Earthquake Sound XJ-700DSP LFE Class J 700W Subwoofer Amplifier User Manual

Contents

Earthquake Sound XJ-700DSP LFE Class J 700W Subwoofer Amplifier

The Sound That Will Move You

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WARNING: This product is capable of generating high sound pressure levels. You should exercise caution when operating these speakers. Long-term exposure to high levels of sound pressure will cause permanent damage to your hearing. Sound pressure levels exceeding 85dB can be dangerous with constant exposure, set your audio system to a comfortable loudness level. Earthquake Sound Corporation does not assume liability for dam-ages resulting from the direct use of Earth-quake Sound audio product(s) and urges users to play volume at moderate levels.

Earthquake Sound Corp. | (800) 576-7944 | **www.earthquakesound.com**

About Earthquake Sound Corporation

For over 28 years, Earthquake Sound has been producing a variety of high-quality audio products that have impressed audiophile communities around the world. It all started in 1984 when Joseph Sahyoun,a music freak and Aerospace Engineer unhappy with the existing loudspeaker technology and performance, decided to put his advanced engineering knowledge to use. He pushed technological boundaries to the limit to create the kind of subwoofer he could live with. Earthquake quickly created a name for itself in the car audio industry and became well-known for its powerful subwoofers and amplifiers. In 1997, using his existing expertise in the audio industry, Joseph Sahyoun expanded his company to home audio production.

Earthquake Sound has since evolved into a leader in the home audio industry, producing not only subwoofers and amplifiers but surround speakers and tactile transducers as well. Engineered by audiophiles for audiophiles, Earthquake Sound audio products are meticulously crafted to reproduce each and every single note perfectly, bringing your home theater experience to life. With true dedication and full attention to details, Earthquake Sound engineers continuously develop new and better products to meet customers' needs and go beyond their expectations.

From mobile audio to pro sound and home audio, Earthquake Sound has been selected as the winner of many prestigious awards based on sound quality, performance, value, and features.CEA and numerous publications have awarded Earthquake Sound with over a dozen design and engineering awards. Additionally, Earthquake Sound has been granted many design patents by the USPO for revolutionary audio designs that have changed the sound of the audio industry.

Headquartered in a 60,000-square-foot facility in Hayward, California USA, Earthquake Sound currently exports to over 60 countries worldwide. In 2010, Earthquake Sound expanded its export operations by opening a European warehouse in Denmark. This accomplishment was recognized by the US Department of Commerce who honored Earthquake Sound with an Export Achievement award at the 2011 Consumer Electronic Show. Just recently, the US Department of Commerce presented Earthquake Sound with another Export Achievement award for expanding its export operations in China.

- Joseph Sahyoun, US Secretary of Commerce Gary Locke, Abraham Sahyoun and Thomas Mygind

- US Commercial Officers Sarah Fox and Joseph Sahyoun

Specifications are subject to change without notice.

Safety Instructions

Safety First

This documentation contains general safety, installa-tion, and operating instructions for the XJ-700DSP amplifier. It is important to read this user's manual before attempting to use this product. Pay particular attention to the safety instructions.

Symbols Explained:

-  Appears on the component to indicate the presence of uninsulated, dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.
- CAUTION Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in injury or death.
- WARNING Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product.
- **NOTE:** Calls attention to information that is essential to highlight.

Important Safety Instructions:

1. Read these instructions in their entirety.
2. Store this manual and packaging in a safe place.
3. Heed all warnings.
4. Follow instructions (do not take shortcuts).
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatuses that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. The grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles,and the point where they exit from the apparatus.
11. Only use attachments and accessories specified by the manufacturer.
12. Use only a compatible rack or cart for the final resting position.
13. Unplug this apparatus during lightning storms or when unused for a long period of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in a way such as: power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally,or has been dropped.
15. To reduce the risk of fire or electric shock,do not expose this apparatus to rain or moisture.

System Installation Considerations

There are several factors to consider before installing Earthquake Sound's XJ-700DSP amplifier.

- What are the intended listening zones?
- From where in each zone will the listener prefer to control the system?Wherewill the amplifier belocated?
- Wherewill the source equipment be located?

