

Reference 1.3

READ THE ENTIRE INSTRUCTION MANUAL BEFORE USING

1. SAFETY INSTRUCTION

Read Instructions-All safety and operating instructions should be read before the amplifier is operated

Retain Instructions -Safety and operating instructions should be retained for future reference.

Heed warnings-All warnings on the amplifier and in the operating should be adhered to.

Follow instructions-All operating and use instructions should be followed.

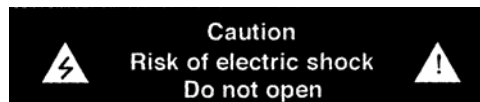
Water and moisture-The equipment should not be used near water, e.g., near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool etc.

Ventilation-The equipment should be situated so that its location or position does not interfere with its proper ventilation. So the equipment should not be situated on a bed, sofa, or similar surface, e.g., that may block the ventilation openings, or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air. The equipment should be situated away from heat sources such as radiators, heat register, stoves, or other electronic appliances that produce heat, so it may not suitable for commercial use.

Any Servicing-The user should not attempt to service the equipment r beyond that described in this manual. All other servicing should be referred to qualified service technicians

CAUTION:

TO PREVENT 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 to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Congratulations!

Opera Audio welcomes you to the growing number of discerning audiophiles who own Opera audio products. This manual has been prepared to help you to maximize your enjoyment of the performance and features of your new Consonance equipment. Please study this manual carefully and become acquainted with all the features, operation and capabilities of your new Consonance equipment. Should you have any questions, or desire information on other Opera audio products, please contact your local Opera dealer.

2. WHEN YOU OPEN THE BOX

Before any Opera audio product leaves the factory it is carefully inspected for physical imperfections as a routine part of Opera audio’s systematic quality control. After you have unpacked the equipment, inspect it for any physical damage. Save the shipping carton and all packing materials, because they are essential to reduce the possibility of transportation damage. Because some heat is generated by the equipment, adequate air circulation is provided to maintain cool operation. Leave enough space around the unit (at least 3 cm on the top and 3 cm on the sides and

leave enough space on the back for the power card and interconnect cables). If the equipment is going to be mounted in an enclosed cabinet, it is recommended that the rear of the cabinet has vents to allow air to circulate around the unit. With these considerations implemented, the equipment should provide exceptional performance in any reasonable environment. Of course, such normal considerations as protection from excessive dust and moisture should always be observed. All the equipment made by Opera audio has been carefully designed with high quality components so that Long-term undiminished performance is operated in accordance with the instructions provided.

3. EQUIPMENT INSTALLATION AND GETTING STARTED

Running in

Your Consonance equipment will take a considerable time to run-in before it performs at its best. The duration varies, but under some conditions you will find that the sound continues to improve for as much as five weeks. Better and more consistent performance will be achieved if the system is left switched on for long periods. It is worth remembering however that all electronic equipment can be damaged by lightning. Please read the warnings section.

Locating the equipment

Preamplifiers should be located a reasonable distance away from other equipment. This separation will stop transformer hum audible from the loudspeakers. The minimum recommended distance is 300mm (12 inches), and that allowed by the standard interconnect lead is the maximum.

Some Consonance equipment is extremely heavy. Ensure that your equipment rack or table can easily support the weight and is stable.

If you have a problem

Legal consumer protection varies from country to country. A problem may be due to a fault in any part of the system or its installation so it is essential to make full use of your local dealer's diagnostic skills on site. Please contact your local distributor, or Opera Audio at the address in the back of this manual, if any difficulties cannot be resolved. Some Consonance equipment is made in special versions for different territories and this makes it impracticable to arrange international guarantees. Please establish the guarantee arrangements with your own dealer at the time of sale. We are always available to offer help and advice.

It is essential that repairs and updates are only carried out by an authorized Consonance dealer, or at the factory by Opera Audio itself. Many components are made, tested or matched specially for Consonance and appropriate replacements are often unobtainable from non-specialist sources.

The equipment should be serviced by opera audio company or any qualified service personnel when:

- Objects have fallen or liquid has been spilled into the equipment.
- The equipment does not appear to act normally or exhibits a marked change in performance.
- The equipment has been dropped or the enclosure damaged.

Our dealer will have all relevant information about the service in your area and will ensure that you unit is serviced without delay. If for some reason, there are no service facilities available in your area, please ship the equipment to the following address:

The Opera Audio Co., Ltd.

