

OWNER'S MANUAL

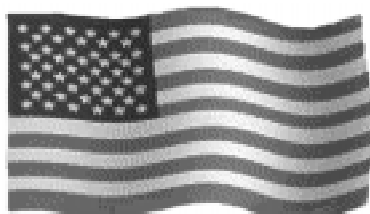
SMART

Devices, Inc.

AC LINE PURIFIER

MODEL GC-120

Preliminary Manual



Proudly made in the USA

<http://www.smart-cinema.com>

IMPORTANT SAFETY INSTRUCTIONS

CAUTION:

- Read all of these instructions.
- Save these instructions for later use.
- Follow all warnings and instructions in this manual and on the product.

- 1 Read all the safety and operating instructions **before** connecting and operating the product.
- 2 Follow all operating and use instructions.
- 3 Remove power from this product before cleaning.
- 4 Use only a slightly damp cloth for cleaning.
- 5 To avoid potential fire and shock hazards, do not use this product near water or damp places.
- 6 The product should only be operated from a power source of the type indicated on the product. Failure to do so could damage the equipment, void the warranty, and present a potentially dangerous situation.
- 7 Do not attempt to service this product yourself. Opening this product will expose you to dangerous voltage or other hazards. **LETHAL VOLTAGES ARE PRESENT INSIDE THIS UNIT.**
- 8 If service is required, only authorized service centers should perform the work using only replacement parts specified by the manufacturer. Unauthorized parts substitutions may result in electric shock, fire or other hazards.
- 9 This product should be placed away from heat-producing sources such as radiators, heat registers, or other products (including other amplifiers) that produce heat.
- 10 It is normal for this product to be warm to the touch in normal operation. It should not be so warm that you cannot comfortably leave your hand on the product for an indefinite period of time.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVERS. THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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Norcross, GA 30071-1337
1-800-45-SMART or 770-449-6698

This product has a serial number located on the back. Please record this serial number for your records.

SERIAL # _____

Thank you for purchasing this SMART product.

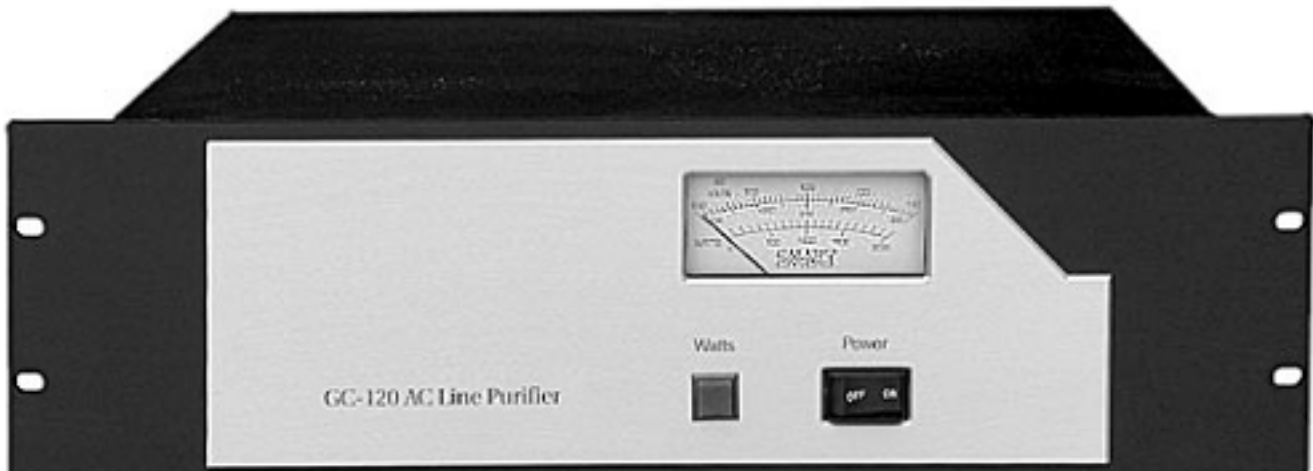
Please take the time to familiarize yourself with this product by carefully reading this manual. Most questions can be answered by reading and following the instructions contained herein. Because of the multitude of products from other manufacturers, this manual cannot possibly cover all the different configurations and hookups. Please consult with your Home Theatre Dealer or stereophile specialist for any unusual situations involving the connection and use of this product with equipment from other manufacturers. When properly connected and operated, this product should deliver outstanding results.

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INTRODUCTION

The SMART GC-120 is a premium quality power line purifier designed to provide clean technical (balanced) power to your high quality audio and video equipment. It can continuously deliver 15 Amperes of current to serve high power systems.



The AC Line Purifier is analogous to a water purifier you attach to your faucet to remove unwanted components from drinking water. The Line Purifier removes "garbage" or spikes that are reflected into your AC mains:

- (1) By other equipment connected to the source line in your home or apartment (or neighbor's equipment on the same power pole transformer).
- (2) RF and EMI interference that thinks the AC line is an antenna.
- (3) Transients from SCR dimmers, triacs, and diodes connected to the line from some household appliances.
- (4) A nearby lighting strike that radiates an electrical charge inductively into your AC line.
Note: a direct lightning hit on the AC line will hopefully damage the Line Purifier and not your expensive audio and video components.
- (5) Back EMF "Kick" from solenoids and relays in washing machines, clothes dryers, air conditioners, etc.