Connection Tips

- Keep all power cords away from all signal cables to prevent humming frominduced noise.
- Choose reliable signal cable cords (Earthquake Sound also specializes in high performance RCA cables and patches).
- All speaker wires that are ran through the walls should be twisted type to reduce potential hum noise pick-up.
- It is best to use a grounded electrical outlet to power the amplifier. Lack of input ground reference could be unsafe. Consult with your electrical contractor about proper grounding.

Safe & Proper handling

The XJ-700DSP amplifier is considerably light weight and easy to maneuver. However, we encourage you to take

precaution when unpacking the unit to prevent any possible damage to your XJ-700DSP. We further suggest the following:

- Do not apply downward or upward pressure against the speaker terminals as this will cause damage to the terminals.
- When carrying the XJ-700DSP, make sure that the speaker terminals are away from your chest, eliminating the chance of pushing against them.
- Do not drop the XJ-700DSP or subject it to sudden shocks. This will damage the external finish and may cause internal damages to the amplifier.
- Avoid exposing the XJ-700DSP to moisture. Water will damage the amplifier.
- Cleaning the XJ-700DSP is best done using soft cloth. If needed, use mild detergent with water. Like any other electrical unit, always unplug the unit before cleaning it.

Unpacking theXJ-700DSP

- Keep the original carton and packingmaterials for future shipment or storage.
- Check for any visual signs of damage. If you encounter any concealed damage, consult your Earthquake Sound dealer before proceeding with unit installation.
- Retain the sales receipt as it establishes the duration of the limited warranty and provides information for insurance purposes. The XJ-700DSP is packaged well for safety. We highly suggest having a padded surfacewhen unpacking it.

CAUTION: RISK OF ELECTRIC SHOCK DO NOT OPEN

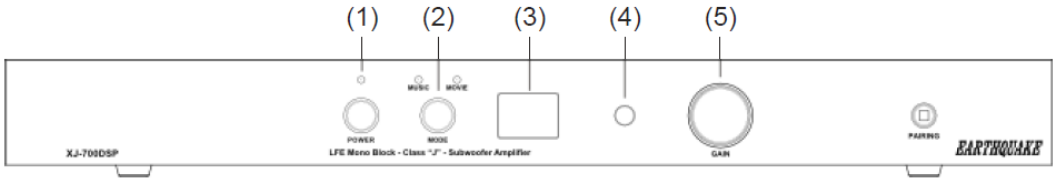
- This triangle, which appears on your component, alerts you to important operating and maintenance instructions in this accompanying literature.
- This triangle, which appears on your component, alerts you to the presence of uninsulated, dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.

Introduction

Congratulations and thank you for choosing the Earthquake's XJ-700DSP, a high power LFE mono block amplifier designedfor powering largesubwoofers or tactile transducers,suitedforbothprofessional andhomeuse. Engineered with the patented Class "J" circuitry, the XJ-700DSP efficiently delivers massive amounts of power with minimal heat production. It comes fully equipped with optimized presets for movie or music listening, a digital volumereadoutwith rotary dial,boundaryEQ,variable lowpass filter,phase adjustments,andremote. Simply put,the XJ-700DSP amplifier is the perfect amplifier whether you are an advanced user or a novice in need of a compactbut efficientandpowerful amplifier.

Product Overview

Front Panel



1. **Power Button & LED Indicator**

   The Power button switches the amplifier between ON and STAND-BY. When ON, the Power LED lights up BLUE along with one of the Mode LEDs. When the amplifier is on STAND-BY,the Power LED lights up RED while the Mode LEDs are off. Additionally,the Power LED reflects the state of the amplifier (i.e.whether the Signal Sensing is set on ON/AUTO/+12V and whether signal is beingfedtotheamplifier).

Signal Sensing	Is there signal?	LED Color
ON	Yes	Blue
	No	Blue
AUTO	Yes	Blue
	No	Red*
+12V	Yes	Blue
	No	Red

   after about 20 minutes without signal

   Note that this feature will work only when the Main Power switch (located on the back panel of the amplifier)isintheONposition.

2. **Music/Movie Quick Mode Button**

   The Mode button switches the amplifier's EQ between a preset Music mode (flat) and a preset Movie mode (+8dBbetween30-80Hz).

