



OWNER'S **Constellation** MANUAL

Preamplifier

NOTE: Before installing your new component, please read this manual carefully as it will inform you of the product specifications, proper installation and correct operating procedures for your unit. Also included in this manual are guidelines on how to service and care for your new Audio Electronics product.

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IMPORTANT SAFETY INSTRUCTIONS

WARNING: The triangle with the lightning flash symbol displayed on the unit advises the user of dangerous un-insulated voltage inside the product's enclosure.

CAUTION: To reduce the risk of electric shock, do not remove the cover. There are no user-serviceable parts inside; it is recommended that only qualified personnel service this component.



ALERT: The triangle with the exclamation point symbol on the component suggests that the owner refer to important operating and maintenance instructions in the owner's manual.

1. **OWNER'S MANUAL:** Before powering up the equipment, read all safety and operating instructions and follow them as instructed. Retain the safety and operating instructions for future reference.
2. **ATTACHMENTS:** Use only those attachments recommended by the unit manufacturer, as others may cause hazards.
3. **ACCESSORIES:** Do not place the unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing injury to a person or damage to the unit. Mount the unit according to the manufacturer's instructions with the suggested mounting accessory.
4. **WALL OR CEILING MOUNTING:** Mount the unit to a wall or ceiling only in the manner recommended by the manufacturer.
5. **WATER AND MOISTURE:** Do not use the unit near water (for example, near a swimming pool, bath tub, wash bowl, kitchen sink, or laundry tub) or in a damp environment (like a basement or outside in the rain).
6. **OBJECT AND LIQUID ENTRY:** Do not push objects of any kind into the unit through openings as they could touch dangerous voltage points and short-out parts, possibly resulting in a fire or electric shock. Avoid spilling liquid of any kind on the unit. If water or any metal object (such as a paper clip, coin, or staple) accidentally falls inside the unit, disconnect it from the AC power source immediately and contact Cary Audio Design for further instructions.
7. **HEAT:** Position the unit away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.
8. **VENTILATION:** Slots and openings in the cabinet create ventilation to protect the component from overheating. These openings on the top and bottom panels must remain unobstructed. Allow at least 6 inches (16cm) of clearance above the unit and an opening behind the unit for airflow. Do not place the unit on a bed, sofa, rug, built-in bookcase, or rack without adequate ventilation.
9. **GROUNDING OR POLARIZATION:** As a safety feature, the unit may be equipped with a polarized alternating current line plug in which one blade is wider than the other. This plug will fit into the power outlet only one way. If you cannot insert the plug fully into the outlet, try reversing the plug. If the plug still will not fit, contact a licensed electrician to update your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
10. **POWER SOURCES:** Operate the unit only from the power source indicated on the marking label. If you are unsure of the type of power supplied to your home, consult your unit dealer or local power company.
11. **POWER CORD PROTECTION:** Arrange power supply cords so that they do not suffer from foot traffic or pinching by items placed on or against them. Pay close attention to cords where plug enter the AC outlet and where they exit from the unit.
12. **LIGHTNING:** For added protection during a lightning storm or when the component is idle for long periods of time, unplug the unit from the wall outlet and disconnect the antenna or cable system. This will help protect the unit from lightning and power line surge damage.
13. **POWER LINES:** Do not locate an outside antenna system in the vicinity of overhead power lines or other electric light or power circuits. When installing an outside antenna system, take extreme care to avoid touching the power lines or circuits; contact with them could be fatal.
14. **OVERLOADING:** Do not overload wall outlets, extension cords, or integral convenience receptacles as this increases the risk of fire or electric shock.
15. **REPLACEMENT PARTS:** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or those having the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock or other hazards.
16. **SAFETY CHECK:** Upon completion of any service or repairs to the unit, ask the service technician to perform safety checks to ensure the unit is in proper operating condition.

IMPORTANT SAFETY INSTRUCTIONS

17. IMPORTANT SAFETY NOTE:

- Before connecting a new product such as the Cinema 12 to your audio or home theater system, turn off all other equipment (preferably unplugging them from the AC power source). Many audio components feature automatic turn-on circuits that may activate during an installation, potentially causing damage to electronic components and/or speakers. This type of damage is not covered by product warranties, and Cary Audio specifically disclaims responsibility for any such damage.
- **Power Cord:** The removable power cord provided with your unit was specifically designed for use with this product, but other AC cords may be used. Consult your dealer for advice on AC power cords and high quality wire in your system.
- **AC Fuse:** The fuse is located inside the chassis and is not user serviceable. If the unit does not power up, contact an authorized service representative
- **Wiring:** Cables running inside walls should have the appropriate markings to indicate compliance and listing by the UL, CSA or other standards required by the UL, CSA, NEC or your local building code. Questions about cables inside of walls should be referred to a qualified custom installer, a licensed electrician, or low-voltage contractor.



