This warranty does not apply to accessories or damage to units from misuse or incorrect installation. Misuse includes wiring or connecting to improper polarity power sources.

RETURN/REPAIR POLICY: Defective products, other than accessories, may be returned postage prepaid to Vector Manufacturing. Any defective product, other than accessories, that is returned to Vector Manufacturing within 30 days of the date of purchase will be replaced free of charge. If such a product is returned more than 30 days but less than one year from the purchase date, Vector Manufacturing will repair the unit or, at its option, replace it free of charge. If the unit is repaired, new or reconditioned replacement parts may be used, at Vector Manufacturing's option. A unit may be replaced with a new or reconditioned unit of the same or comparable design. The repaired or replaced unit will then be warranted under the terms of the remainder of the warranty period. The customer is responsible for the shipping charges on all returned items after 30 days. During the warranty period, Vector Manufacturing will be responsible for the return shipping charges.

LIMITATIONS: This warranty does not cover accessories, bulbs, fuses and batteries, defects resulting from normal wear and tear (including chips, scratches, abrasions, discoloration or fading due to usage or exposure to sunlight), accidents, damage during shipping to our service facility, alterations, unauthorized use or repair, neglect, misuse, abuse, failure to follow instructions for care and maintenance, fire, flood and Acts of God. If your problem is not covered by this warranty, call our Technical Support Department (954) 584-4446 or toll free (866) 584-5504 for general repair information and charges if applicable. You may also contact us through our website www.vectormfg.com.

STATE LAW RIGHTS: This warranty gives you specific legal rights. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the exclusions or limitations stated herein may not apply. This warranty gives the purchaser specific legal rights; other rights, which vary from state to state, may apply.

TO REQUEST WARRANTY SERVICE FOR THIS PRODUCT: Contact Vector Manufacturing Technical Support by telephone, fax or mail. We suggest that you keep the original packaging in case you need to ship the unit. When returning a product, include your name, address, phone number, dated sales receipt (or copy) and a description of the reason for return and product serial number. After repairing or replacing the unit, we will make every effort to return it to you within four weeks.

WARRANTY ACTIVATION: Please complete Warranty Activation Card and mail to Vector with "VEC040" as Model and "Pocket Power Inverter" as Product Type. All Vector Manufacturing products must be registered within 10 days of purchase to activate this warranty. Mail the completed registration card, along with a copy of the original sales receipt to:

ATTN.: CUSTOMER SERVICE / Vector Manufacturing
4140 SW 28th Way, Ft. Lauderdale, FL 33312
PH: 954-584-4446 • TOLL FREE: 866-584-5504 • Fax: 954-584-5556.
You may also contact us at our web site www.vectormfg.com.
WARRANTY IS NON-TRANSFERABLE AND NON-REFUNDABLE.

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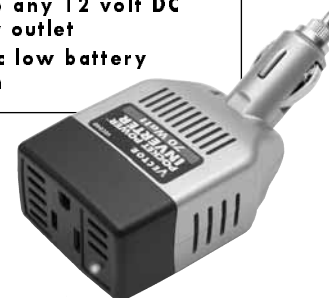
VECTOR
The Freedom of POWER

VEC040

70 WATT* POCKET POWER® INVERTER

KEY INFORMATION YOU SHOULD KNOW:

- **70 Watts continuous output***
- **Plug and play**
- **Adapts to any 12 volt DC accessory outlet**
- **Automatic low battery shutdown**



USER'S MANUAL & WARRANTY INFORMATION

IMPORTANT SAFETY INFORMATION, SAVE THESE INSTRUCTIONS

TO REDUCE THE RISK OF INJURY, USER MUST READ AND UNDERSTAND THIS INSTRUCTIONAL MANUAL. THIS MANUAL CONTAINS IMPORTANT INFORMATION REGARDING THE OPERATION AND WARRANTY OF THIS PRODUCT. PLEASE RETAIN FOR FUTURE REFERENCE.

