

INSTRUCTION MANUAL

SONANCE CINEMA SERIES

SUB 10-250D & 12-500D Amplifiers



Important Safety Information

IMPORTANT: READ ALL OF THESE INSTRUCTIONS BEFORE YOU INSTALL OR OPERATE YOUR SUB 10-250D or SUB 12-500D amplifiers, AND SAVE THESE INSTRUCTIONS FOR LATER USE.

1. Read Instructions — All these safety and operating instructions should be read before you operate the unit.
2. Retain Instructions — These safety and operating instructions should be retained for future reference.
3. Heed Warnings — All warnings on the unit and in the operating instructions should be adhered to.
4. Follow Instructions — All operating and use instructions should be followed.
5. Water and Moisture — The unit should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.

6. Carts and Stands — The unit should be used only with a cart or stand that is recommended by the manufacturer. A unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.



7. CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THE AMPLIFIER'S POLARIZED PLUG WITH AN EXTENSION CORD, RECEPTACLE, OR OTHER OUTLETS UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

8. Ventilation — The unit should be situated so that its location or position does not interfere with its proper ventilation. For example, the unit should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or be placed in a built-in installation, such as a bookcase or cabinet, that may impede the flow of air through the ventilation openings.

9. Heat — The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including other audio components) that produce heat.

10. Power Sources — The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.

11. Grounding or Polarization — Precautions should be taken so that the grounding or polarization means of the unit is not defeated.

12. Power Cord Protection — Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the controller.

13. Cleaning — The unit should be cleaned only as recommended by the manufacturer.

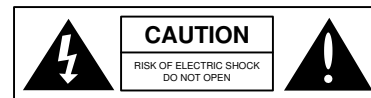
14. Non-Use Periods — The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.

15. Object and Liquid Entry — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

16. Damage Requiring Service — The unit should be serviced by qualified service personnel when:

- The power-supply cord or the plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit does not appear to operate normally or exhibits a marked change in performance.
- The unit has been dropped or the enclosure damaged.

17. Servicing — The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. THE APPLIANCE SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING. NO OBJECTS FILLED WITH LIQUIDS SHALL BE PLACED ON THE APPLIANCE.

SONANCE CINEMA SUBWOOFER AMPLIFIERS

Introduction

Thank you for purchasing the Sonance Cinema SUB 10-250D or SUB 12-500D power amplifier. These digital amplifiers will provide you with many years of home entertainment enjoyment. This manual will teach you all about your new amplifier's many innovative features and will show you how to get the very best performance from your amplifier. Please read it thoroughly.

To achieve the best performance, Sonance recommends that this amplifier be installed by a Sonance Authorized Dealer/Installer.

Box Contents

Your Cinema SUB 10-250D and SUB 12-500D box should contain the following items:

- (1) Sonamp SUB 10-250D or SUB 12-500D amplifier
- (1) IEC Power cable (120V Version Only)

Optional Accessories

90603 Rack ears - 1 left and 1 right

Unpacking

Save the shipping carton and polystyrene inserts so you can safely transport your amplifier in the future. Before you install the amplifier, locate the serial number on the rear panel and note it here for future reference:

S/N: _____

Placement

IMPORTANT: TO AVOID DAMAGE, THE AMPLIFIER MUST ALWAYS REST ON ITS FOUR FEET TO ALLOW SUFFICIENT CLEARANCE FOR PROPER VENTILATION THROUGH THE VENTS ON THE CHASSIS BOTTOM.

Place the SUB 10-250D or SUB 12-500D amplifier on a level surface, in an upright position, out of direct sunlight and away from windows through which rain or moisture may enter.

Situate the amplifier away from heat sources such as hot air ducts or radiators. Be sure that the amplifier is adequately ventilated by convection cooling or suitable cabinet fans.

Unpacking

The Cinema SUB 10-250D and SUB 12-500D amplifiers feature a removable IEC power cord. (A power cord is included with the 120V version of the amplifier.) Plug the female end of the power cord into the Power Cord Connector on the amplifier's rear panel (see Page 3), and plug the male end into a 20-amp grounded wall outlet. **DO NOT** plug the power cord into an AC outlet on your preamplifier/receiver.