3. **Digital Readout**

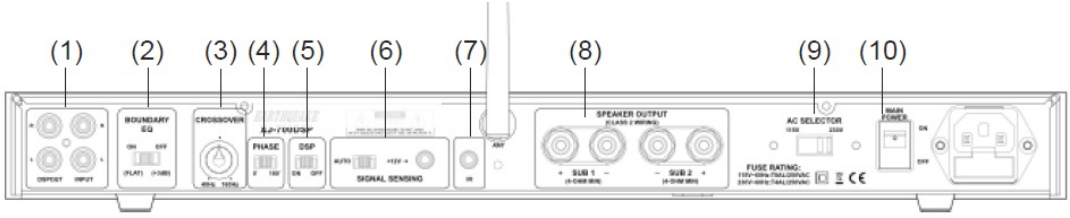
   This digital readout shows the gain/volume setting of the amplifier as it is being changed, either by turning the Gain/Volume Control knob or by pressing the +Vol/-Vol on the remote.

4. **IR Sensor**

5. **Gain/Volume Control**

   This infinite rotary knob allows the user to control the gain/volume of the amplifier. Always start at the lowest setting and slowly increase the volume until the desired level is reached. It is best to use the gain adjustment on the receiver or pre-amp to make any minor adjustments.

Back Panel

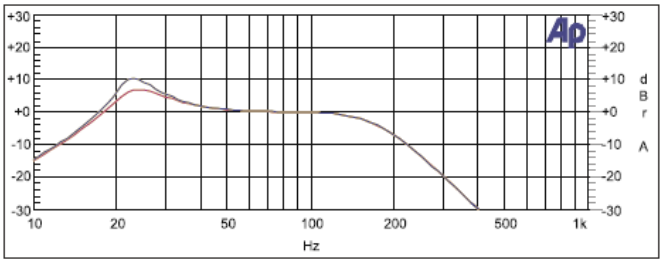


1. **RCA Inputs/Outputs**

   These terminals have been calibrated to have the same sensi-tivity level and should both be connected. However, if the signal comes from the receiver's/pre-amp's LFEoutput, connect only to the R RCA input.

2. **Boundary EQ**

   When ON, the amplifier gives a flat response for a natural and tighter performance. It also removes exaggerated boomy sounds created by less-than-ideal installation circumstances (i.e. corner loading, large wall surfaces, installations inside custom cabinetry, etc.). When OFF, 3dB is added to the response curve. Leave the Boundary EQ in the OFF position for all other installation or when the exaggeratedboomysoundisdesigned.



3. **Crossover**

   This knob allows the user to set the low pass filter frequency. Factory set at 80Hz, the low 40to60Hz.

4. **0 – 180° Phase Adjustment**

   This switch allows the user to synchronize the connected sub-woofer(s) to obtain better and morepreciseb assresponse.

5. **DSP ON/OFF**

   Enable or disable iWoofer™ DSP. When disabled the frequency adjustment knob (3) will be active.

6. **Signal Sensing Modes**

   This is a 3-way switch. When ON, the amplifier will remain on regardless of signal presence. When set to AUTO, the amplifier will only turn on when audio signal is detected. Additionally the amplifier will go to sleep/stand-by if it does not detect any signal after about 20 minutes. When set to +12V,use a 1/8"mono mini-jack to connect a 12V trigger wire from other devices (tip is posi-tive). The amplifier will turn on/off when triggered (100mA mini-mum) by the connecteddevice.

7. **IR Input**

   Use this 1/8" mono mini-jack to connect to most IR emitter output connections. The signal will be transferred and inter-nally flashed to the IR receiver located behind the front panel.This will eliminate the need to add "stick-on"emitters in most systems, making it ideal for systems behind closed cabinet doors or in an equipment rack located in other areas of the home. Note that this IR connection may not be compatible with all variations of IR system type. In some cases, an emitter will be needed to place over the front panel IR window.

8. **Speaker Outputs**

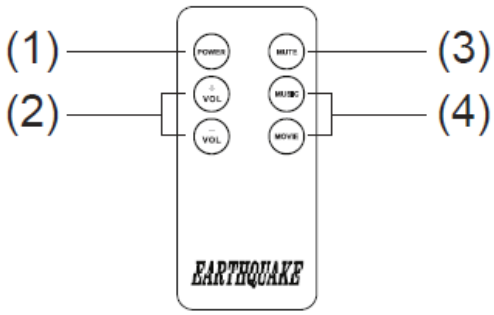
   These 5-way binding post speaker terminals accept bare speaker wire, pin connectors, spade connectors, banana plugs, and dual banana plugs. The two terminals are inter-nally connected in parallel all to the same source. They can be used one at a time or both at the same time as shown in the next section of this manual.