18. **RECORDING COPYRIGHT:** Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

19. **NOTE TO CATV SYSTEM INSTALLER:** This reminder is provided to call the CATV system installer's attention to article 820-40 of the NEC, ANSI/NFPA 70, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

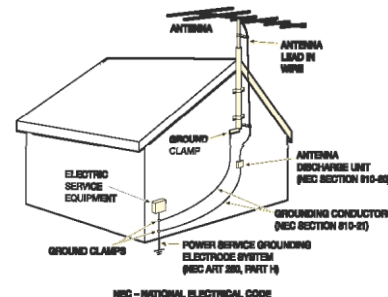
20. FCC INFORMATION FOR USER:

- **CAUTION:** Any changes or modifications not expressly approved by Cary Audio Design could void the user's authority to operate the equipment.
- **NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.
- These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy, and if not installed and used in accordance with the instructions it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from where the receiver is connected.



21. OUTDOOR ANTENNA INSTALLATION/SAFE ANTENNA AND CABLE CONNECTION:

- If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded in order to provide protection against built-up static charges and voltage surges. Article 810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, Part 1 of the Canadian Electrical Code) provides information regarding proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.
- Outside antenna system should be located well away from power lines, electric light or power circuits and where it will never come into contact with these power sources if it should happen to fall. When installing an outside antenna, extreme care should be taken to avoid touching power lines, circuits or other power sources as this could be fatal. Because of the hazards involved, antenna installation should be left to a professional.



WELCOME

THANK YOU

Thank you for purchasing the new Constellation preamplifier from Audio Electronics by Cary Audio!

Cary Audio has a long history of providing the high-end community true audiophile sound quality with its award winning line of tube and solid state amplification and digital products for audio and cinema systems. Through Audio Electronics, Cary Audio's subsidiary originally created in 1993 and now re-launched, a new segment of music lovers is about to be wowed. While Cary Audio has an established reputation with the seasoned audiophile, Audio Electronics is positioned to reach a new generation of music fans with a smaller, sleeker design suited for the modern environment.

By providing a contemporary design and excellent sound quality in lower price-point products, Audio Electronics is promoting the future of the high-performance audio industry while preserving the heritage and integrity of the Cary Audio brand.

Thanks again for your support of our products.

SPECIFICATIONS

The following section describes the Constellation preamplifier's basic specifications. The specifications are subject to change without notice or obligation.

BASIC SPECIFICATIONS

Input Impedance	100K ohms
Gain	20dB
Frequency Response	10Hz to 20KHz
Feedback	Zero
Signal to Noise Ratio	-88dB
Circuit Type	Pure, class-A triode
Tube Complement	2 – 6SN7GT
Output Impedance	560 ohms
Inputs	3 line level
Input and Output Jacks	Gold plated RCA with Teflon® inserts
Input Power Requirements	117V or 220V 50-60Hz
Power Consumption	Operate: 25 watts
Dimensions	13" L X 14.25" W X 7.5" H
Weight	22 lbs.

CONTROLS AND DISPLAYS

The following section describes the Constellation preamplifier's basic features. The features are subject to change without notice or obligation.

