



# PH 302

Vacuum Tube Phono Preamplifier

## Owner's Manual

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

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## INTRODUCTION

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It took over three years of painstaking research, engineering, listening, and refining, before Cary was ready to release the PH 302. But now that it's here, even the most demanding record enthusiasts will realize this exotic unit is dedicated to nothing short of incomparable vinyl playback.

The PH 302 is a vacuum tube design utilizing four 6SL7 dual triodes. The RIAA equalization curve is derived from a passive RC circuit located between the two gain stages. The PH 302 is supplied with a regulated power supply to ensure an extremely quiet operation. The MC section uses two very high quality step-up transformers. They provide enough gain for use with any MC cartridge and with an extremely low noise floor. It is perfectly matched to any of the high-end Cary integrated amplifiers or pre-amplifiers.

The PH 302 is finished with the beauty and detail that Cary Audio Design is famous for. With its black chassis and black anodized front plate, you know immediately it belongs in the Cary family of high-end audio products.

For the analog lover the PH 302 is a magical blend of art and technology that will add to your music listening enjoyment hour after hour. Experience the PH 302, experience what vacuum tubes can do to low output moving coil playback. We believe it will change the way you listen to music forever.

When the following cautionary terms are used in this manual, these definitions apply:

**WARNING**

Electrical hazard! Misuse or failure to follow instructions properly may result in personal injury or death!

**CAUTION**

No risk or personal injury; however, misuse or failure to follow instructions may result in damage to equipment.

**NOTE**

No risk of personal injury or equipment damage; however, misuse or failure to follow instructions may prevent proper performance of the equipment.

# SPECIFICATIONS

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This section describes the basic specifications of the PH 302 phono preamplifier at the time of printing. Specifications are subject to change without notice or obligation.

Circuit Type	Direct Coupled, Single-ended Class A
Gain, MM Phono Section	38 dB, using triode vacuum tubes
Gain, MC Phono Section	54 dB, using input transformers and triode vacuum tubes
Noise and Hum	-78 dB below full output
Input Impedance	MM 47 k ohm, MC 100 ohm
Output Impedance	660 ohms
Frequency Response	RIAA Curve + 0.5 dB, passive RIAA circuit design
Power Supply Design	Fully regulated power supply with 1 ea - R-Core transformer
Transformer(s)	200% Duty rating for long life and reserve energy
Vacuum Tube Complement	2 ea - 6SL7 Head Amp 2 ea - 6SL7 RIAA EQ & Amp Gain Stage 1 ea - 5AR4 Vacuum Tube Rectifier
Power Supply Capacitors	6 ea - 47 $\mu$ Fd @ 350 VDC capacitor
Resistors	1% Metal Film
Power Supply Capacitors	6 ea - 47 $\mu$ Fd @ 350 VDC capacitors
AC Cord	3 Conductor, Detachable
AC Power Requirements	100, 117 or 234 Volts @ 50/60 Hz, set by market
Consumption	15 Watts
Warm-Up Time	5 Minutes
Break-In Time	100 hours of music playing time
Finish	Black or silver anodized aluminum faceplate, semi gloss black steel chassis
Weight	22 lbs. (10 kg.)
Dimensions	4" H x 17" W x 13" D (~10 x 43 x 33 cm)

# FEATURES

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## Front Panel

POWER SWITCH	On/off toggle switch
MM/MC SWITCH	Toggle to change from mm to mc
MUTE/OPERATE SWITCH	Mutes output of preamplifier
POWER LED	Indicates AC power ON
OPERATE LED	Indicates ready for operation
MUTE LED	Indicates mute mode

## Rear Apron Features

MM	RCA jack for MM cartridges - input
MC	RCA jack for MC cartridges - input
OUTPUT	RCA Jack for output to preamplifier or integrated amplifier
GROUND	Turntable ground
GROUND "FLOAT" SWITCH	Floats AC ground
AC FUSE	1 amp slow blow protection fuse
AC INLET	3 conductor, Detachable

# INSTALLATION

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

## Unpacking

All Cary Audio Design shipping containers 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 for after-sales service.

## Warranty Card

**IN THE USA:** If you are the original purchaser of a new unit from an AUTHORIZED CARY AUDIO DESIGN DEALER, please fill out the enclosed warranty registration card and return it to Cary Audio Design within 15 days of your purchase. Cary Audio Design also suggests that you keep your original packing cartons in case you ever need to ship the unit when moving to a new home. 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 AUTHORIZED CARY AUDIO DESIGN 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 Cary Audio Design Distributor will make his own warranty policy for your country. Please check with them for the terms of warranty for your new amplifier.