When connecting to both terminals, a minimum of 4-Ohm load is required for each terminal.

9. **115V/230V AC Selector**
   The XJ-700R can operate in a 115V or 230V environment. Simply slide the selector to the required power setting and replace the fuse to the proper rating prior to connecting the amplifier toapowersource.
10. **Main Power Switch**
    When switched OFF, the amplifier will remain off as there is no AC power being fed into it. We highly recommend keeping this switch OFF when the amplifier is not being used for an extended period of time.
11. **AC Power With Built-in Fuse**
    This AC line connector is fused to protect the amplifier from unwanted power surges. Be sure to use the proper fuse rating when replacingthefuse:

    - 115V~60Hz:ø5x20mm,T8AL/250V
    - 230V~50Hz:ø5x20mm,T4AL/250V
      To access the fuse compartment, simply unplug the ampli-fier from any power source, place a flat-head screw driver in the small notch and pry it open as
      illustrated.

Remote Control



1. **Power Button**
   Press this button to switch the amplifier ON or put it on STAND-BY.
2. **Vol +/- Button**
   Press these buttons to adjust the gain/volume of the amplifier.
3. **Mute Button**
   Press this button to mute and un-mute the subwoofer connected to the XJ-700DSP.
4. **Music/Movie Mode Button**
   Press these buttons to select the amplifier's preset EQ Music mode (flat) and preset Movie mode (+8dB between 30 – 80Hz).

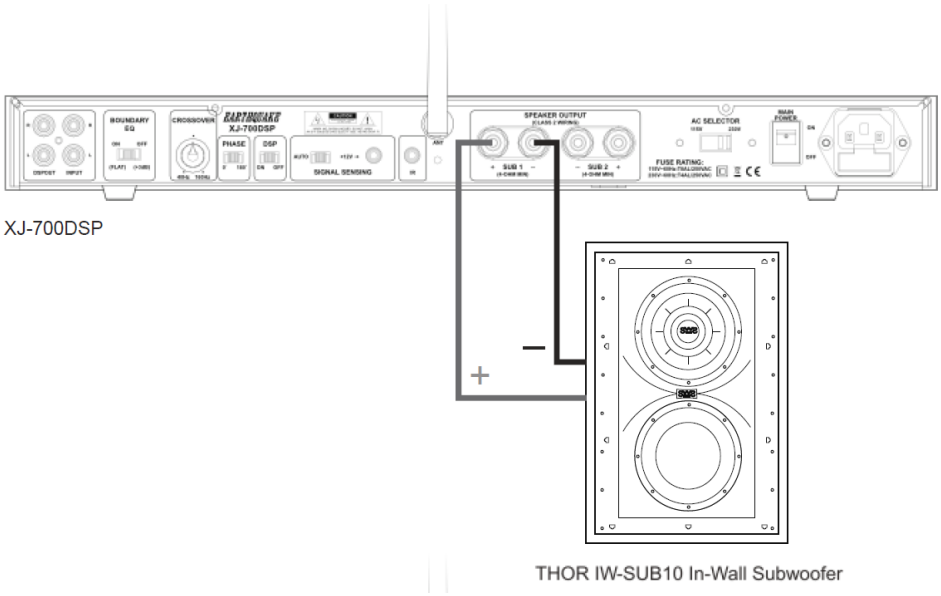
For your convenience, this included remote can be downloaded into a learning/programmable remote.