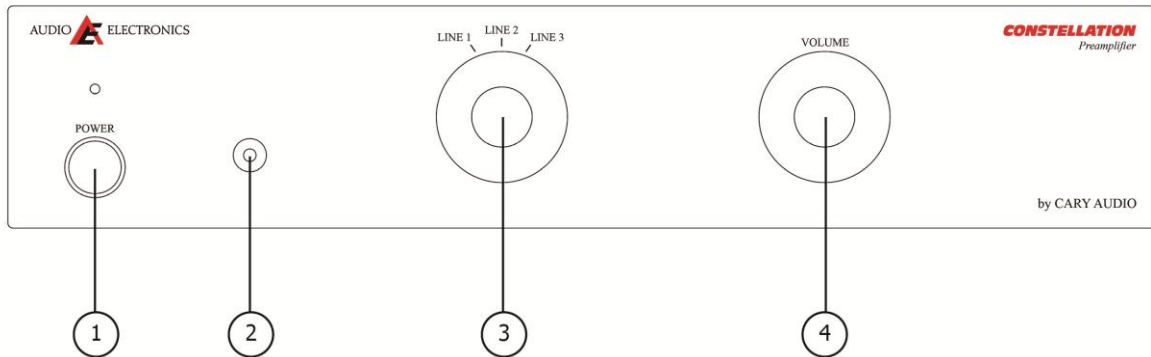
PRODUCT FEATURES

When music is the goal, the new Constellation tube preamplifier is a perfect choice. The Constellation uses the excellent 6SN7 tube running in Class-A triode mode that is coupled to a fully-regulated power and heater supply. The transformer is a custom R-core power device designed to our own specifications. The preamplifier was built using premium parts, and a simple signal path was designed with sonic purity in mind.

The Constellation was developed to offer the absolute best in sound quality without adding all the bells and whistles. Whether enjoyed in an existing system or coupled with the new Hercules power amplifier, the Constellation will be a source of years of musical enjoyment for you without breaking the bank.

CONTROLS AND DISPLAYS

FRONT PANEL



1. POWER

- Press once to turn the power ON. The power indicator will blink for twenty (20) seconds and then stay on, at which point the unit is ready to operate.
- Press again to turn the power OFF.

2. IR EYE

- Receives infra-red signals from the included remote control

3. INPUTS

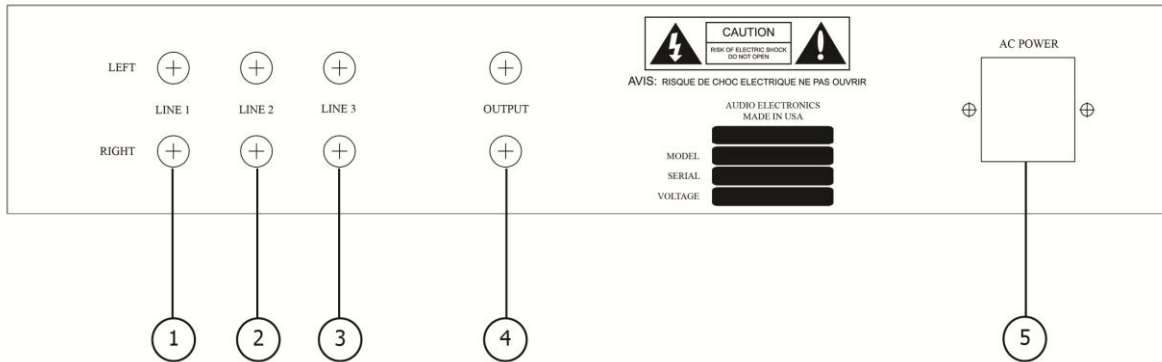
- Line 1
- Line 2
- Line 3

4. VOLUME KNOB

- Use this knob to adjust the overall volume level.

CONTROLS AND DISPLAYS

REAR PANEL



1. LINE 1 INPUT

- Line level source input 1

2. LINE 2 INPUT

- Line level source input 2

3. LINE 3 INPUT

- Line level source input 3

4. LINE OUTPUT

- Line level output for connecting to an amplifier's inputs

5. AC POWER

- AC Fuse (1 amp, Slow-Blow)
- Attach the correct power cord for country of use. This should be supplied with the unit.

INSTALLATION

UNPACKING

This section describes the proper unpacking and installation procedures for your new component.

Unpacking

All Audio Electronics shipping cartons have been specially designed to protect their contents and special care has been taken to prevent damage under normal shipping conditions. Mishandling should be evident upon inspection of the shipping container. If shipping damage is found after visual inspection, take care not to destroy the evidence. If necessary, document the damage with photographs and contact the transport carrier immediately.

Carefully remove your new component from its packing carton and examine it closely for signs of shipping damage. We strongly recommend saving all original packing cartons to protect your component from damage should you wish to store it or ship it at a later date.

Using gloves or a soft cloth to keep oils from your hands getting on the tubes' glass, unbox and insert the included tubes into the proper sockets on the top of the preamplifier.

In the Box

When unpacking your Constellation preamplifier, make sure the following accessories are included. You should find the following items within the box:

- Power Cable
- Individual Tube Boxes (2)
- Remote Control
- Owner's Manual
- Warranty Card

WARRANTY CARD

IN THE USA: If you are the original purchaser of a new unit purchased directly from Audio Electronics or an authorized Audio Electronics dealer, please fill out the enclosed warranty registration card and return it to Audio Electronics within 15 days of your purchase. Audio Electronics also suggests that you keep your original packing cartons in case you ever need to ship the unit. Warranty restrictions apply. Consult the warranty section at the end of this manual for details. Please be certain to keep a copy of the original sales receipt from your direct purchase from Audio Electronics or your authorized Audio Electronics dealer to validate the warranty if ever needed. The warranty is for the original purchaser only and does not transfer to any subsequent owner.