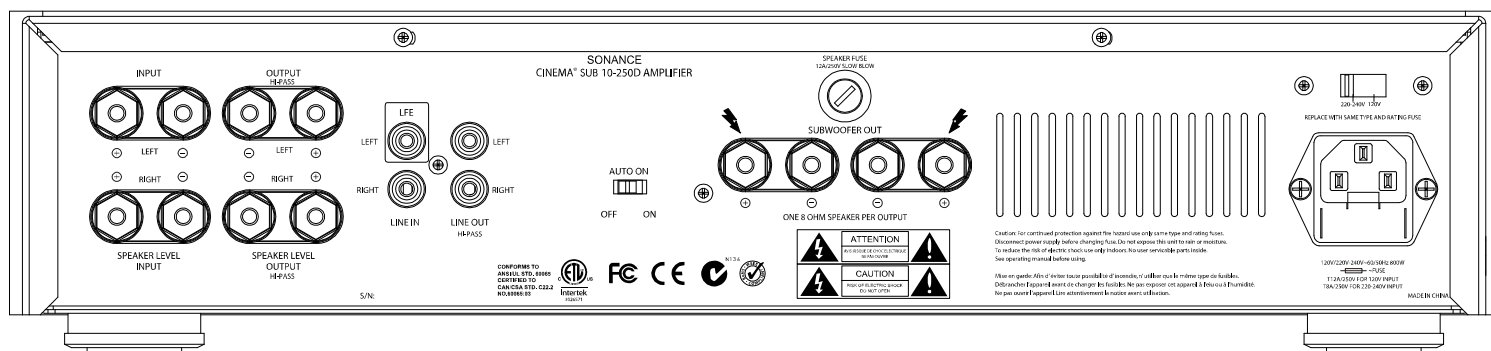
IMPORTANT: THE SUB 10-250D AND SUB 12-500D AMPLIFIERS REQUIRE FOUR INCHES OF CLEARANCE ON THE TOP AND ALL SIDES.

- Never place any object on or against the amplifier.
- Never operate the amplifier on a carpeted surface as this will compromise ventilation.
- When the amplifier is installed in any cabinet, the front or back must be open during operation. Alternately, install fans in the cabinet to ensure continuous ventilation.
- When rack-mounting, use nylon washers on both sides of the ears to isolate the amplifier from the rack and prevent ground loops and hum problems.
- Very sensitive low-level sources might pick up some hum radiated from the SUB 10-250D or SUB 12-500D power supply. If this occurs, move the unit away from the other components.

IMPORTANT: THE SUB 10-250D AND SUB 12-500D AMPLIFIERS CAN PRODUCE UP TO 60 VOLTS ON THE SPEAKER TERMINALS!

- Never touch the subwoofer output terminals when the amplifier is operating.
- Always disconnect the power cord when making any changes to the subwoofer output connections.

SONANCE CINEMA SUBWOOFER AMPLIFIERS



Rear Panel Connections and Controls

Power Cord Connection

The SUB 10-250D and SUB 12-500D feature removable IEC power connectors. (A power cord is included only with the 120V version of the amplifier.) Plug the female end of the power cord into the Power Cord Connector on the amplifier rear panel and plug the male end into a grounded wall socket. **DO NOT** plug the amplifier's power cord into a convenience outlet on any other audio or video component.

If you need to use an extension cord, use only a heavy duty (14-GAUGE OR LARGER) extension cord to avoid starving the amplifier of the current necessary for full operation.

CAUTION: DO NOT PLUG THE POWER CORD INTO THE WALL OUTLET UNTIL ALL SYSTEM CONNECTIONS HAVE BEEN MADE AND VERIFIED.

A.C. Fuse Holder

To replace the fuse, unplug the power cord from the Power Cord Connector and use a screwdriver to remove the fuse holder.

SUB 10-250D 120V - 8 amp AC
SUB 10-250D 230V - 6.3 amp AC

SUB 12-500D 120V - 12 amp AC
SUB 12-500D 230V - 8 amp AC

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE THE FUSE WITH ONLY THE SAME TYPE AND RATING.

Auto On Switch

When this switch is in the ON position the SUB 10-250D and SUB 12-500D will automatically turn ON when it senses a signal on either the line level or speaker level inputs. The amplifier will remain on for approximately 15 minutes after the signal has ceased. If you want to manually turn the amplifier ON and OFF, set the AUTO ON switch to the OFF position. This allows the amplifier to be switched ON and OFF by the front-panel POWER button.