NO.2 JiuXianQiaoLu, Chaoyang District, Beijing, China

Post Code: 100015, Tel: 86 10 64377091, Fax: 86 10 64377465

Email: support@opera-consonance.com ,Website: www.operaudio.com

You are responsible for all shipping charges, insurance, re-importation to your country, and duty arrangements. When shipping a product to factory for service, always include the following:

- A sales slip or other proof of purchase if repair is claimed under warranty.

- A proforma invoice with value of the goods, stating that the amplifier is returned to china for repair.
- An accompanying letter describing faults, symptoms or problems with the amplifier.
- Always ship the amplifier in its original carton and packaging material to prevent damage in transit.

The Opera Audio will not accept responsibility for any damage caused in transit, no matter whatever caused.

Warnings

Consonance equipment is designed to offer the finest sound quality that can be achieved, avoiding compromise wherever possible. This can lead to circumstances that may be unfamiliar. The material that follows contains advice specifically related to Consonance equipment as well as more general warning about the use of domestic audio products. Please read it carefully.

The transformers in Consonance power amplifiers and power supplies may sometimes make a mechanical noise caused by distortion of the mains waveform. Consonance transformers are large in size and have heavy gauge secondary windings making them relatively sensitive to such distortion. A separate mains circuit for your hi-fi system may reduce the effect while also giving an overall improvement in sound quality. It may be necessary however to take account of mechanical transformer noise when placing your equipment.

In some circumstances, depending on where you live and the grounding arrangements in your home, you may experience radio frequency interference. Controls on broadcasting in some territories allow very high levels of radio frequency radiation and both the choice and exact place of equipment may be critical. If there is a known problem in your locality it is advisable to arrange for a home demonstration before purchase to find out if Consonance equipment is likely to be affected. Susceptibility to radio frequency interference is related to the wide internal bandwidth necessary for high sound quality. Systems incorporating moving coil phono preamplifiers and active crossovers are more likely to suffer.

Your Consonance hi-fi system can be damaged by lightning. Power amplifiers are particularly at risk and should be turned off when there is risk of lightning strike. For complete protection all mains plugs and any aerial cables should be disconnected when not in use.

Equipment must not be exposed to dripping or splashing and no objects filled with liquid, such as vases, should be placed on the equipment.

Important

Do not under any circumstances allow anyone to modify your Consonance equipment without first checking with the factory, your dealer, or your distributor. Unauthorized modifications will invalidate your guarantee.

For your own safety do not under any circumstances open Consonance equipment without first disconnecting the mains.

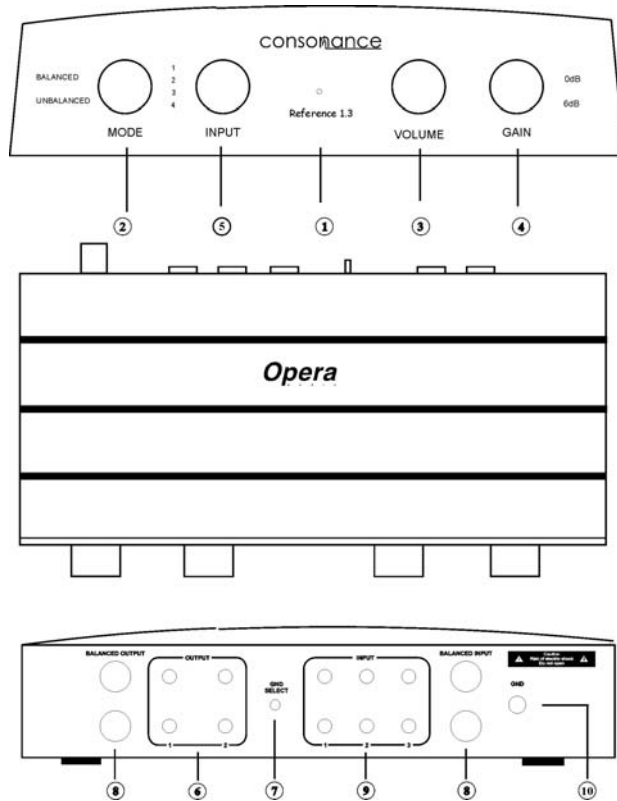
Warning: Danger of electric shock and burns. Keep the unit away from rain or moisture. Do not attempt any of the instructions in this manual unless the unit has been unplugged for at least 10 minutes. If after reading the entire manual you feel any of the operations listed below are beyond your ability, please seek qualified technical assistance.

