

PHOTOGENIC[®]

ION

Lithium-ion Powered Pure Sine Wave Inverter

PORTABLE POWER FOR STUDIO LIGHTS

USER MANUAL



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I: INTRODUCTION & SYSTEM DESCRIPTION

Thank you for selecting the **Photogenic**® Lithium-ion battery powered Pure Sine Wave Inverter. It incorporates state of the art electronic components providing an economical lighting power system. This product is built for the operational needs of the professional, semi-professional and amateur photographer. It is our expectation that your **Photogenic**® Lithium-ion battery powered Pure Sine Wave Inverter will provide you with years of dependable service.

The **Photogenic**® Lithium-ion battery powered Pure Sine Wave Inverter is a lightweight and compact power supply. It is designed to power your **Photogenic**® monolights and many other monolights in the field when conventional sources of AC power are not available or are unreliable. The inverter and battery are enclosed in strong, high-impact, polymer housings.

Before using your new unit for the first time, please read this manual carefully and acquaint yourself with the controls and features. This way you can quickly get the greatest benefit from your new unit and enjoy safe and efficient operation.

WARNING

Despite the measures that have been taken to make electronic flash equipment safe, it must be recognized that high voltages and high temperatures do exist within the power supply / lighting unit. Certain precautions must be observed in handling the unit.

**Contact with internal high voltage may result
in severe injury or death.**

II: SAFETY WARNING PRECAUTIONS

DO NOT expose the battery to extreme heat or flame.

DO NOT short-circuit, disassemble or modify the battery pack.

DO NOT bring the battery pack in contact with loose metallic items such as necklaces, coins, keys, etc.

DO NOT immerse the inverter or battery pack in water. Protect from exposure to moisture, dust and sand.

DO NOT put a continuous load higher than 120 Watts on the inverter. Doing so may cause the unit to overheat and shut down. Also note that attempting to operate a continuous load under 120 watts in conjunction with operating monolights will degrade the ability to recycle the monolights.

DO NOT attempt to operate monolights and the modeling lamps at the same time. The system is not designed to operate modeling lamps on a continuous basis as this will quickly drain the battery, slow recycle period and potentially overheat the system.

DO NOT insert metal tools or other foreign objects into the socket area or vents. Contact with high voltage may result in severe injury.

DO NOT attempt to use the inverter if it has been dropped or damaged until a qualified service person has serviced it.

DO NOT attempt to perform any internal service work on this unit. Refer all such service to a qualified service person or return to the factory. Unauthorized service work can be dangerous and will void the warranty.

DO NOT operate immediately if the inverter or battery pack has been stored in or exposed to very hot or very cold temperatures. Allow the unit to stand unused for approximately 1 hour at ambient temperature (surrounding environment) before using.

DO NOT use a non-Photogenic® charger to charge the battery. Use only the **Photogenic® ION** charger CHG2168 (#956063). The charger module included with the system is specifically designed to be used with the **Photogenic® ION** portable inverter.

DO NOT cover battery with fabric, paper or tightly enclose when charging. The battery charger may become hot during the charging process.

DO NOT use a non-Photogenic® battery to power the inverter. Use only the **Photogenic®** Lithium-ION battery BAT2188 (#956059). The battery module included with the system is the only battery designed to be used with the **Photogenic® ION** portable inverter.

DO NOT block **Photogenic® ION** air vent openings.

III: PREPARATION

Unpacking and Setup:

Unpack all components carefully from the cartons. Do not discard or destroy the packing material until the equipment has been inspected, assembled and all parts accounted for. After unpacking, all parts should be examined for any damage which may have been caused by rough handling during shipment. If any damage is detected, contact the delivering carrier at once. Claim for damage should be made to the delivering carrier before destroying packing cartons.

Before using the inverter for the first time or initial charging,

- 1) Separate the battery pack from the inverter.
- 2) Remove the insulating tape from the contacts.
- 3) Replace the battery pack on the inverter.

It is recommended that the battery pack be charged before using the inverter for the first time. See Charger Connector section for instructions.



IV: OPERATION / CONTROLS / INDICATORS


On / Off Button

To power the unit ON, press and hold the red power button for 2 seconds and then release. To switch power OFF, press and hold the red power button for 2 seconds and then release.

