SW8000

• Professional Reference Sub-Woofer Monitor •

User's Manual

ESI ®

Ego Systems Inc.

www.esi-pro.com

END USER WARRANTY

EGO SYSTEMS, INC. warrants the return policy to its original purchaser as follows: All EGO SYSTEMS INC.'s products, under normal use, will be free from fault as long as the purchaser owns this product for a period of twelve (12) months from the date of purchase.

EGO SYSTEMS INC. will, at its sole option, repair or replace a product, which is found to be defective. This warranty shall be invalid if, in the sole opinion of EGO SYSTEMS INC., a product failure is the result of misuse, abuse, modification, or misapplication. Except as expressly provided above, EGO SYSTEMS INC. products are provided, 'as is' without any kind of warranty. No claim is made for merchantability or fitness for any purpose. In no event will EGO SYSTEMS INC. be liable for any direct, indirect, consequential, or incidental damages arising out of use of the product. The purchaser must contact EGO SYSTEMS INC. or its regional representative to receive prior approval before returning a faulty unit.

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Ego Systems Inc.

3003N. First St., Suite 303,

San Jose, CA 95134, USA

Website: www.esi-pro.com

All features and specifications subject to change without notice.

CAUTION: The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

Contents

Introduction

Thank you for choosing SW8000, neo-standard reference sub-woofer monitor speaker.
ESI has been building excellent reputation for digital interfaces and near Field monitor speaker manufacturer. Now, after long research and development, SW8000 is born to change the concept of reference sub-woofer monitoring.

SW8000 is designed and tested by several audio engineers to meet your needs in studio monitoring environment. It is focused on its functionality-to deliver the pure original sound without any add on.

SW8000 is designed to overcome all the limitations of conventional reference sub-woofer monitoring for digital audio environment. This system delivers complete subwoofer range of frequency response by employing extra-ordinary driver and unique cross over technology developed by ESI to go with monitor speakers in the markets.

From professional users in commercial studios to home studio owners, SW8000 is true solution for studio subwoofer monitoring in its own class.

SW8000 Features

1. SUBWOOFER

Subwoofer unit is 8 inch in diameter with mineral filled polypropylene cone with high temperature voice coil and damped rubber surround. It is designed to deliver balanced subwoofer response. Polypropylene is used to react against the input signal accurately and to deliver even minimal input precisely minimizing distortion.

2. SUB-FREQUENCY PORT

The hole in the front panel is called Sub-Frequency Port, which discharge extreme low frequency under 30 Hz. SW8000 is designed to take advantage of the port to generate extreme low frequency.

3. ENCLOSURE

Enclosure acts as important role as the other components. SW8000 enclosure is designed to endure impacts from inside under extreme conditions. It employs high-density special MDF and unique interior reinforcement to provide more stable performance.

4. NETWORK & POWER AMPLIFIERS

Network & Power Amplifiers for SW8000 are specially designed for its own subwoofer. Network distributes subwoofer frequency properly to driver in order to reduce loss of sound and distortion achieving natural balance of the sound.

In order to generate ultra crispy, powerful sound quality, there is special designed power amplifier inside SW8000 to drive Subwoofer driver by matching each parameter between amplifier and driver. The power delivered to subwoofer driver at rated distortion is 100W.

Installation

For optimal performance of SW8000, read below thoroughly and carefully before start installation.

1. **PRECAUTIONS**

   Handling

   Do not grab the speaker driver unit: SW8000 is packaged in box fitted tight, so your attention is required when taking speakers out of the box. To avoid the possible damage to the speaker driver unit, hold both sides of the speaker to pull out of the box. The speaker driver unit should not be touched to avoid the damage even after it is out of the box.

   Recommend to use high quality balanced or unbalanced cable for input connection.

   Turn off the power of SW8000 and turn Volume Control of SW8000 to minimum　　before connection.
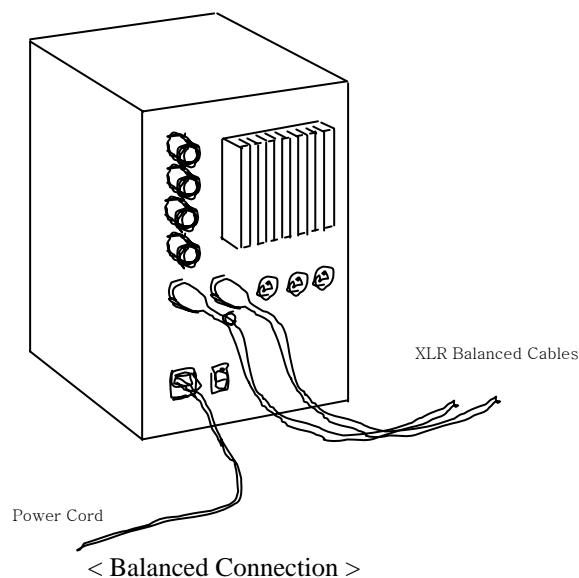
   Connection

   Connect L&R XLR balanced or TRS balanced / unbalanced input of SW8000 to the corresponding pre-amp, computer or game console outputs.

