Sonogy™

"The delicacy of tubes.
The authority of transistors."

Cantata ™ Power Amplifier Owner's Manual
Operation, installation, and **safety** information
serial nos. 92101-92299

117VAC - 50/60 Hz models

Thank you!

Thank you for purchasing your Cantata power amplifier. This manual will help you enjoy your amplifier for many years to come. If you have any questions about operation or maintenance of your Cantata, please contact your dealer.

Product Description

Sonogy audio designs is committed to designing electronics that offer the harmonic richness that distinguishes live music from reproduced music. Often associated with the best in tube amplifiers, the Cantata combines natural, rich harmonics with the traditional virtues of solid-state circuitry. In particular, the Cantata can deliver high current, deep bass, exceptional reliability, and still run relatively cool.

Like other truly fine amplifiers, your Cantata is designed with *real world* performance in mind rather than incomplete and artificial specifications. As a result, the Cantata is very powerful (despite its modest 100 watt/ch rating), and drives even difficult loudspeaker loads with ease. Output is 28 volts r.m.s. per channel, and the generous power supplies provide sufficient drive current to deliver this full rating into most speaker loads. Into 4 ohm loads, for example, your Cantata delivers 200 watts per channel. *Caution should be exercised driving unusual loads which fall below 2 ohms.*

The Cantata can be used either as a stereo amplifier or in pairs as 300W balanced monoblocks. No modifications are necessary to use a Cantata as a balanced monoblock; you need only have two Cantatas and a balanced preamp output to drive each. If your preamplifier does not offer balanced outputs, Sonogy offers the Duette balancing module which creates balanced outputs from unbalanced ones.

Set-Up and Electrical Connections

Your Cantata should be located on a solid platform, or on the floor, where it receives good ventilation and is away from flammable items, such as curtains or paper.

Connections are required for speakers, preamp input(s), and for 117VAC power. These are clearly marked on the rear panel of your Cantata, and further information is provided in figures 1, 2 & 3 in this manual. All signal connections should be made with the amplifier off, to prevent possible speaker damage. If the amplifier is left on while preamp connections are made, it could amplify the resulting transient and damage or destroy your speakers.

5-way binding posts are provided for speaker connections. These will accept bare wires, standard banana plugs, or spade lugs. A good **clean** connection is important for consistently good sound. Clean any connectors used, and insure that all connections are tight. Do not allow the "hot" and ground connections to short together. If spade lugs are used, you may wish to *lightly* tighten the binding posts with a socket or nut driver; be sure not to crack the plastic binding post. If you are interested in maintaining absolute phase, your Cantata does not invert phase. Please note that connections are made differently for stereo and mono operation.

Left and right unbalanced inputs are provided via RCA type jacks. In addition, a single XLR jack is provided for a mono balanced input signal. Balanced operation requires two amplifiers for stereo.

Finally, a single EIA modular power jack and line cord are provided. You may choose to experiment with specialty power cords supplied by cable manufacturers. The power cord provided is suitable for all applications.

Dual-Mono Balanced Operation

Two standard Cantatas may be operated, without modification, as balanced monoblocks to obtain two monophonic amplifiers of 300 watts/8 ohms each. Each monophonic balanced Cantata (one per channel) must be driven by a preamplifier with balanced outputs, or by our Duette™ Balancing Module. If you connect your Cantata as a balanced monoblock, be sure to connect the speaker across the two red ("hot") binding posts. Ground is not used to carry signal in a balanced configuration. Your authorized Sonogy dealer can explain fully how to connect a balanced preamplifier to a pair of Cantata monoblocks.

Balanced operation offers many sonic and technical advantages. Most obviously, this guarantees the power to reproduce high volume and explosive dynamics with a greater sense of realism. Many subtle advantages are offered as well. True dual mono operation enhances the three dimensional stereo image. Furthermore, balanced operation has technical advantages, derived from distributing the speaker's load evenly within the amplifier, which result in better fidelity, depth of image, smoothness, and realism, even at lower levels which might not appear to need the awesome power of two 300 watt monoblock amplifiers.

Warm-Up

Contrary to popular belief, even solid-state (transistorized) equipment benefits from a warm-up period. While your Cantata will operate properly and safely as soon as it is turned on, most listeners find that the sound improves substantially during 20-30 minutes of use, and continues to improve over the next hours of continual operation.

Standby Mode

The class-A circuit cards are not switched on and off. Once your Cantata is plugged in, these circuits continuously operate in standby mode. The Cantata will not perform optimally until these circuits have warmed up for at least 24 hours with the Cantata plugged into a live AC outlet.

First Turn-On

When the Canttata is first plugged in (or subsequently plugged in after moving), always be sure that the power switch is off, and wait 2 minutes for the bias circuits to stabilize. This will avoid an unusual turn-on surge.