LED Battery Status Indicators:

The front of the inverter has 4 LEDs that indicate battery charge level.

LED Indicator	Battery Capacity Remaining
Full (green)	75%-100%
3/4 (green)	50%-74%
1/2 (green)	25%-49%
1/4 (red)	Below 25%



When the 1/4 LED blinks red, this indicates that the battery has less than 10% of charge remaining. The unit should be switched OFF and the battery should be fully charged.

Power LED Indicator:

The power LED indicates the status of the inverter.

LED Indicator	Inverter Status
Off	Power off
Green	Normal operation
Orange	Inverter shutdown – USB normal
Red	Inverter shutdown – No USB power

Both the inverter and battery have protection circuits that will shut the unit down if the temperature becomes too high for safe operation. This prevents damage and prolongs the life of your product.

If inverter shutdown occurs unplug any devices from the inverter and leave the device in a cool place for approximately 30 minutes.

USB port:

For your convenience, a 0.5A USB port has been included on the front panel of the inverter. This port can be used for powering portable electronic devices such as certain cellular phones and mp3 players.

Be aware that some electronic accessories require more than 0.5A for charging. These higher power devices may not charge properly using the **ION** USB port.

Charger Connector:

To charge the battery while it is attached to the inverter,

1. Ensure that the inverter is switched OFF. The battery will not charge if the inverter is ON.
2. Plug the charger's AC power cord into a suitable AC power source.
3. Plug the charger into the inverter's connector on the front panel. The LED indicator on the charger will turn red while the battery is charging and turn green to indicate that the battery is fully charged.



4. You may also charge the battery pack or a spare battery pack by plugging the charger directly into the connector on the battery pack itself.



Replace the Battery Pack:

Switch the inverter power OFF and unplug the charger (if connected). Disconnect monolights and/or any other devices connected to the **Photogenic® ION** inverter.

To Remove the Battery Pack:



1. Press and hold the release latch located on the side of the inverter.
2. While holding the latch down, slide the battery pack toward the side of the inverter with the release latch.

To Install the Battery Pack on the Inverter:

1. Align the four round posts on battery pack with the four slots on the inverter housing.



2. Firmly press the battery pack down against the inverter.



3. Slide the battery pack until it aligns with the inverter and is secured and locked by the release latch.

Connecting the Monolight(s):

Ensure the Monolight and the modeling lamp are powered off. Plug the flash units into the AC power outlets located on the panel. Power ON the inverter.

V: APPLICATIONS AND MOUNTING

Mount the **ION** Multi-Clamp to the light stand.



Insert the ION Inverter so that it hangs in the ION Multi-Clamp slot. Make sure it is securely inserted into the clamp. The supplied Multi-Clamp and strap provides a variety of ways to mount the **Photogenic® ION** Inverter.



Convenient ION Multi-Clamp for Stand Mounting



Flexible Strap Configurations for Both Shoulder or Stand Mounting

VI: ION INVERTER SPECIFICATIONS

Inverter Power Output	120W Continuous
Inverter Output Voltage	120VAC +/-3%, 60Hz
Inverter Wave Form	Pure Sine Wave
USB Power Output	5VDC, 500mA
Number of Standard Output Outlets	2, 3 prong, 120VAC
Battery Type	LiCox NiyMnzO2 Lithium Ion Battery Pack
Battery Volt/Amp-Hour	14.8V / 8.8Ah
Battery Watt-Hours (Energy)	130 Watt-Hours
Battery Current	30ADC Peak / 15ADC Average
Battery Cutoff Voltage	12VDC
Battery Charger Input Range	100VAC to 265VAC, 50/60Hz
Battery Charger Output (Maximum)	16.8VDC / 3A
Battery Charging Time	3 to 4 hours to full charge
Full Charge Voltage (From Charger)	16.8VDC
System Protection Features	Over Load, Over Temperature, Over Charge/Discharge, Over Current, Short Circuit
Cooling System	Fan Control
Weight of ION System	3.5 lbs. (Including 2.0 lbs. battery and strap)
Dimensions of ION Inverter System	3 1/8" x 4 3/8" x 7 1/2"
Housing	High Impact ABS-PC

Approximate Flashes Per Charge

Model	Wattage	Flashes	Recycle Time
AKC160	160WS	2050	1.3 Sec.
AKC320	320WS	1200	2.8 Sec.
PL625DR	250WS	900	1.8 Sec.
PL1250	500WS	430	4.5 Sec.
PL1250DR	500WS	500	3.8 Sec.
PL2500DR	1000WS	360	7.5 Sec.
PL500DR	500WS	570	3.8 Sec.
PL1000DR	1000WS	300	5.5 Sec.