OUTSIDE THE USA: Your local Authorized Audio Electronics Distributor will make his own warranty policy for your country. Please check with them for the terms of warranty for your new amplifier.

INSTALLATION

PLACEMENT

In general, the location of your new Constellation preamplifier is not critical. Certain precautions must be taken to ensure optimum performance. Avoid extremely hot locations such as near radiator or other heating units. Keep the top of the Constellation clear of books, paper or other equipment to protect against overheating.

OPERATION

Operating this component is a simple procedure. Each unit is designed for long term stability in virtually any home operating situation. However, if the unit is operated outside the parameters outlined in this owner's manual, damage may result. Please read this manual carefully before putting your new component into operation.

Your new Constellation preamplifier is ready for operation after all the interconnect cables have been installed. The Constellation is provided with functional, useful front panel controls with a logical layout. The main AC power switch, listening level and input selector are conveniently located in the front.

CAUTION:

- Be sure that all connections between the amplifier, preamplifier, speakers, and any source components are connected correctly before attaching the power cord and powering on the unit.

TURN ON SEQUENCE

Make sure the volume is turned all the way down and turn on Constellation preamplifier, wait for power LED to stop blinking after twenty (20) seconds. Turn on any program sources, such as CD players, DAC's, etc. Then, turn on the power amplifier. Wait for amplifier to switch to operation mode (until power LED stops blinking after 20 seconds, if applicable). Play program sources, making sure the appropriate input is selected on the preamplifier, and gradually turn up the volume control to a suitable and enjoyable level.

TURN OFF SEQUENCE

Make sure the volume on the Constellation preamplifier is turned all the way down. Turn off the power amplifier and wait for a few seconds. Then, turn off the preamplifier and connected sources.

POWER SWITCH

The power button is located on the left front of the unit. Simply press in the power button to turn on the preamplifier. Upon pressing the power button you will notice the red LED power indicator blinks for twenty (20) seconds indicating standby. When the LED stops blinking and remains on, the preamplifier is ready for use.

SELECTOR SWITCH

The 3-position rotary switch connects your choice of input program source, both channels simultaneously. All program sources are selected by this switch.

VOLUME CONTROL

The gain of both left and right channels is controlled simultaneously by this control. The high quality potentiometer ensures that the tracking error is less than 0.5dB from 0 to -60dB. The program source remains in balance over the entire range.

POWER REQUIREMENTS

The Constellation preamplifier is designed to operate from standard house current mains. The voltage is 117V or 220V 50-60Hz.

OPERATION

CABLES

The interconnect cables from the output jacks of the Constellation preamplifier to the input jacks on the power amplifier(s), and from the source units to the Constellation preamplifier, can be any convenient length your set-up requires. The choice of a high quality interconnect cable is important. Most audio dealers will have proper audio cables in stock for this purpose.

SERVICE AND CARE

CARE AND CLEANING

The cabinet housing and front panel of the Constellation may be cleaned with a soft cloth and Windex or a window cleaner. The frequency of cleaning will be governed by how many hours the Constellation is operated and by operating environment cleanliness.

CAUTION:

- Do not let any liquids spill into the vents on top of the unit.

TUBE REPLACEMENT

If it becomes necessary to replace the tubes in the Constellation preamplifier the same brand should be used. A new tube kit is available from Audio Electronics by Cary Audio. Although tube life varies depending on the nature and degree of use, under normal operating condition for home use, the tubes in the Constellation should last several years and may last much longer.

FACTORY SERVICE

Careful consideration has been given to the design of your Constellation preamplifier to keep maintenance problems to a minimum. Any problems or requests for service should be referred to our Customer Service Department at 919-355-0010. **DO NOT** return the Constellation to the factory without a Return Merchandise Authorization (RMA) number from the Customer Service Department.

Audio Electronics will assume no responsibility if the shipping company refuses to pay for damage due to your improper packing or lack of insurance should the unit be lost or damaged in shipment. Please retain and always use the original shipping carton for shipping the player. Also, Audio Electronics reserves the right to return products sent in for service in a new box set at the customer's expense if the original packing material was damaged in the initial shipment, or if it is deemed unsatisfactory to use in return shipping.

