CONNECTING POWER/CIRCUIT SIZE REQUIREMENTS

Damage caused by connecting the amplifier to improper AC voltage is not covered by any warranty. Note: Always turn off and disconnect the amplifier from main voltage before making audio connections, and as an extra precaution, have the volume controls turned down during power-up.

COOLING REQUIREMENTS

The power amplifiers use a convection cooling system to maintain an even operating temperature. Air enters through the vents on each side and the bottom of the amplifier chassis and exits through the sides and top of the chassis. Make sure that there is enough space around the sides of the amp to allow the heated air to exit. If the amp is rack-mounted, do not use doors unless you have forced air cooling. Note: Whatever type of rack you are using, make sure that the heated air can escape freely, and that there is no resistance to the intake of cool air through the chassis.

SPECIFICATIONS

- **8Ω Stereo Power (1KHz):** 360W
- **4Ω Stereo Power (1KHz):** 540W
- **8Ω Bridge Power (1KHz):** 760W
- **Slew rate (at 1KHz):** 28V/us
- **Input Sensitivity (1KHz):** 0.775V (0dBU)
- **Total Harmonic Distortion (1KHz):** <0.1%
- **Intermodulation distortion (at 10% rated power 1KHz):** <0.1%
- **Crosstalk:** -70dB
- **Frequency Response:** 20Hz-20kHz +/-0.5dB
- **Frequency Response:** 20Hz-20kHz +/-0.5dB
- **Input Impedance:** (Balanced) 20KΩ (Unbalanced) 10kΩ
- **Damping Factor(100Hz, 8Ω):** 250
- **Signal to Noise Ratio (A Weighted):** >103dB
- **Amplifier:** Class AB
- **Dimensions:** 483Wx133Hx487D (19"x5.25"x18")
- **Weight:** 22.2kg (49lb)

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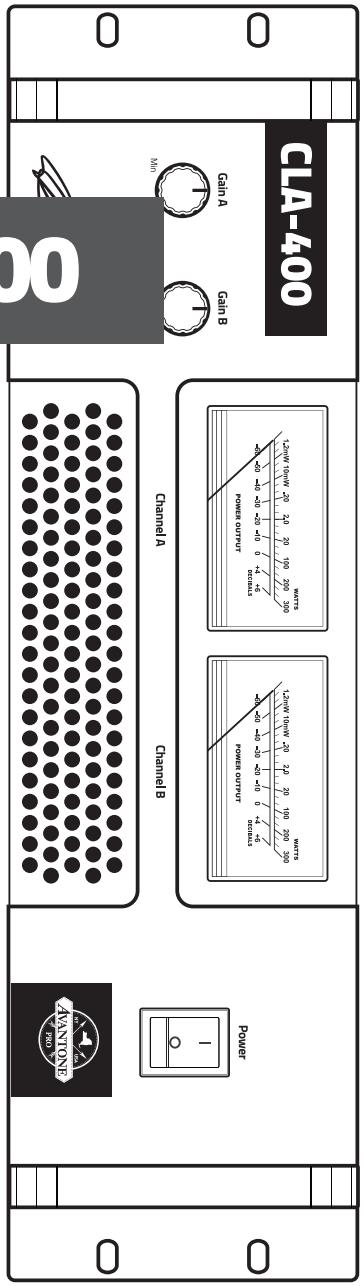
CLA-400



IMPORTANT SAFETY INSTRUCTIONS

Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerable in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a period of time. The U.S. Government's Occupational Safety and Health Administration (OSHA) have specified the permissible noise level exposures shown in the following chart.

According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels use hearing protectors while the equipment is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating the equipment in order to prevent permanent hearing loss if exposure is in excess of the limits set forth here.

Duration, per day in hours	Sound Level dBA, slow response	Typical example
8	90	Duo in small club
6	92	
4	95	Subway train
3	97	
2	100	Very loud classical music
1.5	102	
1	105	That couple screaming at each other
0.5	110	
<0.25	115	Loudest parts at a rock concert

The CLA-400 complies with all applicable / RoHS / WEEE European Union directives. This product complies with IEC62386.

Do not attempt to service this unit yourself, as it will void your warranty. Please check your unit carefully upon receipt and return to place of purchase immediately if there are any problems with the product. After that, the standard AVANTONE 5 YEAR warranty will apply to defects in materials and workmanship.

U.S.A.

Should your Avantone product require service, please contact the Avantone PRO Service Department. +1 845 642 3697-or- e-mail info@avantonepro.com. **You must obtain an RA # (Return Authorization number) from us before shipping a unit back to us. This RA # must be clearly written on the outside of the box.**

Please safely pack the units...It is best to use the original packing materials. AVANTONE PRO cannot be responsible for any damages incurred in shipping to us due to poor packaging. PLEASE PACK CAREFULLY and FULLY INSURE THE SHIPMENT.

INTERNATIONAL

For service or warranty assistance, please contact the AVANTONE PRO distributor in your country through the dealer from whom you purchased this product.