4140 S.W. 28th Way, Ft. Lauderdale, FL 33312
Toll Free: (866) 584-5504

IMPORTANT SAFETY INSTRUCTIONS

1. Always use the inverter where there is adequate ventilation. Do not block ventilation slots.
2. DO NOT use the inverter near flammable materials or in locations that may accumulate flammable fumes or gases.
3. ALWAYS turn OFF the inverter by removing it from the DC accessory outlet when not in use.
4. NEVER IMMERSE THE UNIT IN WATER (fresh or salt).
5. DO NOT expose to extreme heat or flames.
6. Make sure nominal powering voltage is 12 volts DC, center connection positive (+), 10 amps minimum.
7. DO NOT replace fuse with higher amperage rating.

⚠ WARNINGS

- Inverter produces 110/120 volt AC current
- Never expose to water, flammables or use in non-ventilated areas
- May cause shock and/or explosion resulting in personal injury

INTRODUCTION

Thank you for choosing the Vector Model VEC040 AC Pocket Power Inverter. Please read this guide carefully before use to ensure best performance and avoid damage to the unit or items that you are using it with. Read, understand and comply with all Warnings and Safety Information to ensure safety of personnel and equipment. The Pocket Power Inverter is a convenient, easy-to-carry, completely portable source of 110/120 volt AC to operate appliances to 70 watts. It can be powered by any 12 volt DC accessory outlet that can supply at least 10 amps. It is also ideal for use with Vector 12 volt DC cordless/portable/rechargeable DC power supplies and jump-starter products.

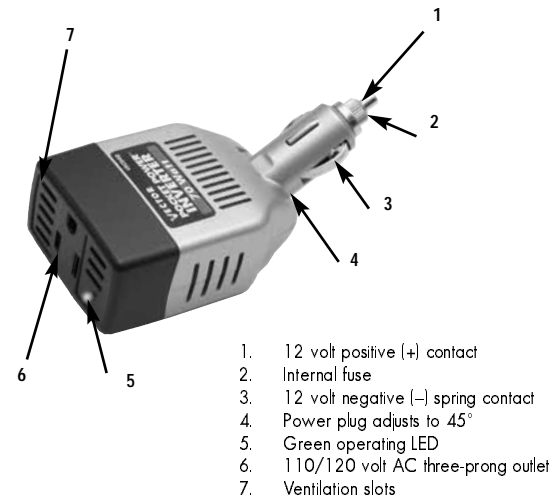
The Pocket Power Inverter can be used to operate: 110/120 volt AC laptop computers, computerized games, reading lamps, small fans, and more.

Recharge: 110/120 volt AC devices (laptop computers, cellular phones, camcorders, power tool battery packs) that have an appropriate recharging adapter with a three-prong 110/120 volt AC North American standard-type plug.

OPERATING AND VISIBLE FEATURES

- 70 watts continuous output up to 30 minutes* — 110/120 volt AC, 60 Hz
- Easiest inverter to use — simply plug and play
- Adapts to any size 12 volt DC accessory outlet
- Compact, efficient, and quiet
- Electronic circuit protection prevents damage due to overload/ insufficient ventilation
- Low-battery shutdown automatically occurs when battery discharges to 10.6 volts, preventing battery damage
- Self recovery from shutdown — if manual reset is required, remove and reinsert the inverter into the accessory outlet

*70 watts for 30 minutes – 60 watts continuous



Power Source Requirements/Runtimes

The inverter can be powered by any 12 volt DC accessory outlet that can supply at least 10 amps. A charged car battery with 50 amp hours of capacity can operate this inverter at 60 watt output for approximately five hours. This calculation is made without the engine running. With the engine running, the 70 watt output can be continuous for up to 30 minutes.

It is also ideal for use with Vector 12 volt DC cordless/portable/rechargeable DC power supplies and jump-starter products.

Estimated runtimes at full 70 watt output:

- Jump-starters with 17-19 amp hour battery approx. 2.5 hours
- Compact jump-starter with 15 amp hour battery approx. 2 hours
- Compact jump-starter with 12 amp hour battery approx. 1.5 hours

Lower operating output (less than 70 watts) reduces the current taken from the DC source, so longer operating times can be realized.