Speaker Fuse

To replace the fuse, unplug the power cord from the Power Cord Connector and use a screwdriver to remove the fuse holder.

SUB 10-250D 10 amp slow blow
SUB 12-500D 12 amp slow blow

CAUTION: FOR CONTINUED PROTECTION OF THE WOOFER DRIVER, REPLACE THE FUSE WITH ONLY THE SAME TYPE AND RATING.

CAUTION: BEFORE CONNECTING THE AUDIO SIGNAL TO THE AMPLIFIER DETERMINE IF YOU WILL BE USING THE LINE LEVEL OR SPEAKER LEVEL INPUTS.

USE EITHER THE LINE OR SPEAKER LEVEL INPUTS, DO NOT USE BOTH AT THE SAME TIME. DAMAGE WILL OCCUR TO THE AMPLIFIER.

Line Inputs and Outputs

The SUB 10-250D and SUB 12-500D amplifiers have LINE INPUTS and hi-pass filtered LINE OUTPUTS. Use these connections if your receiver or preamp has a line-level subwoofer output.

If the receiver's subwoofer output is mono use the input marked LFE. If your system has a separate preamp and power amplifier you can use the LINE INPUT and LINE OUTPUT jacks to connect the amplifier between the preamp and power amp.

NOTE: THE LINE OUTPUT JACKS ARE HIGH PASS FILTERED AT 150Hz, 6dB PER OCTAVE.

Speaker Level Inputs and Outputs

CAUTION: DO NOT CONNECT THE SPEAKER LEVEL INPUTS TO A RECEIVER OR AMPLIFIER WITH A BRIDGED OUTPUT. BEFORE USING THE SPEAKER LEVEL INPUTS, CHECK YOUR RECEIVER'S OR AMPLIFIER'S DOCUMENTATION.

If your system's electronics do not have preamp outputs or a subwoofer output you can connect its left and right speaker outputs to the SPEAKER LEVEL Inputs.

Connect the SPEAKER LEVEL Outputs to your left and right main speakers. Always make sure to connect the "+" terminals to the electronics' and speakers' "+" terminals, and its "-" terminals to the electronics' and speakers' "-" terminals.

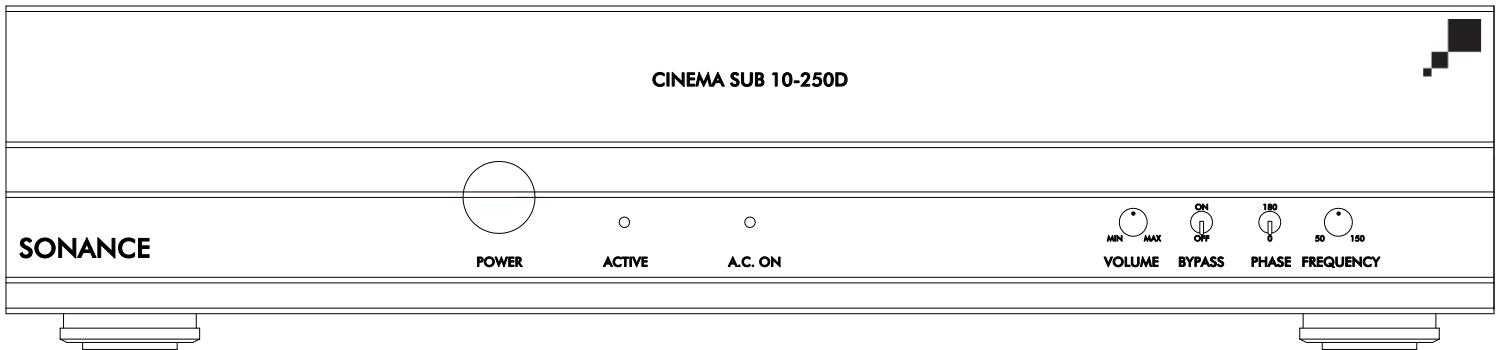
NOTE: THE SPEAKER LEVEL OUTPUT JACKS ARE HI-PASS FILTERED AT 150HZ, 6dB PER OCTAVE.