LIMITED 5 YEAR WARRANTY

AVANTONE CLA-400s are warranted by Avantone Pro to be free from defects in materials and workmanship for the period of 5 YEARS to the original purchaser. In the event of such defects, the Avantone Pro product will be repaired without charge or, at our option, replaced with a new one if delivered to Avantone Pro prepaid, together with a copy of the sales slip or other proof of purchase date. The warranty excludes problems due to normal wear, abuse, shipping damage or failure to use the product in accordance with the specifications.

All speaker systems are vulnerable to damage from sustained amplifier clipping. This can be described as a distortion of the signal caused by the amplifier running out of headroom. Heat will then be generated in the voice coil of the driver beyond the heat handling capabilities of wire and glue. At some point the voice coil will burn, causing the speaker to sound very distorted; eventually the driver will stop working.

All parts and labor are covered under this Limited Warranty. However, if it is determined by AVANTONE PRO that the voice coil was burned due to sustained amplifier clipping, we reserve the right to charge the customer for the cost of the repair, since this is considered abuse.

Avantone Pro shall not be liable for damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation or commercial loss or any other damages, whether incidental, consequential, or otherwise. This warranty gives you specific legal rights, and you may have other rights, which will vary from state to state.

This warranty is not transferable.

INTRODUCTION

The Avantone Pro CLA Studio Reference Amplifier is a classically designed Class A/B amplifier. We took particular care to create an amplifier in the traditional studio style, with generous VU meters, high quality Japanese components and a serious toroidal transformer linear power supply. In a standard 3U rack mount chassis, this amplifier can generate over 360 watts per channel into an 8 ohm load, making it perfect for large speakers in a studio environment. The CLA-400 is convection cooled – no fan noise, so it can be used in the same room as the monitors.

The CLA-400 Studio Reference Amplifier is designed to be used in a studio environment requiring high power output with no fan noise. Under testing, it delivers a powerful 360 watts into 8 ohms and can run at one third power without thermal fault.

The CLA-400 was designed to be paired with large format studio monitors, but it can be used with just about any demanding speaker load. Very low distortion, steady performance under harsh conditions, and an open and transparent sound make this an obvious choice for discerning studios.

QUICK START GUIDE

- *Select the operating voltage. If you are changing voltages, please be sure to change fuse values as specified on the rear panel*
- *Select operating mode: either two independent channels or mono bridged mode.*
- *Place volume controls to minimum*
- *Connect audio input, speaker cables and power cord with power switch in OFF position*
- *Plug power into AC source*
- *Turn on all upstream equipment, run outputs at minimum*
- *Turn on power switch*
- *Adjust volume to appropriate level at source and speaker*

CONNECTING YOUR CLA-400

Before plugging in and powering up your CLA-400 please take a moment to be certain that the proper AC MAINS operating voltage setting has been selected on the rear panel.

INSTALLATION AND MOUNTING

The CLA-400 is a 3U amplifier that can be can mounted in a standard 19-inch rack. Four front panel mounting holes are provided.

THERMAL PROTECTION

If the heat sink temperature reaches an abnormally high temperature, the amplifier will protect itself by disconnecting loudspeakers and shutting down until sufficiently cooled.

SHORT CIRCUIT

If an output is shorted (i, e.. defective speakers or crossed speaker wires) the ZSP and thermal protection circuits will automatically protect the amplifier. The ZSP circuit senses the short circuit as an extremely stressful load condition and attenuates the signal, protecting the channel's output transistors from over current stress. If the short circuit remains, the load will be disconnected by the thermal protection circuit.

DC VOLTAGE PROTECTION

If an amplifier channel detects DC voltage at its output terminals, the output relay will immediately open to prevent loudspeaker damage.

REAR PANEL CONNECTIONS

1. BALANCED INPUT: The XLR and phone plug inputs accept a BALANCED male XLR plug as well as a 3-conductor BALANCED TRS ¼" or a 2 conductor UNBALANCED TS ¼" male plug. For unbalanced operation with a TS connector the minus signal is automatically grounded. A pass-through connection is provided for convenience when running multiple amplifiers on the same signal chain.

2. VOLTAGE SELECT and AC MAINS INPUT: There is a switch on the rear panel for selecting the proper AC/MAINS operating voltage for your location. Please be sure to use the correct specified fuse value for your location. Fuse tray is incorporated into the IEC320 receptacle on the rear panel.

3. GROUND LIFT Switch: By engaging this switch the pin 1 shield is lifted at the input jack and routed through two opposing diodes. This can be used to aid in ground loop control of the incoming analog line signal. The diode signal path still provides a safety ground in the event of very high voltage ground loops. The earth ground from the AC input is always connected. If the ground lift switch doesn't help, it may be necessary to evaluate your power/ground scheme to eliminate noise issues.

4. SPEAKER OUTPUTS: Both SPEAKON™ and binding posts are provided. In mono/bridge operation mode, the two positive terminals are driven anti-phase. DO NOT GROUND any of the speaker terminals in bridge mode.

5. MODE SWITCH: DO NOT ADJUST THIS SWITCH WITH POWER ON. This switch allows the user to operate the amplifier in three modes:

STEREO: *both channels driven separately*

PARALLEL: *the input is sent to both outputs; volume controls are still enabled for each channel*

BRIDGED MONO: *both channels operate together as a single amplifier. Channel A is the input, and Channel A output is in phase, channel B output is out of phase.*