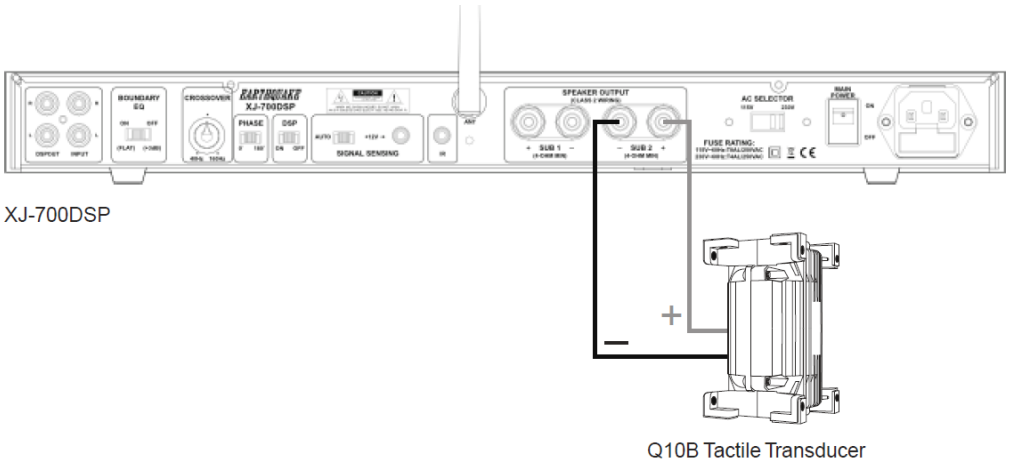
- **IR Code:** 00H FFH
- **Customer Code:** 85229080

Connecting Your XJ-700DSP

To Power 1THOR IW-SUB10 or 1 Q10BTransducer

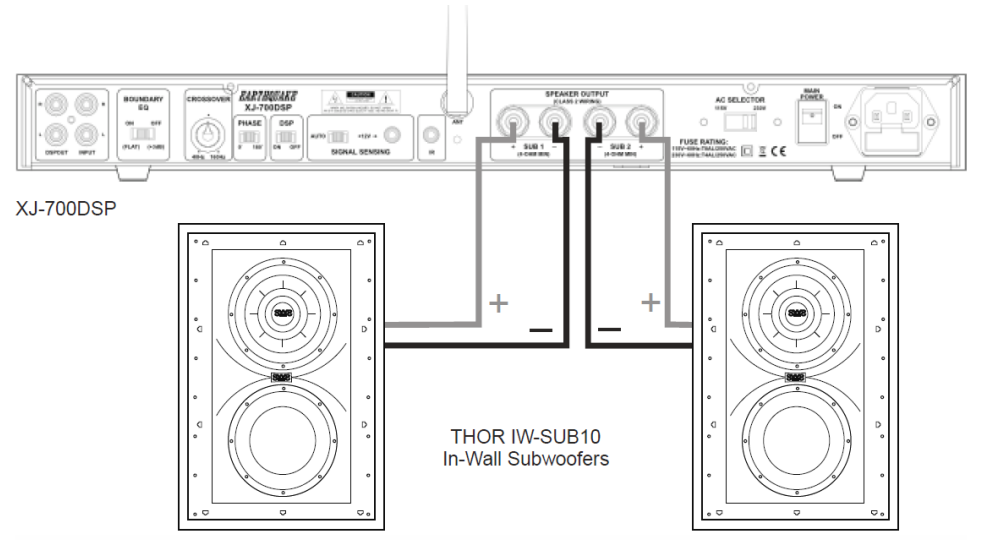
- The XJ-700DSP has two speaker output terminals. A subwoofer can be connected to either SUB 1 or SUB 2. The same amount of power will be produced from either terminal.
- In case the subwoofer becomes out of phase with the rest of the system, adjust the phase shift to correct the problem. Note that maximum bass is only achieved when the sub is in phase with the speakers in your system.