Subwoofer Out

The subwoofer output terminals are connected in parallel. Only connect one subwoofer driver to each pair of terminals. Connecting more than one subwoofer driver to each terminal will result in damage to the amplifier.

Always make sure to connect the "+" terminal to the amplifier to the "+" terminal on the speaker, and the "-" terminal on the amplifier to the "-" terminal on the speaker.

SONANCE CINEMA SUBWOOFER AMPLIFIERS



Front Panel Controls

Power Switch

The power switch turns the Cinema SUB 10-250D and SUB 12-500D amplifiers on and off. The auto on switch on the back of the amplifier will affect the operation of the power switch, see the description of the auto on/off control on page 3.

Active Light - Green

The active light illuminates when the amplifier is producing sound.

Active Light – Red Flashing

When the active light is illuminated red and flashing this indicates the amplifier is in protect mode.

Protect mode could be caused by a short in the wire leading to the subwoofer, overheating of the amplifier or possibly an internal problem with the amplifier.

NOTE: WHEN THE FLASHING ACTIVE LIGHT IS OBSERVED TURN THE AMPLIFIER OFF IMMEDIATELY. DETERMINE THE CAUSE OF THE PROBLEM BEFORE TURNING THE AMPLIFIER ON.

A.C. ON Light - Red

The power light indicates that the amplifier has electrical power connected to it. This light will illuminate when the amplifier is on. When the Power Switch is off the light will extinguish.

Volume Control

The volume control adjusts the output level of the Cinema Subwoofer.

NOTE: THE LEVEL CONTROL DOES NOT FUNCTION WHEN THE BYPASS SWITCH IS IN THE ON POSITION.

Frequency Control

Use this control to adjust the frequency you would like the subwoofer to extend up to. If you are using the subwoofer in a surround system and the receiver or processor has a built in crossover you should set the set Bypass switch to the ON position.

NOTE: THE FREQUENCY CONTROL DOES NOT FUNCTION WHEN THE BYPASS SWITCH IS IN THE ON POSITION.

Bypass Switch

The BYPASS switch bypasses the FREQUENCY and LEVEL controls. If you have connected the amplifier to a surround receiver or processor with a built-in subwoofer crossover, set the BYPASS switch to the ON position. The subwoofer crossover and volume functions will be handled by the surround receiver or processor. Refer to your surround receiver or processor documentation for information about adjusting the subwoofers volume.

In a two channel distributed audio system using either the Line Level or Speaker Level inputs on the subwoofer amplifier, set the BYPASS switch to the OFF position. The FREQUENCY and VOLUME controls will function.

Phase Switch

When the SUB 10-250D and SUB 12-500D PHASE switch is in the 0° position, a positive input voltage will cause the subwoofer's speaker cone to move out (towards the room). When the PHASE switch is in the 180° position a positive input voltage will cause the subwoofer cone to move in (away from the room).

There is no absolute correct setting for the PHASE switch. Depending on the location of the subwoofer relative to your main speakers and seating location, one of the settings will produce a better match with the main speakers, improving bass impact and in some cases, improving overall bass level as well.

To determine the correct setting of the PHASE switch, listen to music or movies with significant impactful bass content with the switch in each position (it may be helpful to sit in the normal listening position while someone else changes the PHASE switch between 0° and 180°). Leave the switch in the position that produces audibly louder bass with more impact.

NOTE: THE PHASE SWITCH DOES FUNCTION WITH THE BYPASS SWITCH IN EITHER THE ON OR OFF SETTING.

SONANCE CINEMA SUBWOOFER AMPLIFIERS

Setup and Calibration

Typical Home Theatre

Audio Input Connection

In a typical modern home theatre system the signal to the subwoofer will be from the (LFE) output on your surround receiver or processor. Connect the (LFE) output to the input marked (LFE) on the subwoofer amplifier.

Subwoofer Driver Phase

Before connecting the wires from the subwoofer driver to the amplifier, you should make certain that the subwoofer driver is connected in the proper phase. To do this take a small battery rated at around 1.5 volts; AA, C and D batteries are all this voltage. Hold the positive wire from the subwoofer driver on the batteries positive terminal an momentarily touch the negative wire on the negative terminal. As you touch the negative wire on the negative terminal observe the subwoofer driver, it should move out (into the room) every time you touch the terminal.

