



CAD-308 SA

Hybrid Stereo Power Amplifier

Operation and Installation Manual

NOTE: Please read this manual carefully before installing your new amplifier into your stereo system. It contains important set up and installation information as well as safety warnings regarding high AC voltage inside the chassis.

Dear Audiophile Friend:

I would like to thank you for buying a CAD-308 SA hybrid power amplifier. You will find many desirable features on your new power amplifier. These include high quality RCA input connectors, excellent quality speaker terminals, dual output level meters, a 200% duty cycle power transformer, a fully regulated three stage power supply for high voltage stages, filament voltage for the tubes and for the solid state output devices.

The best feature of the CAD-308 SA is its spacious and powerful sonic presentation. The 12AU7 triode tubes (5814 Joint Army Navy [JAN] military surplus vacuum tubes may be substituted.) we have used in the driver stage are considered to be some of the very finest sounding dual triode tubes. Please read the instruction manual so that you are familiar with the operation of your new CAD-308 SA hybrid power amplifier.

Thank you again for your interest in and continued support of Cary Audio Design.

Dennis J. Had
President

Specifications: CAD 308 SA Hybrid Power Amplifier

Dimensions:	17 _" W x 4 _" H x 14 _" D (~ 44.4 cm x 11.4 cm x 36.8 cm)
Weight:	18.75 lb. (8.52 kg)
Circuit:	Class A Triode vacuum tube driver stage, Class AB solid state output stage
Frequency Response:	8 Hz - 150 kHz + 0, - 3 dB
THD/IMD @ rated output:	0.02% @ 50 watts per channel, 8 ohm load
Input Impedance:	100,000 ohms resistive (100 K Ω)
Gain:	20 dB
Signal/Noise Level:	> 95 dB
Resistors:	1 % precision metal film
Capacitors:	Precision film and foil capacitors
Power Transformer:	200% continuous commercial duty cycle, 225 VA rating
Tubes:	2- 12AU7 dual triodes, 5814 Joint Army Navy (JAN) surplus tubes may be substituted
Power Supply:	Three stage, full wave rectification, center-tapped, pi-network with filter choke, fully regulated
AC Power Requirements:	100 – 130 volts AC / 50-60 Hz at 240 watts 200 – 245 volts AC / 50-60 Hz at 240 watts
Internal Wiring:	EE Teflon dielectric Silver wire
Warm-up Time:	5 minutes (1 minute auto mute)
Input Jacks:	Gold plated with Teflon dielectric inserts
Speaker Binding posts:	High quality gold plated 5 way binding posts
Duty Cycle:	Continuous duty 24 hours per day.

Specifications are subject to change or improvement without notice or obligation.

Front Panel Features

Power Switch: 2 position rocker switch off/on controls the AC line voltage

On LED: Indicates internal power supply is power up

Operate LED: Each channel, Indication of time delay release (approximately 1 minute)

Dual Output Level Meters: These high quality meters are designed to show power output levels from the power amplifier.

Rear Panel Features

AC Connector: Inlet for the detachable AC power cord, standard IEC plug

RCA Input Connections: Gold plated brass with Teflon dielectric insulation

AC Fuse: **!!VERY IMPORTANT!!** ONLY USE 3 AMP Slow Blow FUSE

Remote Trigger: Female 2 circuit jack, 12 VDC @ 400 ma rating (*Optional feature*)

WARNING!

MAKE NO ATTEMPT TO PUT THE AMPLIFIER IN SERVICE WITH THE COVER OFF. CONTACT WITH THE AC VOLTAGE INSIDE THE CHASSIS CAN BE FATAL !

Shipping and Packing

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

Carefully remove your new amplifier from its packing carton and examine it closely for signs of shipping damage. It is recommended to save all original packing cartons to protect your hybrid power amplifier should you wish to store it or ship it for after-sales service.

Warranty Card

If you are the original USA purchaser of this hybrid power amplifier and purchased it for use within the United States, you should fill out the enclosed warranty registration card and return it to Cary Audio Design, within 15 days of your purchase or register online at www.caryaudio.com. Warranty restrictions and applications may apply. Consult the warranty section of this manual.

Warranty Outside the USA

Consult your local Cary Audio Distributor for your local terms of warranty.