While many consumer "line conditioners" address one or more common AC line problems, the GC series has several sections that specifically treat a variety of symptoms and individually provide a "cure" for the problem. This product was designed for professional use in recording studios and motion picture projection booths to handle the hostile electrical environments commonly found in those critical environments.

- (1) Input "Hash" filter. An effective LCR lowpass filter that attenuates RF signals and other high frequency interference. Both sides of the incoming AC line is filtered. Handles 20 amperes of current. Metal enclosure is completely sealed with bottom cover soldered to box to prohibit any HF signal leakage.
- (2) TranZorb® industrial surge suppressors connected directly to incoming AC.
- (3) Huge custom toroid balancing transformer. Converts the unbalanced Hot and Neutral AC lines to a fully balanced output which greatly improves the performance of external components and reduces line related noise in sensitive high quality audio and video products.

- (4) Hospital grade duplex outlets with isolated ground.
- (5) High current LCR low pass filters to suppress HF clock signals that may radiate from CD, DVD, or DSP processing equipment. Prevents HF noise from backing into the Line Purifier from these components. Any incoming noise would be distributed through the Line Purifier to other components that are connected to the unit.
- (6) Precision meter for monitoring line voltage and current (Watts). The blue front panel switch (momentary) displays the amount of power you are drawing from the AC line.

PRECAUTIONS

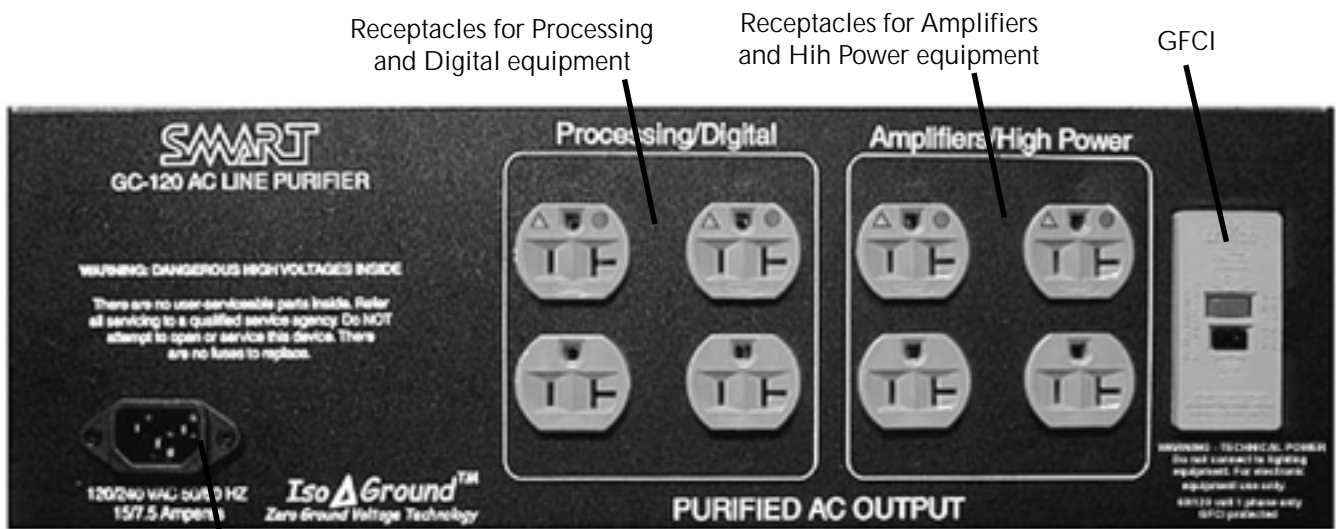
WARNING - TECHNICAL POWER

Do NOT connect lighting equipment to this device.
 Connect ONLY electronic equipment to this device.
 The receptacles on this device are GFCI protected.

Please note that technical (balanced) power means that NEITHER side of the AC receptacles are at ground potential. Each side is at 60 volts above ground and therefore constitutes a shock hazard between each side of the receptacles and ground. This is in contrast to normal power delivery where the neutral side of the receptacle is at ground potential.

This product should only be installed and serviced by qualified personnel and should only be installed in locations whose access is limited to qualified personnel.

A Ground Fault Circuit Interrupter (GFCI) is a device designed to interrupt a circuit and stop current in the event that current is detected between either side of the power circuit and ground. This is to prevent severe electrical shocks which could be harmful or even fatal. ***The GFCI does not prevent shocks resulting from contact between the hot lines.***



IEC Power Input Connector

Rear View of GC-120

CONNECTIONS

Power Input

Connect the power cord IEC plug into the power connector. Make sure it is fully seated. Since this is a detachable power cord, you may substitute a premium power cord of your choice if you desire. If you substitute cords, make sure to use one rated for at least 15 Amperes.