If the woofer moves in, this indicates the woofer is not connected correctly. You can either remove the subwoofer driver from the enclosure and reverse or correct the connection there or just reverse the connections on the back of the amplifier to return the subwoofer system to the correct phase.

If your home theater contains more than one subwoofer repeat the above process for each subwoofer driver. In a multiple subwoofer installation this step is critical to achieve maximum performance.

Power Connection

Once the output from your surround receiver or processor and the speaker wires from your subwoofer driver are connected to the amplifier, you can connect the power cord.

Front Panel Switch Settings

In a typical home theater system set bypass switch to **ON** and set the phase switch to the **0 DEG** setting.

With the bypass switch in the **ON** position, the volume and crossover frequency controls do not function.

Calibration

Now you are ready to calibrate your system. Many modern surround receivers and processors contain an automatic calibration and equalization system. If yours does contain one, follow the manufacturer's instructions on how to complete this process. The highest performance will be achieved if you complete this calibration process. This automatic process not only sets the correct level for the subwoofer but it also performs equalization to provide the best bass performance possible in your room.

If your surround receiver or processor does not contain an automatic calibration routine, you will need to do this manually. Once again, follow the instructions provided with your surround receiver or processor. A simple SPL (sound pressure level) meter will be needed to calibrate your system correctly. The use of an SPL meter is strongly recommended.

Specifications

Sonance Cinema SUB 10-250D Amplifier

Output Power RMS:	230 Watts @ 8 ohms (1% THD, 32Hz) 370 Watts @ 4 ohms (1% THD, 32Hz)
Output Power Peak:	260 Watts @ 8 ohms (7% THD, 32Hz) 470 Watts @ 4 ohms (8% THD, 32Hz)
AC Fuse:	120v Model - 8 amp (T8A ~ 250V) 230v Model - 6.3 amp (T6.3A ~ 250V)
AC Power Consumption:	588w @ 4 ohms (sine wave, full power) 396w @ 4 ohms (music, full power) 22w idle (no signal)
Heat Output:	102 BTU/HR @ 8 ohms (music, full power) 183 BTU/HR @ 4 ohms (music, full power)
Shipping Weight:	19 lbs (8.6kg) each

Sonance Cinema SUB 12-500D Amplifier

Output Power RMS:	400 Watts @ 8 ohms (1% THD, 26hz) 660 Watts @ 4 ohms (1% THD, 26hz)
Output Power Peak:	446 Watts @ 8 ohms (4% THD, 26hz) 776 Watts @ 4 ohms (6% THD, 26hz)
AC Fuse:	120v Model - 12 amp (T12A ~ 250V) 230v Model - 8 amp (T8A ~ 250V)
AC Power Consumption:	985w @ 4 ohms (sine wave, full power) 564w @ 4 ohms (music, full power) 45w idle (no signal)
Heat Output:	183 BTU/HR @ 8 ohms (music, full power) 285 BTU/HR @ 4 ohms (music, full power)
Shipping Weight:	20 lbs (9.1kg) each

Common Specifications

Signal-to-Noise Ratio:	-95dB (w/22kHz A-WTG Filter)
Line Input Impedance:	10k ohms
Line Output Impedance:	100 ohms
Auto-On Trigger Sensitivity:	7.0mV LFE Line Input (3.5mV Stereo)
Low-Pass Crossover Freq	(BYPASS Switch OFF): 50Hz ~ 150Hz (variable), 12dB/octave
Low-Pass Crossover Freq	(BYPASS Switch ON): 250Hz (fixed), 12dB/octave
Hi Level Out Hi-Pass Filter:	-3dB @ 150Hz, 6dB/octave
Line Level Out Hi-Pass Filter:	-3dB @ 150Hz, 6dB/octave
Controls:	Variable crossover freq and output level, Phase switch, Bypass switch
Dimensions (W x H x D):	16 ^{3/4} " x 3 ^{7/8} " x 13 ^{1/2} " (425mm x 98mm x 343mm)
RMF Dimensions (W x H x D):	19" x 3 ^{7/8} " x 13 ^{1/2} " (483mm x 98mm x 343mm)
Rack Space Requirement:	2U
Certifications:	ETL, CE, C-Tick, FCC

SONANCE CINEMA SUBWOOFER AMPLIFIERS

Technical Assistance and Service

If you have any questions about the operation or installation of this product, please call our Technical Assistance Department on any business day at (800) 582-0772 or (949) 492-7777; from 7 a.m. to 5 p.m., PST.