CAD-308 SA Placement

The power amplifier is designed for use inside of homes. It must be protected from the elements and temperature extremes. For example, avoid placing the unit in extremely hot locations such as near or on top of radiators or other home heating devices. Its location among the user's home audio components is not critical. Avoid moisture, dust and locations with high vibration. Keep the amplifier vents free from obstruction and allow at least 6 inches (15 cm) open space above the amplifier for proper ventilation. Do not install in a sealed cabinet without ventilation as the amp will overheat. Rack mounting or similar installs are possible if the cabinet is well ventilated or has forced air cooling with a fan.

Power Requirements

The CAD-308 SA is designed to operate from AC house current mains. The design voltage is 120 Volts AC at 50/60 Hz. Export units have settings for 100/200/220/240 Volts AC at 50/60 Hz.

Interconnect Cables

The RCA interconnect cables to the input jacks on the power amplifier can be any convenient length your set up requires. The choice of a high quality shielded interconnect cable is important in most installations. Your *Authorized Cary Audio Design Dealer* will have proper interconnect cables in stock for this purpose. The low output impedance of the CAD-308 SA solid state output stage will allow it to will run long speaker wire runs without a problem. Choose 14 gauge wire as a minimum wire size and consider 12 gauge wire or larger for longer runs over 25 feet long. We believe different types of speaker wires make a difference in the sound of the system and suggest discussing them with your dealer. *Please be certain that no speaker wire strands bridge the gap between the speaker output terminals when wiring the speakers.* This will cause the amplifier to shut off if it happens.

Operation

Your new CAD-308 SA hybrid power amplifier is ready for operation after the various interconnect cables and speaker wires have been installed and the unit is plugged into the household AC mains 120 Volt AC wall socket.

Power Rocker Switch

The power rocker switch is located at the left side on the CAD-308 SA hybrid power amplifier front panel. The switch operates in the following manner:

OFF (Down position) Removes all AC voltages from the CAD-308 SA power supply.

ON (Up position) Turns the AC voltage to the power transformer primary on. We recommend that the AC power switch be left in the ON position at all times. The CAD-308 SA sounds better after an initial 100 hour burn in period and when warmed up for _ hour in daily use.

Operate LED's: These blue LED's light up after the CAD-308 SA is fully warmed up and ready to operate. The delay time is about one minute.

Output Level Meters

The dual front panel output level meters show the relative output level in watts. These are average level meters and will respond to 'longer time constant' signals. We have chosen to have average level meters since these more nearly reflect the long term power levels that are driving your speakers.

WARNING!

MAKE NO ATTEMPT TO PUT THE AMPLIFIER INTO SERVICE WITH THE TOP OFF OR THE CABINET OPEN. NEVER OPERATE THE CAD-308 SA WITH THE TOP COVER REMOVED. CONTACT WITH THE OPERATING VOLTAGES PRESENT INSIDE CAN BE FATAL!

Factory Service

If it becomes necessary to replace any parts, the same brand and part number and style should be used. New parts are available from Cary Audio Design, Inc. 1020 Goodworth Drive, Apex, North Carolina, 27539.

Careful consideration has been given to the design of your new hybrid power amplifier to keep maintenance problems to a minimum; however, it is possible that some problems may arise. If this occurs, we suggest contacting our Customer Service Department at phone number 919-355-0010 from 1 to 5 PM, East Coast time to describe your problem in detail. Do not return the CAD-308 SA to the factory without a Return Authorization Number (RMA number) from the Customer Service Department. As the packing and shipping is being done by others, Cary Audio Design will assume no responsibility if the transportation company refuses to pay a damage claim due to your improperly packing or for lack of insurance should the unit be lost or damaged in shipment from you to us.

Technical Support

If you ever should need it, Technical Support for Cary Audio Design components is available from 1 to 5 PM Monday through Friday at 919-355-0010. We value your opinions and suggestions as well! Thanks again for buying a Cary Audio Design component for your home stereo!

Replacing the Input Driver Tubes

If you ever need to change an input driver tube (or you wish to try other brands for sound quality reasons) unplug the amplifier before opening the cabinet. We suggest that you change both of the 12AU7 or 5814 tubes at the same time to keep them matched for total hours of use. Any current production or new old stock (NOS) 12AU7, 5814 or equivalent tubes will work very well in the CAD 308 SA hybrid power amplifier. We *choose to operate tubes in the 'sweet spot' of their operating characteristics*, not near their operational limits. As a result, the input tubes should last for years in this design.

WARNING!

Please do not touch any of the internal parts other than the vacuum tubes as there are potentially lethal high voltages stored in the power supply section.

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