Power Output

Four duplex NEMA 5-20R receptacles are provided for connection to the power cords of your equipment. These are premium Hubbell hospital grade, isolated ground devices. Hospital grade outlets provide extremely good electrical contact and long term retention capabilities.

The receptacles are arranged in groups of two. One group is designated for Processing and Digital equipment. These are for preamps, processors, controllers, CD players, DVD players, and other equipment that may use Digital Signal Processing techniques. These outlets have additional EMI/RFI filtering to keep unwanted noise from getting to these items and to prevent noise from these items from getting back onto the power line.

The other group of outlets is designated for Amplifiers and High Power equipment. Usually amplifiers and video projectors are connected here.

Please note that there are no hard and fast rules regarding what can be connected to any of the four receptacles. Experiment with various combinations if you like to determine what works best in your situation.

OPERATION

POWER SWITCH

The ON/OFF rocker switch is located on the lower right area of the front panel. The front panel POWER switch allows you to power-up or power-down your entire system. This is not a switch at all but a hydraulic/magnetic industrial dual circuit breaker that “fuses” both sides of the AC line. Plastic guards on top and bottom of the device minimizes an accidental turn-off.

On power up, there may be a large current surge as the huge transformer energizes. This is normal, and there is no need for concern.

METER

The front-panel meter normally indicates voltage present on the output receptacles. It is an expanded scale meter that reads from 100 to 140 Volts AC (or 200 to 280 Volts AC in the export model). Each small division on the 100 to 140 Volts scale represents one Volt. It is normal to see variations in the reading as your incoming line voltage fluctuates. These fluctuations may be due to other appliances turning on or off (such as air conditioning), or your audio/video equipment drawing varying amounts of current. As much as 10 Volts of variation are within the normal range, although usually will be not be that great a variance.

FUSES

There are no fuses in this device. Therefore, there is no need to open the cover. Overcurrent protection is provided by a circuit breaker/power switch device. The power switch on the front panel is actually a circuit breaker which will trip in the event of current overload. If the breaker trips repeatedly, there is a short circuit somewhere, either in this product or in equipment connected thereto.

SERVICE

DO NOT REMOVE THE COVER FROM THIS PRODUCT. THERE ARE NO USER SERVICE-ABLE PARTS INSIDE. THERE ARE POTENTIALLY LETHAL HIGH VOLTAGES INSIDE. YOU COULD BE SERIOUSLY INJURED BY ATTEMPTING TO SERVICE THIS PRODUCT. ONLY QUALIFIED AND WELL-TRAINED PERSONNEL SHOULD PERFORM SERVICE ON THIS UNIT. SMART DEVICES, INC. ASSUMES NO LIABILITY IF YOU DO NOT HEED THESE WARNINGS.

Please contact the factory for service.

The phone number is 1-800-45-SMART (1-800-457-6278) or 770-449-6698.

You may also e-mail us at service@smartdev.com

Also you may visit our web site at <http://www.smart-cinema.com>

SPECIFICATIONS

Device Type	AC Power Line Purifier
Inputs	IEC 15 Ampere power connector
Outputs	4 Hubbell IG8300 Hospital Grade Isolated Ground NEMA 5-20R Receptacles
Rated Current Output	15 Amperes continuously from all outlets combined
Metering	Front panel meter reads Voltage and Power (Actually reads current, but is calibrated in Watts at 120 Volts)
Controls	Dual pole magnetic/hydraulic circuit breaker/power switch rated at 20 Amperes Pushbutton switch to momentarily select Power reading on meter
Mounting	19 " rack mount, 5.25" high Comes with 4 rubber feet installed for shelf mounting
Power Requirements	120 VAC 60 Hz - 15 Amperes -OR- 220 - 240 VAC 50 Hz - 7.5 Amperes
Weight and Dimensions	Approximate: 44 lbs. 19" W x 5.25" H x 12" D 20 kg 48.3 cm W x 13.4 cm H x 30.5 cm D

Features and Specifications subject to change without notice. SMART Devices, Inc. assumes no responsibility to incorporate improvements or changes into existing products.

Testing Laboratory Mark

This mark on the back of the product indicates that testing has been performed by ETL SEMKO, a Nationally Recognized Testing Laboratory, according to UL standard 60950 and has been found to be in compliance with all the requirements of the standard for both the United States of America and Canada.



If you wish to learn more about the ETL mark, please go to their web site, <http://www.etlsemko.com/S1OurMarks/sec1Marks/etlul.htm>

LIMITED WARRANTY

SMART warrants this product against malfunction or failure due to defects in workmanship or materials for a period of three years from the date of shipment. If a problem occurs during the warranty period, the unit will be repaired, without charge for materials or labor. This limited warranty does not cover products that have been abused, altered, modified, or operated in other than specified conditions. Returned equipment or defective parts must be shipped freight prepaid to us by the dealer or customer. Our limited warranty does not cover damages resulting from accident, misuse or abuse, lack of responsible care, or failures not attributable to manufacturing defects, except as provided herein. SMART Devices, Inc. makes no warranties, express or implied, including warranties of merchantability or fitness for a particular purpose.