NON-WARRANTY REPAIRS

Audio Electronics will provide repair service for its products charging on a time and expense basis. At this time, the standard non-warranty service bench fee is \$125, with all parts used for repair charged extra. This may change and is not a quote for service. Please call us at 919-355-0010 for more information about out-of-warranty service and repair fees.

CAUTION:

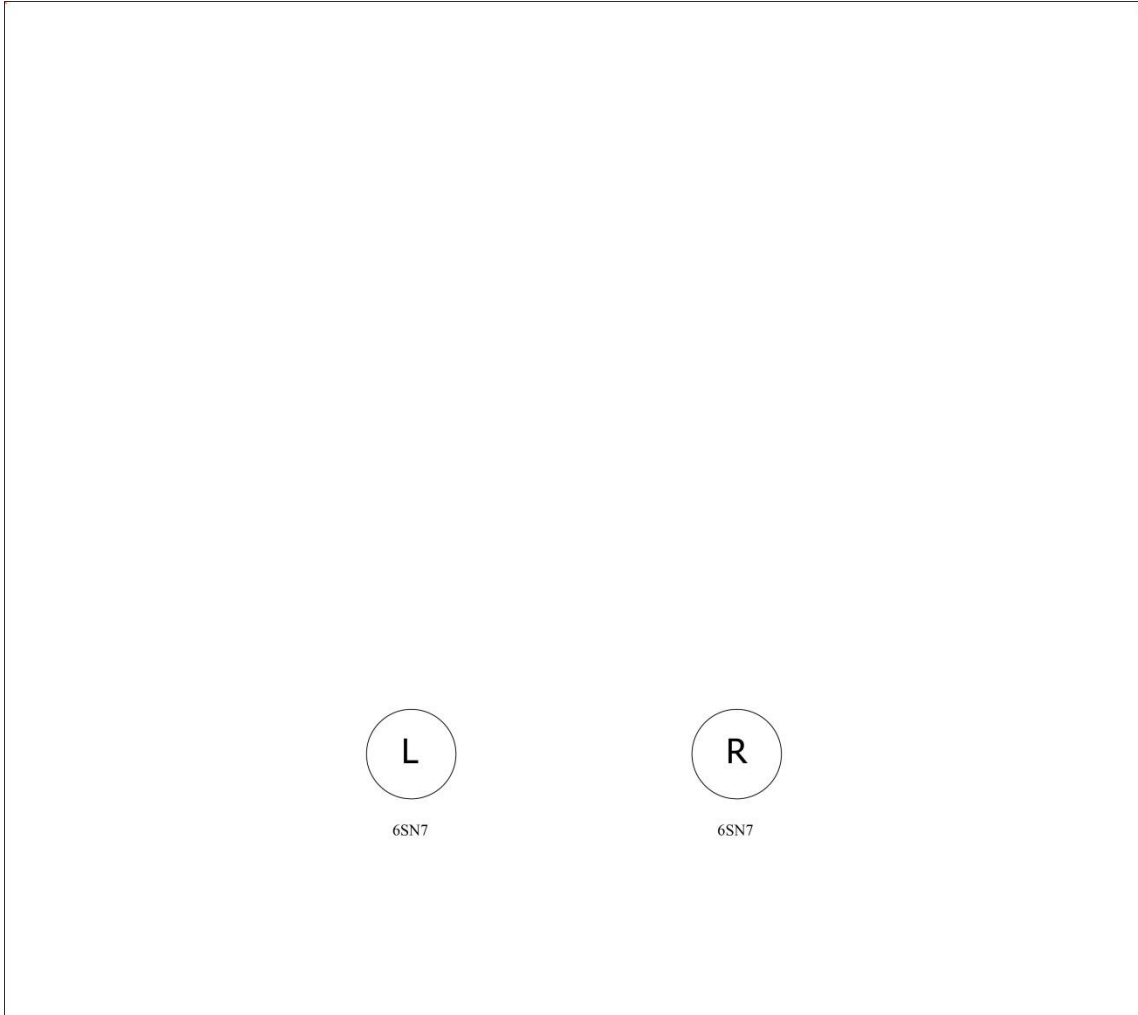
- Never remove or insert the back panel AC plug when the unit is on or the AC cord is plugged into the wall.

TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	REMEDY
Hum or "Buzzing" through speakers	Ground Loop Intermittent or poor connection of interconnect ground	Install 2-pin adapter on AC cord to float the Ground Replace interconnect
"Popping or Spitting" noise	Noisy tube	If noise is in one channel through the speaker, swap one section of tubes at a time until the noise swaps channels. Replace noisy tube.
AC fuse blows	Line voltage surge 6SN7 shorted	With the power turned off, replace the AC fuse in the holder under the power cord receptacle. Only replace it with a fuse of the exact same value (1 amp, Slow-Blow) With the power turned off, replace the 6SN7

DIAGRAMS

TUBE PLACEMENT CHART



Every individually boxed tube (2) is labeled to match the above diagram. Insert each tube in the correct position.

- 6SN7 (2)

CAUTION:

- Make sure the unit is powered off before inserting the tubes.

LIMITED WARRANTY

Audio Electronics Warrants to the Original Purchaser for the Following Audio Electronics Products for the Periods Indicated:

1. Power Amplifiers, Integrated Amplifiers, Preamplifiers, and Digital to Analog Convertors (DAC) have a one (1) year parts and labor warranty from the date of the original purchase from Audio Electronics.
2. Vacuum tubes, if any are used in the component, are offered a 90-day exchange policy against defects with the exception of the CAVT 300B vacuum tube that has a one (1) year exchange policy from the date of the original purchase from Audio Electronics.

What is Covered and What is Not Covered

Except as specified below, this warranty covers parts and labor to correct all defects in materials and workmanship. The following are not covered by the warranty:

1. Damage, deterioration, malfunction or failure to meet performance specifications resulting from:
 - a. Accident, acts of nature, misuse, abuse, neglect or unauthorized product modifications
 - b. Improper installation, removal or maintenance, or failure to follow instructions supplied with the product.
 - c. Repair or attempted repair by anyone not authorized by Audio Electronics to repair the product.
 - d. Any shipment of the product (claims must be presented to the carrier).
 - e. Any cause other than a product defect.
2. Cleaning, initial set-up, check-ups with no defects found, or charges incurred for installation, removal or reinstallation of the product.
3. Any product, on which the serial number has been defaced, modified or removed.
4. Batteries.
5. Accessories, including but not limited to, batteries, cables, mounting hardware and brackets, cleaning accessories, antenna and detachable power cords.
6. Warranty is void if purchase was made from anyone other than an authorized Audio Electronics dealer.

Who May Enforce the Warranty?

This warranty extends to products purchased directly from Audio Electronics or an authorized Audio Electronics dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

To obtain such warranty service, the original purchaser must complete and send in the Warranty Registration Card within 15 days of purchase.

LIMITED WARRANTY

What Will We Pay For?

We will pay for all labor and material expenses for items covered by the warranty. Payment of shipping charges is discussed in the next section of this warranty.

How Can You Get Service?

In the event that the owner needs to return the unit to Audio Electronics for service or repair of a possible defect, he must follow the following steps:

1. Contact Audio Electronics at 919-355-0010 to obtain a Return Merchandise Authorization (RMA) number prior to shipping; include this number with the package
2. Submit a copy of the original sales receipt; blank receipts will not validate the limited warranty for service by Audio Electronics. The original sales receipt must contain the following information:
 - a. The authorized Audio Electronics dealer's name
 - b. The date of purchase
 - c. The unit's sales price
 - d. The buyer's name and address
 - e. Describe in detail the problem.
 - f. Note the unit's model number and serial number.
3. Deliver by either of these methods:
 - a. With all freight and insurance charges prepaid and in its original packing container or equivalent, ship the component to Audio Electronics, 1020 Goodworth Drive Apex, NC 27539.
 - b. Hand-deliver the product to Audio Electronics (address noted above) or the nearest authorized service facility.

Limitation of Implied Warranties

All implied warranties, including warranties of merchantability and fitness for particular purchase, are limited in duration to the length of this warranty.

Exclusion of Damages

Audio Electronics liability for any defective product is limited to repair or replacement of the product at Audio Electronics option. Audio Electronics shall not be liable for damage to other products caused by any defects in Audio Electronics products, damages based upon inconvenience or loss of use of the product, or any other damages, whether incidental, consequential, or otherwise.

LIMITED WARRANTY

How State Law Relates to the Warranty

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

International Purchasers (Export Markets)

Audio Electronics warrants its merchandise to purchasers within the United States exclusively for use within the United States. It provides no other warranties, expressed or implied. If you are living outside of the United States, please consult your local dealer or distributor to determine the details of your local warranty.

AUDIO ELECTRONICS

1020 Goodworth Drive, Apex, NC 27539

phone 919-355-0010

fax 919-355-0013

www.aebycary.com