## Break-In Period

The tubes and capacitors take approximately 100 hours of music playing to fully settle in for peak performance. The PH 302 will seem sterile or thin sounding right out of the box. After the first couple of hours you will notice increased depth and tighter bass. This break-in period defies all engineering theory, but is true with most audio amplifiers.

### **WARNING!**

**Make sure the PH 302 is unplugged from power pack before servicing.**

## SERVICE AND CARE

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The chassis may be cleaned with a soft towel and Windex® (or a similar window cleaner). Spray it on the cleaning cloth to moisten it, not on the component. Do not use solvents or harsh chemicals as they may remove the labels from the chassis. The frequency and need of cleaning will be governed by operating environmental conditions. Avoid letting the component become dusty or wet. A 'feather duster' type cleaner will also work well for cleaning the component.

### Factory Service

Careful consideration has been given to the design of this product to keep maintenance problems to a minimum. If problems arise, refer to the trouble-shooting guide at the end of this manual. If the problem is not easily solved, we suggest that you contact our Customer Service Department by phone at (919) 355-0010, 1–5 pm Eastern Standard Time, to describe your problem in detail. Do not return the component to the factory without a Return Authorization Number (**RA**) from the Customer Service Department.

Cary Audio Design assumes no responsibility if the transportation company refuses to pay a damage claim due to your improper packing or lack of insurance should the unit be lost in shipment. We strongly suggest using the original packing cartons for shipping any Cary Audio Design component.

### Non-Warranty Repairs

Cary Audio Design 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 with time 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.

#### **WARNING**

**Make no attempt to put the PH 302 in service outside of the cabinet or with the cabinet open!  
Contact with the high voltages found inside the unit can be fatal!**

## UNITED STATES LIMITED WARRANTY

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Cary Audio Design warrants to the original United States purchaser for use in the United States, that Cary Audio Design vacuum tube or solid state power amplifiers, surround sound processors or preamplifiers shall be free from defects in parts or workmanship for three (3) years from the date of the original purchase. Vacuum tubes, if any are used in the component, are offered a 90 day from purchase date exchange policy against defects with the exception of the CAVT 300B vacuum tube which has a (1) one year from purchase date exchange policy. Any digital drive design, whether a Cary Audio Design CD or SACD player or a Cary Cinema DVD player, has a limited one year parts and labor warranty against defects in manufacture. This is a limited warrant, for the original purchaser only and does not transfer to any subsequent owner.

During the limited warranty period, Cary Audio Design or an authorized Cary Audio Design service facility will provide free of charge both parts and labor necessary to correct any defects in material or workmanship.

To obtain such warranty service, the original purchaser must:

1. Complete and send in the warranty Registration Card within 15 days of purchase.
2. If claiming service the owner must send a fully filled in copy of the original sales receipt along with any unit sent in for service showing the AUTHORIZED CARY AUDIO DESIGN DEALER'S name, the new selling price, the buyer's name, e-mail or phone number and address on the receipt. Blank receipts will NOT validate the limited warranty for service.
3. Notify Cary Audio Design as soon as possible after the discovery of a possible defect and submit the following information to determine eligibility for warranty:
  - (a) The model number and serial number;
  - (b) A fully filled in copy of the original sales receipt showing the original selling price, purchasers name and address filled in by an AUTHORIZED CARY AUDIO DESIGN DEALER with the original date of purchase shown on the form;
  - (c) a detailed description of the problem.
4. Deliver the product to Cary Audio Design or the nearest authorized service facility or ship with all freight and insurance charges prepaid, in its original packing container or equivalent, to Cary Audio.

Correct maintenance, repair and use are important to obtain performance from this product. Therefore, please carefully read the Operating Manual. This warranty does not apply to any defect that Cary Audio Design in its sole discretion determines is due to:

1. Improper maintenance or repair, including the installation of parts or accessories that do not conform to the quality and the specifications of the original parts.
2. Misuse, abuse, neglect or improper installation.
3. Accidental or incidental damage.

### WARRANTY DISCLAIMER

Except for the express warranties stated herein, Cary Audio Design disclaims all other warranties including, without limitation, all implied warranties of merchantability and fitness for a particular purpose. The



foregoing constitutes Cary Audio Design's entire obligation with respect to this product, and the original purchaser and any user or owner shall have no other claim for incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives legal rights and you may also have other rights, which vary from state to state.

**EXCLUSIVE REMEDY**

Notwithstanding the foregoing, the purchaser's exclusive remedy for any breach of warranty, express or implied, is limited to the repair or replacement of the defective unit or the refund of the purchase price, at the option of Cary Audio Design. Under no circumstances is Cary Audio Design liable for incidental or consequential damages. Any implied warranties imposed by law terminate one (1) year from the date of purchase.

**INTERNATIONAL PURCHASERS (Export markets)**

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

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