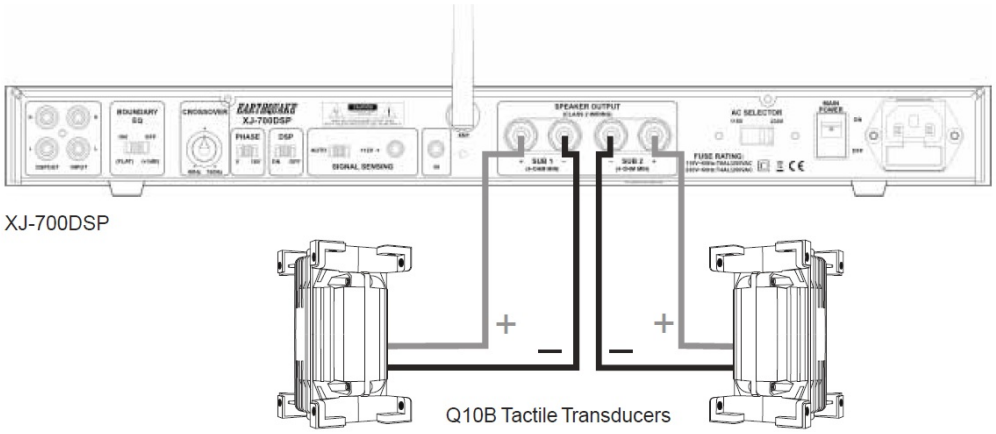




To Power 2THOR IW-SUB10 or 2 Q10BTransducers

- The XJ-700DSP has two speaker output terminals. The power output is evenly divided between the two terminals. In this case, a minimum of 4-Ohm load/impedance is required on each terminal.
- In case the connected subwoofers become out of phase with the rest of the system, adjust the phase shift to correct the problem. Note that maximum bass is only achieved when the sub is in phase with the speakers in your system.

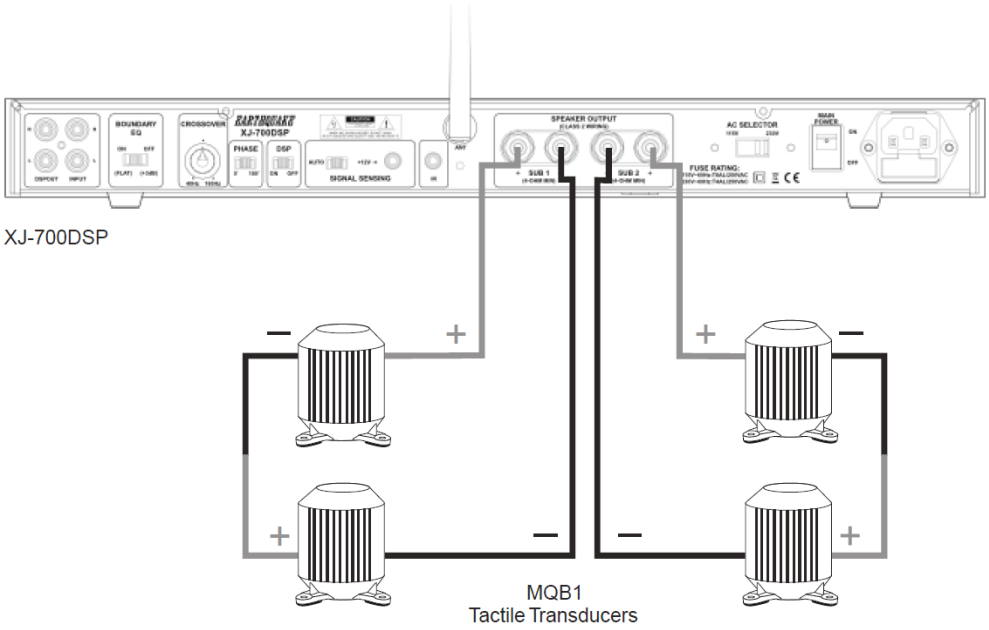




NOTE: A MINIMUM OF 4-OHM LOAD/IMPEDANCE IS REQUIRED ON EACHTERMINAL.