UNPACKING & SET-UP

1. Check shipping package for sign of improper handling. Remove unit from the cotton bag and inspect for damage.
2. Connect the source to input RCA jacks and the power amplifier to Reference 1.3's output RCA jacks. Refer to rear chassis drawing, these jacks are labeled with colored washers: red for right and black for left. **Note: turn on the preamplifier and turn off the power amplifier first. This will minimize the chance of the damage for speakers connected to both output terminals of power amplifier. To prevent the possibility of excessive sudden sound levels, it is recommended that the volume left & right control level of R1.3 be placed at a low position.**

FUNCTION

- ① Model: Reference 1.3
- ② Mode select: balanced/unbalanced
- ③ Volume control
- ④ Gain select: 0dB/6dB
- ⑤ Input select: 1,2,3,4(balanced)
- ⑥ Output RCA jacks(red/black)
- ⑦ GND switch
- ⑧ Output and Input jacks(balanced)
- ⑨ Input RCA jacks (red/black)
- ⑩ Grounding



THEORY OF OPERATION

Reference 1.3 is an passive preamplifiers, more precisely passive control units to change the output level of the passive control in multiple steps to control the volume of a high fidelity system. It offers a material improvement over all previous such schemes based around resistive attenuation.

Reference 1.3 is a high performance core component for a magnetic volume control. It is a multi tapped transformer designed to be used with a 20 position switch, the transformer is housed in a Mu-metal shielding can that measures 60.25mm (23/8in) in diameter x 72mm (213/16in) in height, excluding the connecting leads.

The full primary has around 200 Ohm DC Winding resistance. The same applies for the secondary winding. The primary inductive reactance at 20 Hz is in excess of 50 kOhm (400 H Primary Inductance) and thus provides an input impedance of more than 50 kOhm across the audio band if the secondary loading is infinite.

The primary winding has a tap that allows the transformer to give 6dB of gain when the output is set on the 0dB tap. This is especially useful with power amplifiers having a minimal number of stages and therefore lower gain than common. The secondary (output) winding offers a number of taps allowing the following attenuation values: 0 db, 3 db, 6 db, 8 db, 10 db, 12 db, 14 db, 16 db, 18 db, 20 db, 22 db, 24 db, 26 db, 28 db, 30 db, 32 db, 34 db, 40 db, 46 db. With these values the steps by which the volume is changed over the majority of the range is smaller than the commonly acknowledged limit of audibility (3db), giving consistent fine control over the volume, when compared to continuous controls.

TECHNICAL SPECIFICATION

- CONTROL FUNCTIONS: **Gain, Input Select, Volume, Grounding**
- HARMONIC DISTORTIONS (for 2V RMS at output): **0.005%(10Hz~100kHz)**
- FREQUENCY RESPONSE: (at -1dB) **10Hz-73kHz (0dB), 10Hz-65kHz(6dB)**
- INPUT INTERFACES: **3 groups (RCA), 1 groups (XLR)**
- OUTPUT INTERFACES: **1 groups (RCA), 1 groups (XLR)**
- GAIN at 1kHz: **0dB and +6dB swichable**
- ATTENUATION: **-52dB**
- DIMENSIONS: **430(L) x 160(W) x 100(H) mm**
- WEIGHT: **10kg**

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Warranty

Opera audio guarantees each product manufactured by us to be free from defects in materials and workmanship under normal use. Our obligation under this warranty is limited to making good at our factory any part or parts thereof which shall, within 1 year after delivery to the original purchaser, be returned to us with transportation charges prepaid, and which an examination shall disclose to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on our part. This warranty shall not apply to any Opera audio product which shall have been repaired or altered outside of our factory in any way so as to affect its stability, nor which has been subject to misuse, negligence or accident. Warranties of the vacuum tubes are by the respective manufacturers, usually 90 days.

Please mail or e-mail the Registration Card to the address as follow:

The Opera Audio Co., Ltd.

No.2 JiuXianQiaoLu
ChaoYang District
Beijing, China
Post Code: 100015
Tel: 86 10 64377091
Fax: 86 10 64377465
support@opera-consonance.com
www.operaudio.com



Registration Card

Name
Address
City
State
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Email
Telephone
Model
Serial Number
Purchase Date
Dealer