2. **XLR BALANCED CONNECTION**

   Assure that the power switch of SW8000 is turned off and Volume Control of SW8000 is turned to minimum. Connect Male side of XLR Balanced Cables to the balanced inputs of SW8000.

   Refer to the following diagram

XLR Balanced Cables

Power Cord

< Balanced Connection >

3. TRS BALANCED/UNBALANCED CONNECTION

Assure that power switch of SW8000 is turned off and Volume Control of SW8000 is turned to minimum. Connect the Male side of TRS balanced or unbalanced cables to the TRS input of SW8000.

Refer to the following diagram.

TRS Balanced or Unbalanced Cables

Power Cord
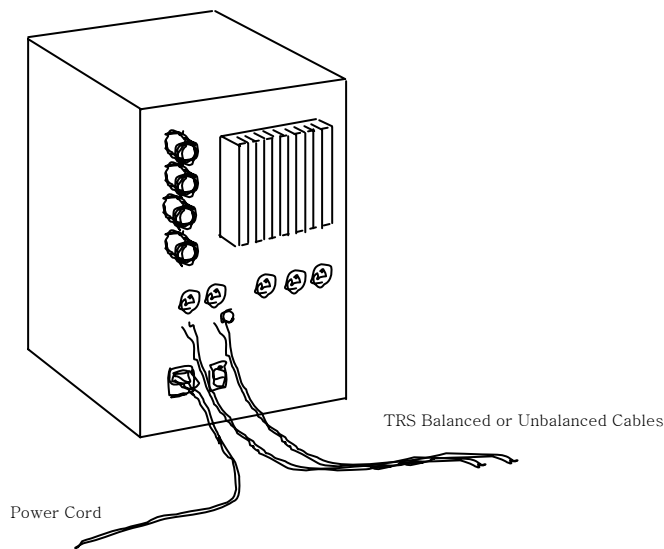
< TRS Balanced or Unbalanced Connection>

4. AUTOMATIC POWER ON/OFF

Since the SW8000 is equipped with an automatic on/off facility, turning the system on each time it is to be used is avoided. When the system is connected to the mains, an Amber LED indicates Stand-by status. In the presence of an audio signal the system is automatically switched on as shown by a Red LED. If there is no signal for five minutes, the system shuts off. SW8000 is designed for continuous Stand-by operation, and then draws negligible power (less than 3 VA). If there will be any situations like you will play the system at very low volume and Automatic on/off system will not be able to meet your application, you can switch the Auto Power On/Off Switch to off position. The SW8000 will then be turned on or off manually by Main Power Switch. If the system is not to be used for a period of time, such as a vacation trip, switch the Main Power Switch Off.

5. CONNECTING TO THE SATELLITE SPEAKERS

Subwoofer SW8000 can be connected to your Professional Audio system in two different ways:

a. Connect SW8000 Left or Right Input to Subwoofer output of Professional Audio Console with Bass Management.
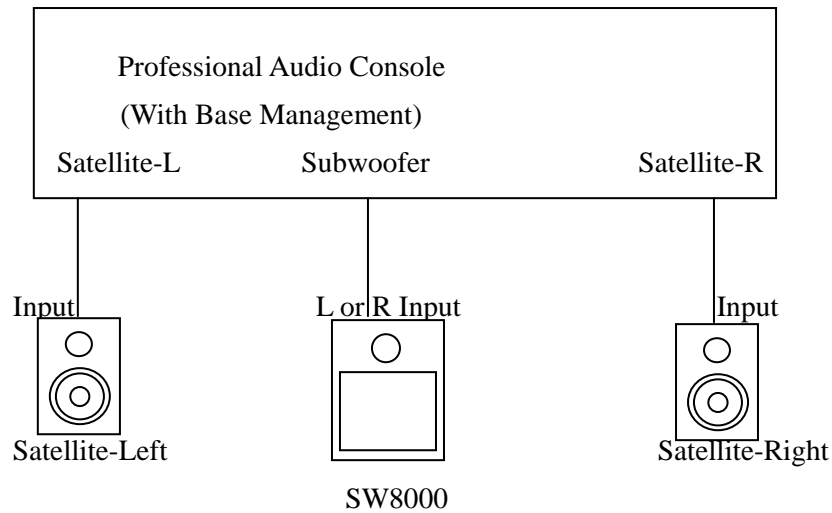
Connect the Professional Audio Console Subwoofer output to either L or R Input of SW8000 through XLR or TRS connector.