OPERATION OF INVERTER

1. Insert the unit into the vehicle's (or jump-starter's) accessory outlet.
2. Rotate the plug slightly to make sure there is good contact.
3. A green LED light on the inverter will indicate a proper operation.
4. If the inverter does not work, make sure the ignition/accessory switch is actually powering the accessory outlet. Some vehicles need the ignition switch turned on.
5. Plug in the AC appliance.

PROTECTIVE FEATURES

The inverter monitors the following conditions:

Low Battery Voltage — this condition is not harmful to the inverter but could damage the power source, so the inverter automatically shuts down when input voltage drops to 10.6 volts. When this condition is corrected, the unit will auto-reset.

Over Voltage Protection — the inverter will automatically shut down when the input voltage exceeds 15 volts DC.

Short Circuit Protection — the inverter will automatically shut down when short circuit occurs. The inverter will auto-reset after removing the short circuit. If the inverter's fuse fails, disconnect the shorter load and replace the fuse inside the Pocket Inverter. See the Fuse Replacement section if a bad fuse is suspected.

OPERATING TIPS

The Pocket Power Inverter should only be operated in locations that are:

DRY — Do not allow water or other liquids to come into contact with the inverter.

COOL — Surrounding air temperature should be between -20°C and 40°C - ideally between 15°C and 25°C ($60-80^{\circ}\text{F}$). Keep the inverter away from direct sunlight, when possible.

VENTILATED — Keep the area surrounding the inverter clear to ensure free air circulation around the unit. Do not place items on or over the inverter during operation. The unit will shut down if the internal temperature gets too hot. The inverter will auto-reset after it cools down.

SAFE — Do not use the inverter near flammable materials or in any locations that may accumulate flammable fumes or gases. This is an electrical appliance that can briefly spark when electrical connections are made or broken.

Rated Versus Actual Current Draw of Equipment

Most electrical tools, appliances, electronic devices and audio/visual equipment have labels that indicate the power consumption in amps or watts. Be sure that the power consumption of the item to be operated is below 70 watts. If the power consumption is rated in amps, simply multiply by the AC volts (110/120) to determine the wattage.

Resistive loads are the easiest for the inverter to run; however, it will not run larger resistive loads (such as electric stoves and heaters) that require more wattage than the

inverter can deliver. Inductive loads (such as TVs and stereos) require more current to operate than do resistive loads of the same wattage rating. For safety reasons, the unit will simply shut down if it is overloaded. To restart the unit, simply remove the load and the unit will auto reset.

Note: *This inverter will not operate appliances and equipment that generate heat, such as hair dryers, electric blankets, microwave ovens, and toasters.*

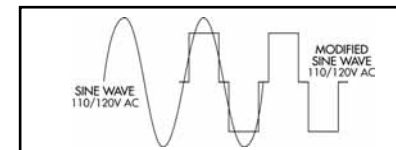
HOW THIS INVERTER WORKS

This inverter is an electronic device that converts low voltage DC (direct current) electricity from a battery to 110/120 volt AC (alternating current) household power. In designing this inverter, Vector has incorporated design techniques previously employed in computer power supplies. The result of these design innovations is a smaller, lighter and easier-to-use power inverter. The Pocket Power Inverter converts power in two stages. The first stage is a DC-to-DC conversion process that raises the low voltage DC at the inverter input to 145 volts DC. The second stage is a MOSFET bridge stage that converts the high voltage DC into 110/120 volts, 60 Hz AC. The DC-to-DC converter stage uses creative, high frequency, zero voltage switching power conversion techniques that replace the bulky transformers found in less technologically advanced models. The inverter stage uses advanced power MOSFET transistors in a full bridge configuration. This ensures excellent overload capability and the ability to operate reactive loads like lamp ballasts and small induction motors.