Ventilation and Heat

Your Cantata is expected to run warm, but not hot. Since the Cantata relies on convection cooling, it is important to allow space around the amplifier and particularly important not to obstruct the cooling fins. Do not stack a preamplifier or any other equipment directly above the Cantata. Leave at least 2 inches of space on all sides, as well as a dissipation path for warm air. If possible, raise the amplifier off any rugs by 1-3" to improve airflow and cooling. *Never operate the Cantata in such a way that its heat-sinks become hot to the touch.*

On/Off Switch & Soft Start Circuitry

The On/Off switch controls only the high-current output stages. The circuit cards are in standby mode whenever your Cantata is plugged in.

Soft start circuitry turns on the high current output stage slowly, in order to minimize the inrush to charge nearly 100,000 uF of energy storage. After 1 second, this soft start circuitry is completely by-passed by a high quality relay. None of this circuitry is in the audio path.

Output Current Capability:

The Cantata is a very high current design, capable of driving low impedance and reactive loads while maintaining sonic purity. Each channel's output stage can deliver peak current of 30 amperes (<100mS), and the power supply is capable of delivering a total of 600W continuously. This translates to over 10A per channel at rated voltage output.

D.C. Offset Compensation Circuitry

Your Cantata is equipped with circuitry which monitors the presence of DC voltage at the output, and through a servo arrangement constantly adjusts amplifier operation for zero DC at the speaker terminals. If you notice any unusual operation, or measure more than 100mV of DC at the outputs, turn your Cantata off immediately and contact your dealer for service.

Power Requirements

The Cantata must be plugged into a 110/120 volt (AC) outlet. While on, the amplifier may be expected to draw 100 watts at all times, and up to 700 watts momentarily. The amplifier should be plugged directly into a wall outlet rated for at least 10A, or into a heavy-duty extension cord. If you have an unusual requirement, contact your dealer or a qualified electrician.

Fuses

The high power output stage power supplies and lower power circuit card power supplies are fused independently. The output stage is fused with a 3A slo-blo type fuse (located on the back panel). The circuit cards are fused with a 1/4 A slo-blo type fuse inside the amplifier. *Always unplug the amplifier before attempting to replace a fuse! Never replace a fuse with one of higher value as serious damage could occur in the case of failure!!* No fuses are in the direct audio path.

Maintenance

Your Cantata requires no regular electrical maintenance, and in any event service should be performed by Sonogy, Ltd. The finish of your Cantata is brushed and anodized aluminum. The surface may be cleaned with a damp cloth or non-abrasive general purpose cleaner and a soft cloth. *Never clean the amplifier while it is operating, or even when it is plugged in*. Water could seriously damage circuits inside! Electrical shock could also result!

Limited Warranty

For warranty information, please see your dealer or refer to the enclosed warranty form.

Repairs

All repairs must be performed by Sonogy, Ltd or an authorized service provider. Service or modifications performed by any other person or establishment will void your warranty.

Thank You!

Thank you again for your confidence in Sonogy, Ltd. If you have any suggestions that might improve our products or our service, or if we may assist you in any way, please do not hesitate to call or write us at the address below. Happy listening from the entire staff!

Technical Specifications:

Voltage Output:	28.0 Volts
	56.0 Volts mono
Current Capability:	30A peak (<100mSec)
	10A continuous
Stereo Power	100 W/ch (8Ω)
	200 W/ch (4Ω)
Monoblock Power	300 watts (8Ω)
	>500 watts (4Ω)
Active Devices:	Bipolar Transistors
S/N Ratio:	>90 dB "A"
Input impedance:	100k-Ω unbalanced
	200k-Ω balanced
Output Z:	< .5Ω
Sensitivity:	1.5 V (100 W / 28V)
	60 mV (1 watt)
Gain:	26dB
Phase Inversion:	no
Shipping Weight:	39 lbs./ 17 Kg
Dimensions:	7.25" x 11.3" x19"
Feedback:	0 dB (no feedback loops)
Power Consump.:	100W typ. 600W max.
SMPTE I.M.:	<.05%
DC Offset:	<10mV
Freq Response:	10Hz-30kHz +/- <1dB
Class of Operation:	
Gain stage	Pure class "A"
Output stage	high bias class "A/B"
AC Coupled:	Yes
Internal Fuse:	1/4A slow-blow/250VAC
External Fuse:	3A slow-blow/250VAC

Figure #1: Cantata Back Panel Connections:
Stereo Configuration:

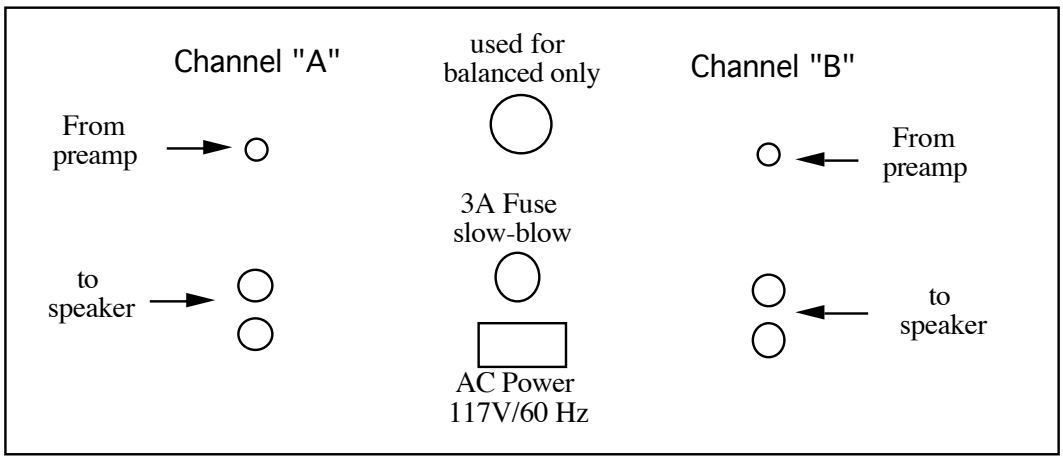


Figure #2: Cantata Back Panel Connections:
Balanced Mono Configuration via XLR Jack:

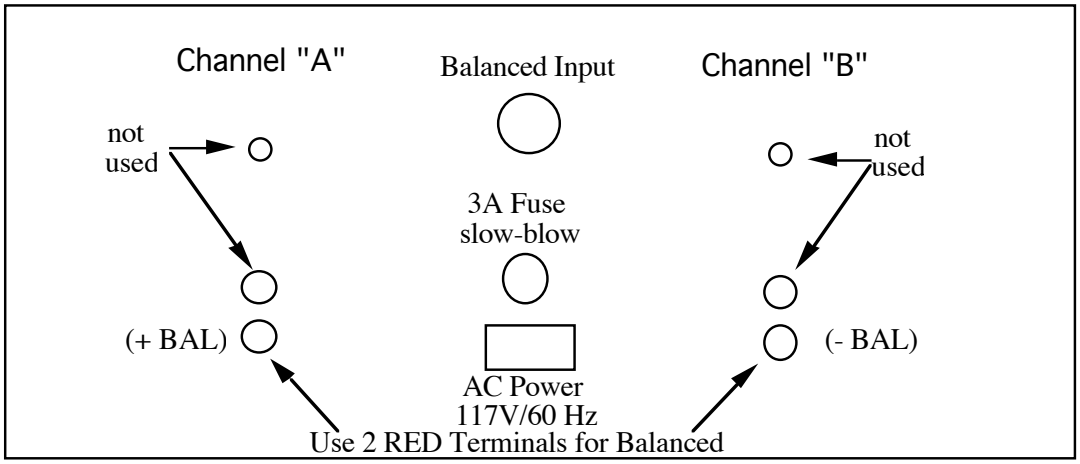
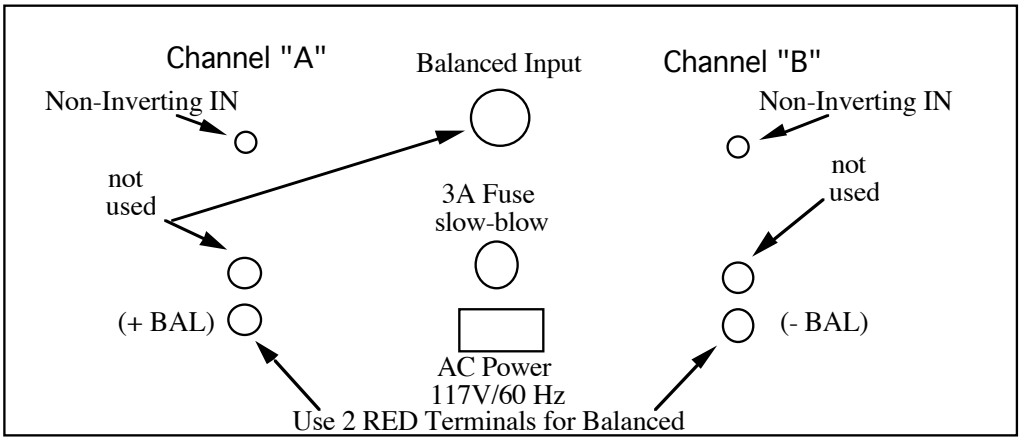


Figure #3: Cantata Back Panel Connections:
Balanced Mono Configuration via Inverting and Non-Inverting RCA Jacks (Duette):



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