b. Connect SW8000 Left and Right Inputs to Professional Audio Console without Bass Management.
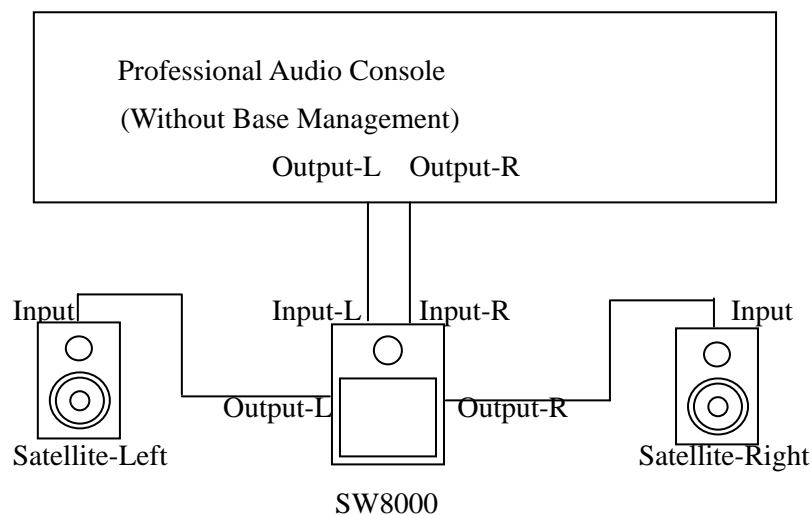
Connect the Professional Audio Console Left and Right Outputs to SW8000 Input-L and Input-R respectively through XLR or TRS connectors. Then, connect SW8000 Output-L and Output-R to Left and Right Satellites respectively through XLR connectors

6. POSITION OF THE SUBWOOFER IN THE STUDIO

In theory, the best position for Subwoofer is midway between the satellite speakers, with its front facing forward and in the same plane as the fronts of the satellite speakers.

Subwoofer SW8000 may, however, due to the very low distortion by design, so there is no directional sound field from SW8000, in practice be moved quite far from this position without any detrimental effect on the sound reproduction.

Different positions of the Subwoofer related to walls will affect its efficiency, and the room influence on the frequency response. This can be compensated for by readjusting the filter settings.

7. SETTING OF LEVEL, PHASE AND SUBWOOFER & SATELLITES CROSSOVER FILTERS

There are four control knobs on the rear of the Sub woofer SW8000.

These controls make it possible to match the low bass frequencies from the Subwoofer to the bass-midrange-treble sound of any good satellite Professional Audio speakers for optimum sound, and at the same time to compensate for room-effects and different positions of the Subwoofer SW8000.

Your hearing is the final arbiter of correct settings.

The adjustments can be optimized without the aid of any tools except ear and good quality music records.

Before you make final adjustments, make sure your basic Studio system is in good working order.

Acoustic feedback

Since the SW8000 can produce a considerable output level at low frequencies, acoustic feedback via the turntable can occur. To ensure that this is not the case, perform the following test at installation of the SW8000.

Sep up the equipment or record-playing. Place the pick-up on a non-rotating record (disconnect the turntable power cord if necessary). Tap the turntable while gradually increasing the volume control. If there is a shift in sound character from the loudspeakers (towards sustained sound) before the volume control has been advanced to a setting that represent loud listening, acoustic feedback is a problem.

Moving the turntable or the speakers may remedy this problem. Or try placing an anti-vibration pad under the turntable.

a. Level setting

With the "Level" control the volume of the subwoofer is set to properly match the satellite speakers. You can start with setting at 12 O'clock position of Level Control.

If the Subwoofer is placed on the floor against one wall in a normal room, the Subwoofer sound pressure could be increased 3dB than placed on the freestanding floor. On the other hand, if the Subwoofer is placed in a corner, the Subwoofer sound pressure could be increased by another 3dB comparing to placing on the floor against one wall. You can use the Level control to set the Sound Pressure of Subwoofer under different placements to match Satellite sound pressure properly.

b. Setting of upper frequency limit for Subwoofer

With the control, "crossover frequency of Subwoofer", an adjustable, 2nd order (12 dB/Octave) low-pass filter gives an upper limit between 50 and 180 Hz.