Pocket Power Inverter 70 Output Waveform

The AC output waveform of this inverter is known as a modified sine wave. It is a stepped waveform that has characteristics similar to the sine wave shape of utility power. This type of waveform is suitable for most AC loads, including linear and switching power supplies used in electronic equipment, transformers, and small motors.

110/120 Volt AC output



The modified sine wave produced by this inverter has an RMS (root mean square) voltage of 110/120 volts, which is the same as standard household power. Most AC voltmeters (both digital and analog) are sensitive to the average value of the waveform rather than the RMS value. They are calibrated for RMS voltage under the assumption that the waveform measured will be a pure sine wave. These meters will not correctly read the RMS voltage of a modified sine wave. Non-TRUE RMS meters will read about 20 to 30 volts low when measuring the output of this inverter. For accurate measurement of the output voltage of this unit, use a TRUE RMS reading voltmeter such as a Fluke 87, Fluke 8080A, Beckman 4410, or Triplett 4200.

The inverter is capable of running most chargers and transformers.

It is also ideal for use with Vector 12 volt DC cordless, portable and rechargeable DC power supplies and jump-starter products.

CAUTIONS (Rechargeable Devices)

- Certain rechargeable devices are designed to be charged by plugging them directly into an AC receptacle.
- These devices may damage the inverter or the charging circuit.
- When using a rechargeable device, monitor its temperature for the initial ten minutes of use to determine if it produces excessive heat.
- If excessive heat is produced, this indicates the device should not be used with this inverter.
- This problem does not occur with most of the battery-operated equipment. Most of these devices use a separate charger or transformer that is plugged into an AC receptacle.

STORAGE

1. Ideal storage temperature range is 50-68°F (10-20°C).
2. Store and use the Pocket Power Inverter in a cool, dry place with adequate ventilation for all-around air circulation.
3. Avoid locations that are exposed to heating units, radiators, direct sunlight, or excessive humidity or dampness.

COMMON AUDIO/VISUAL PROBLEMS

Problem: Buzzing Sound In Audio Systems

Some inexpensive stereo systems and boom boxes make a buzzing sound when operated from the inverter, because the power supply in the electronic device does not properly filter the modified sine wave produced by the inverter. The only solution to this problem is to use a sound system that has a higher quality power supply.

Problem: Television Interference

The Pocket Power is shielded to minimize interference with TV signals. However, in some instances, some interference may still be visible, especially when the TV signal is weak. Try the following to improve the picture:

1. Move the Pocket Power Inverter as far away as possible from the TV set, the antenna, and the antenna cables. Use a short AC extension cord, if necessary.
2. Adjust the orientation of the antenna cables, and the TV power cord to minimize interference.
3. Make sure that the antenna feeding the TV provides an adequate (snow free) signal and that high quality, shielded antenna cable is used.

COMMON POWER OUTPUT PROBLEMS

Possible Causes	Recommendations
Battery voltage below 10 volts.	Recharge battery or check DC power supply.
Equipment being operated draws too much power.	Reduce load.
Inverter in thermal shutdown condition.	Allow inverter to cool down. Ensure that there is adequate ventilation around unit, and load is no more than 70 watts for continuous operation.
Main fuse failed (blown). Inverter is overloaded.	Replace fuse in DC connector. Reduce load to 70 watts max. to maintain regulation.

FUSE REPLACEMENT

If the Pocket Power Inverter is overloaded, and the green LED is not lit, the internal 15 ampere fuse may be blown.

1. Unscrew the flange of the Pocket Power Inverter (counterclockwise).
2. Remove the end contact, flange and fuse.
3. Inspect the fuse to see if it is good or blown.
4. Replace with a new 15 amp fuse, if needed.
5. Carefully reassemble the fuse, end contact and flange. Do not overtighten the flange (clockwise).

SPECIFICATIONS:

Power	*70 watts for 30 minutes – 60 watts continuous
AC Output	110/120 volts, 60 Hz
DC Input	12 volts
Fuse	10 amps
Waveform	Modified Sine Wave

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