If your product should need repair or service, contact your Sonance Authorized Dealer for help, or use the following procedure:

1. Prior to calling note the product's model number, serial number, purchase date, and the name and address of the dealer where you purchased the product.
2. Contact our Technical Assistance Department at the above number(s) and describe the problem the unit is experiencing. If applicable, they will issue a Return Authorization Number.

IMPORTANT: You must have prior authorization to return your amplifier to Sonance!

3. If you're directed to return the unit to Sonance for repair, pack the unit in its original shipping carton. If needed, you can obtain replacement packaging from us for a small charge. It is best if you place the box into an additional outer "over carton" before shipment to minimize a chance of theft in shipment. Please include a copy of the original bill of sale inside the package.
4. Contact a package delivery service such as United Parcel Service or Federal Express to arrange prepaid (not collect) shipping. Do not use the U.S. Postal Service.

IMPORTANT: Freight collect shipments will be refused.

5. Write the Return Authorization Number on the outside of the shipping carton.
6. Ship the packaged unit to:
Quality Assurance Department
Sonance
212 Avenida Fabricante
San Clemente, CA 92672-7531

SONANCE CINEMA SUBWOOFER AMPLIFIERS

LIMITED LIFETIME WARRANTY

Sonance warrants to the first end-user purchaser that this Sonance-brand product ("Product"), when purchased from an authorized Sonance Dealer/Distributor, will be free from defective workmanship and materials for the life of the Product, except for the grille, which is warranted for five (5) years. Sonance will at its option and expense either repair the defect or replace the Product with a new or remanufactured Product or a reasonable equivalent.

EXCLUSIONS

TO THE EXTENT PERMITTED BY LAW, THE WARRANTY SET FORTH ABOVE IS IN LIEU OF, AND EXCLUSIVE OF, ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED BY SONANCE. ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, IMPLIED WARRANTY OF FITNESS FOR USE, AND IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY EXCLUDED. No one is authorized to make or modify any warranties on behalf of Sonance.

The warranty stated above is the sole and exclusive remedy and Sonance's performance shall constitute full and final satisfaction of all obligations, liabilities and claims with respect to the Product. IN ANY EVENT, SONANCE SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, ECONOMIC, PROPERTY, BODILY INJURY, OR PERSONAL INJURY DAMAGES ARISING FROM THE PRODUCT, ANY BREACH OF THIS WARRANTY OR OTHERWISE.

This warranty statement gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion of implied warranties or limitations of remedies, so the above exclusions and limitations may not apply. If your state does not allow disclaimer of implied warranties, the duration of such implied warranties is limited to period of Sonance's express warranty.

Your Product Model and Description: Sonance Cinema SUB 10-250D Amplifier, Sonance Cinema SUB 12-500D Amplifier

Warranty Period for this Product: Five (5) years from the date on the original sales receipt or invoice or other satisfactory proof of purchase.

Additional Limitations and Exclusions from Warranty Coverage: The warranty described above is non-transferable, applies only to the initial installation of the Product, does not include installation of any repaired or replaced Product, does not include damage to allied or associated equipment which may result for any reason from use with this Product, and does not include labor or parts caused by accident, disaster, negligence, improper installation, misuse (e.g. overdriving the amplifier or speaker, excessive heat or cold or humidity), or from service or repair which has not been authorized by Sonance.

Obtaining Authorized Service: To qualify for the warranty, you must contact your authorized Sonance Dealer/Installer or call Sonance Customer Service at (800) 582-0772 within the warranty period, must obtain a return merchandise number (RMA), and must deliver the Product to Sonance shipping prepaid during the warranty period, together with the original sales receipt, or invoice or other satisfactory proof of purchase.



©2010 Sonance. All rights reserved. Sonance and Sonamp are registered trademarks of Dana Innovations.

Due to continuous product improvement, all features and specifications are subject to change without notice.

For the latest Sonance product specification information visit our website: www.sonance.com

SONANCE • 212 Avenida Fabricante • San Clemente, CA 92672-7531 USA
(800) 582-7777 or (949) 492-7777 • FAX: (949) 361-5151 • Technical Support: (800) 582-0772
www.sonance.com