If the Subwoofer SW8000 connected to Professional Audio Console with Bass management, the Subwoofer control should be set to 180 Hz as the crossover will be handled by the Console. (Or the filter of SW8000 will add together with the filter of Console and generate wrong frequency response at crossover area.

If the subwoofer SW8000 connected to Professional Audio Console without Bass management, the Subwoofer control should be set together with low frequency limit of Satellite Control.

c. Setting of lower frequency limit for Satellite speakers

The purpose of this Satellite control is to match the satellite cut off frequency to the upper frequency limit of the Subwoofer. This control – one for each channel – is adjustable between 50 and 180 Hz.

If the Subwoofer SW8000 connected to Professional Audio Console with Bass management, the Satellites control should be set to 50 Hz as the crossover will be handled by the Console. (Or the filter of SW8000 will add together with the filter of Console and generate wrong frequency response at crossover area.)

If the subwoofer SW8000 connected to Professional Audio Console without Bass

management, the Satellites control should be set together with upper frequency limit of Subwoofer Control.

If your satellites are properly damped at the bass response, the control should be selected to the same frequency for Satellites control and Subwoofer Control.

If your satellite speakers are under-damped ("Boomy"), the control should be set to a higher frequency and if they are over-damped ("dry"), a lower setting is best.

Note the final control setting, in case they are accidentally altered.

d. Setting of Phase control

The purpose of this control is to match the phase of satellite cut off frequency to the phase of the upper frequency limit of the Subwoofer. Adjust the Phase control to make the maximum sound pressure at cross over frequency in order to make sure Subwoofer and Satellites are in phase at cross over frequency. So, you will get maximum sound pressure and most accurate sound quality from the whole system.

8. Extra Sub Output

If you have big Studio and require higher Subwoofer sound pressure, you can use the "Extra Sub" Output to connect as many SW8000 in daisy chain together. (Connect "Extra Sub" Output to L or R input of another SW8000)

9. HPF Bypass switch

When you want to use SW8000 with Professional Audio Console with bass management or in any occasion you want to have no high pass filter, you can switch the switch to "Off".

10. Fuse Holder and Fuse

Please only replace with the exactly same type of fuse in the fuse holder.

Technical Specifications

- Type: Powered Subwoofer

-Subwoofer Driver: 8" mineral filled polypropylene curved cone with high temperature voice coil and damped rubber surround.

- Frequency Response: 30Hz - 180Hz, Adjustable 50Hz – 180Hz

- Amplifier Power: 100W@100Hz, 4 ohm, 0.1% THD

- **Dynamic Power**: 120W

- S/N Ratio: > 100dB below full output

- Input Connectors: 2 x XLR R/L Balanced Input Connector

2 x TRS Balanced/ Unbalanced Input Connector

-Output Connectors: 2x XLR Balanced output for Satellites

1x XLR Balanced output for Extra Sub

- Controls : Level, Phase, Subwoofer Frequency, Satellite Frequency

- Switches : "Auto Power" On/Off slide switch,

L&R XLR Outputs "HPF Bypass" On/Off Slide Switch.

- **Input Impedance**: 20K ohms balanced, 10K ohms unbalanced

- **Input Sensitivity**: 150 mV input produces full output with Input Sensitivity control at maximum.

-**Protection**: over temperature, turn-on/off transient, subsonic filter, an external main fuses.

- **Indicators**: Power ON (Red)/ Stand-by or Protection (Amber)

- Power Requirements: Factory programmed for either 115V ~50/60Hz,

230V~50/60Hz or 100V~50/60Hz;

Power via detachable 3 circuit line cord.

- **Cabinet**: vinyl laminated MDF

- Dimension (unit): 396mm(H) x 270mm(W) x 305mm(D)

- **Dimension (Shipping Carton)**: 445mm(H) x 415mm(W) x 575mm(D)

- Net Weight: 12.5 Kg (27.5 lbs) /unit (without packing)

- **Shipping Weight**: 16.5 Kg (36 lbs) /unit (with shipping carton)

Remarks: Above specifications are subject to change without notice.

SW8000

Suite 1003, Shinhan Bldg.

45-11 Yoido-dong, Youngdungpo-gu

Seoul, Korea

Tel: +82 2 780 4451 ~ 3

Fax: +82 2 780 4454

Web site : www.esi-pro.com

ESi ®

Ego Systems Inc.