Contact **Photogenic®** for dual monolight performance data.

VII: SERVICE / ROUTINE MAINTENANCE

Wipe dust from battery, inverter contacts, AC outlets and control panel using a clean, dry cloth. This will ensure long life and maximum performance.

Do not attempt to make any repairs to this product. Please contact **Photogenic®** at 800-682-7668.

VIII: PHOTOGENIC ION FACTORY WARRANTY

PHOTOGENIC® PROFESSIONAL LIGHTING WARRANTS TO THE FIRST OWNER OF THE ION, PURE SINE WAVE INVERTER*, TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF PURCHASE AND WILL REPAIR OR REPLACE, AT PHOTOGENIC®'S CHOICE, PRODUCT FOUND TO BE DEFECTIVE UNDER NORMAL USE. WARRANTY DOES NOT COVER DAMAGES CAUSED IN SHIPMENT, BY PRODUCT ABUSE, ACCIDENT, MODIFICATION, DISASSEMBLY OR USE BEYOND THAT INTENDED BY PHOTOGENIC®. USE WITH NON-PHOTOGENIC BATTERY OR BATTERY CHARGER WILL RENDER THIS WARRANTY VOID.

THIS WARRANTY IS THE ONLY WARRANTY MADE TO ANY PERSON BY PHOTOGENIC® AND IS IN LIEU OF ALL OTHER EXPRESSED OR IMPLIED WARRANTIES. THE REMEDIES SET FOR THIS WARRANTY SHALL BE THE EXCLUSIVE REMEDIES AVAILABLE TO ANY PERSON FOR BREACH OF THIS WARRANTY. UNDER NO CIRCUMSTANCES SHALL PHOTOGENIC® BE LIABLE TO ANY PERSON FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, WHETHER ARISING OUT OF BREACH OF WARRANTY OR OTHER CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT OR OTHERWISE.

*LITHIUM-ION BATTERIES ARE CONSIDERED A CONSUMABLE AND ARE LIMITED TO A 90-DAY WARRANTY.

IX: INCLUDED ITEMS

ION Inverter Module

INV2120 (#956057)

The Pure Sine Wave Inverter is created from durable reinforced plastic and is the electronic control of the system.



ION Battery

BAT2188 (#956059)

The 14.8V 8.8Ah Lithium-Ion Battery was meticulously crafted for optimum performance with the **ION** Inverter.



ION Charger

CHG2168 (#956063)

The charger is a user friendly “plug-in and forget” charger with integrated regulator. To make it even easier, **Photogenic®** has equipped the charger with a red light (charging) and a green (fully charged) LED indicator. This eliminates questions about overcharging and charge status.



ION Multi-Clamp

PMC2162 (#905215)

The jaws of the **ION** Multi-Clamp will open from 0” - 1.25”. This allows the **Photogenic® ION** to attach on a wide range of stands. The **ION** Multi-Clamp is made of durable aluminum.



ION Strap

STP2135 (#956061)

The **Photogenic®** neoprene strap is designed for comfort and function. The **ION** strap has detachable buckles that allow the strap to become a short carry handle.



X: OPTIONAL ACCESSORY

ION Case

CAS2134 (#956065)

The perfect companion to the **Photogenic® ION** is the well crafted and form fitting **ION** case. The case is made from heavy duty Cordura Nylon. The **ION** case can hold (1) complete **ION** Inverter Kit and (2) additional batteries. This is a must-have for staying organized and keeping your products safe, clean and readily available.



XI: OPTIONAL KITS

ION Inverter w/ Spare Battery Kit

ISB2182 (#956062)

- (1) ION (#956055) ION INVERTER KIT
- (1) BAT2188 (#956059) ION SPARE BATTERY



ION Inverter w/ Spare Battery & Case Kit

ISB2183 (#956064)

- (1) ION (#956055) ION INVERTER KIT
- (1) BAT2188 (#956059) ION SPARE BATTERY
- (1) CAS2134 (#956065) ION CASE



ION Inverter w/ AKC320 & Umbrella Kit

AKC57BK (#900142)

- (1) ION (#956055) ION INVERTER KIT
- (1) AKC320 (#906910) 320WS MONOLIGHT
- (1) TALS8 (#922048) 8' LIGHT STAND
- (1) EC45BC (#909201) 45" ECLIPSE UMBRELLA



ION Inverter w/ AKC320 & Softbox Kit

AKC54BK (#900144)

- (1) ION (#956055) ION INVERTER KIT
- (1) AKC320 (#906910) 320WS MONOLIGHT
- (1) TALS8 (#922048) 8' LIGHT STAND
- (1) AK24 (#926378) 24" SOFTBOX



ION Inverter w/ PL1250DRC & Umbrella Kit

PL1257BK (#900062)

- (1) ION (#956055) ION INVERTER KIT
- (1) PL1250DRC (#915871). 500WS MONOLIGHT
- (1) TAHS8 (#922140). 8' LIGHT STAND
- (1) EC45BC (#909201). 45" ECLIPSE UMBRELLA



ION Inverter w/ PL1250DRC & Softbox Kit

PL1252BK (#900064)

- (1) ION (#956055) ION INVERTER KIT
- (1) PL1250DRC (#915871) 500WS MONOLIGHT
- (1) TAHS8 (#922140) 8' LIGHT STAND
- (1) SB22 (#959102) 22" SOFTBOX



XII: AIRLINE TRAVEL GUIDELINES

International Air Transportation Association (IATA) Guidelines:

Based upon the IATA Guidance Document for Transport of Lithium Metal and Lithium Ion Batteries (Revised for the 2011 Regulations v2.0), the “Ion” battery is classified as a Class 9 – Miscellaneous Dangerous Goods – UN 3481 battery (when contained in the system or packed with the system).

Photogenic®ION Pure Sine Wave Inverter Lithium Ion Battery Specifications

Class 9 – Miscellaneous Dangerous Goods – UN 3481

LiCoxNiyMnzO2 rechargeable lithium ion battery

14.8 Volts, 8.8 Amp hours, 130 Watt-hours, total 9.28 grams of metallic lithium.

The **ION** pure sine wave inverter and its contained battery can travel with the user as a carry-on baggage or as checked baggage. The system should be packaged for travel in a manner that prevents unintentional activation. Ensure that the main On/Off switch on the system front panel is powered down and pack the system in a padded bag to prevent it from being bumped and unintentionally turned on.

A spare battery (or batteries) for the **ION** pure sine wave inverter must travel with the user as carry-on baggage. In compliance with the IATA Dangerous Goods regulations, subparagraph 2.3.3.2, spare lithium ion batteries exceeding a watt-hour rating of 100Wh but not exceeding 160Wh may be carried as spare batteries in carry-on baggage. Although the document does not impose a limit on the number of lithium ion batteries that may be carried as spares within a passenger’s carry-on baggage, the IATA emphasizes that the number of spares must be “reasonable” in the context of the equipment used by the passenger and his or her itinerary. Packing instructions 966 state that the maximum number of batteries in each package must be the minimum number required to power the equipment, plus two spares. The IATA recommends that spare batteries be packed in a non-conductive material (such as a plastic bag), packed separately to prevent contact with other batteries, devices or conductive materials.

U.S. Department of Transportation Guidelines:

This battery falls under the category of “Medium Lithium Ion Battery” (USDOT) / “Large Lithium Ion Battery” (IATA) with regards to travel regulations. The U.S. Department of Transportation states that airline passengers are allowed to travel with one lithium ion battery (rated 300 watt-hours or less) installed in a device, plus two spare lithium ion batteries (each rated at 300 watt-hours or less). The battery installed in the device is permitted in both checked baggage and carry-on baggage. The spare batteries, however, are forbidden in checked baggage and must be part of your carry-on baggage. You may wish to carry this document with you for reference when traveling by air with your **Photogenic®ION** pure sine wave inverter. For more information, please visit the U.S. Department of Transportation website (<http://safetravel.dot.gov>) and select “Batteries” section and/or the IATA website (<http://www.iata.org>) and select the “Dangerous Goods” section. Each airline may choose to enforce these regulations differently. Please contact your airline carrier with questions you may have.

NOTES:



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