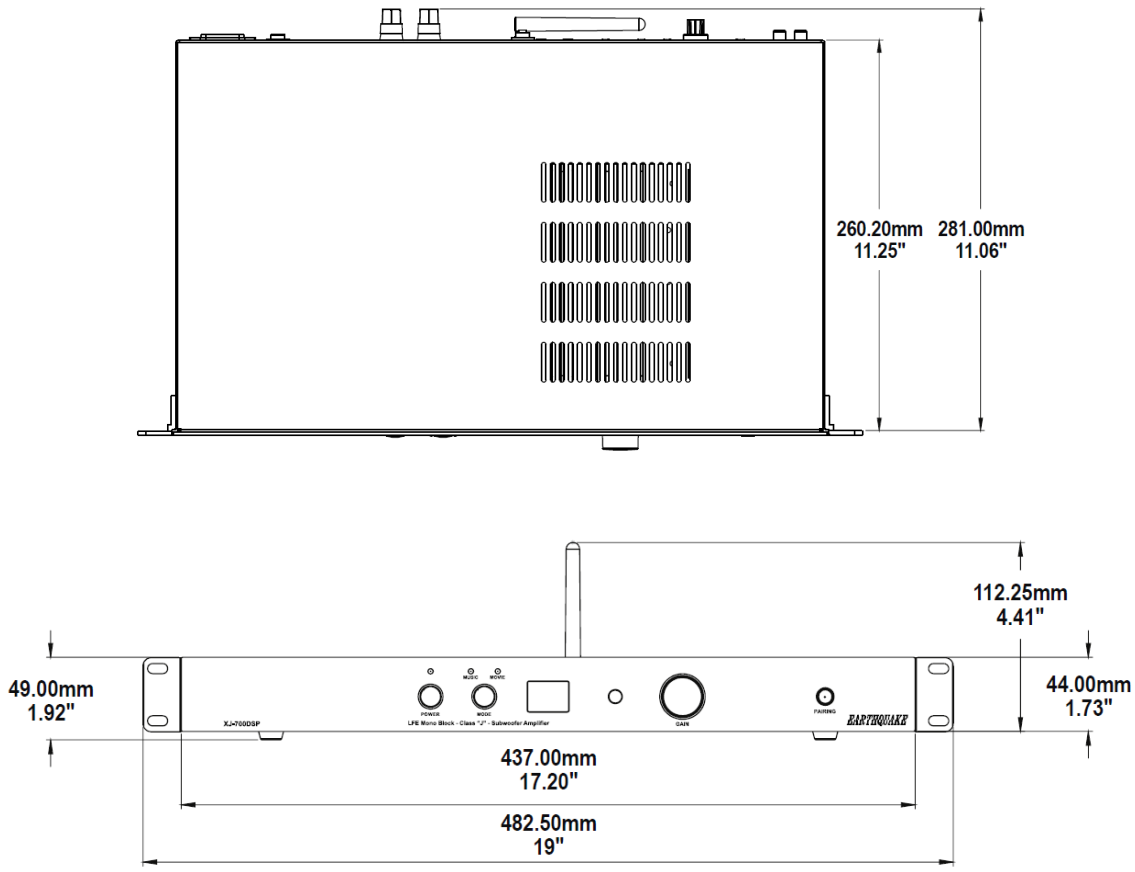
To Power 4 MQB1 TactileTransducers

- The XJ-700DSP has two speaker output terminals. The power output is evenly divided between the two terminals. In this case, a minimum of 4-Ohm load/impedance is required on each terminal.
- In case the connected subwoofers become out of phase with the rest of the system, adjust the phase shift to correct the problem. Note that maximum bass is only achieved when the sub is in phase with the speakers in your system.



NOTE: A MINIMUM OF 4-OHM LOAD/IMPEDANCE IS REQUIRED ON EACHTERMINAL.

Dimensions and Specifications



Power Handling	1 x 700 Watts RMS @ 4-Ohm 1 x 400 Watts RMS @ 8-Ohm	**Damping Factor**	> 500
Frequency Response	13Hz - 160Hz	**Input Connections**	RCA
Total Harmonic Distortion	< 0.02% (1W/4-Ohm)	**Output Connections**	5-way binding posts
Slew Rate	50 V/ms	**Fuse Ratings**	115V~60Hz: ø5x20mm, T8AL/250V 230V~50Hz: ø5x20mm, T4AL/250V
Signal to Noise Ratio	> 112 dB (balanced) > 108 dB (unbalanced)	**Rack Mountable**	Yes (1U)

Room Tuning With iWoofer™ App

About iWoofer™

iWoofer™ is a mobile based application developed by ARTEM KHLYUPIN, that allows the user to control DSP settings from a mobile device. In addition to full DSP control, the iWoofer™ Pro app offers automatic room correction to achieve a more linear or boomy response from the woofer.

Getting Started

Launch the iWoofer™ or iWoofer™ Pro app on your mobile device. Ensure that the iWoofer supported subwoofer is powered on and that Bluetooth is enabled on your mobile device. There is no need to search for the Bluetooth signal, the iWoofer™ app will automatically find it. Once the application has been launched, a list of devices found will appear as shown in the image. The device name is generally a string of letters and numbers representing the unique MAC or UDID address of the woofer you are connecting to. Alternatively, the “Demo Mode” can be used to test the iWoofer™ features without connecting to a woofer.

After selecting your device, you will be prompted to import a DSP preset. If no previous presets have been saved on the woofer, select “Cancel” to continue connecting, otherwise select “OK”. Your mobile device will now connect with the woofer. Once connected, the device can be renamed from the “Options” menu.

Main Menu

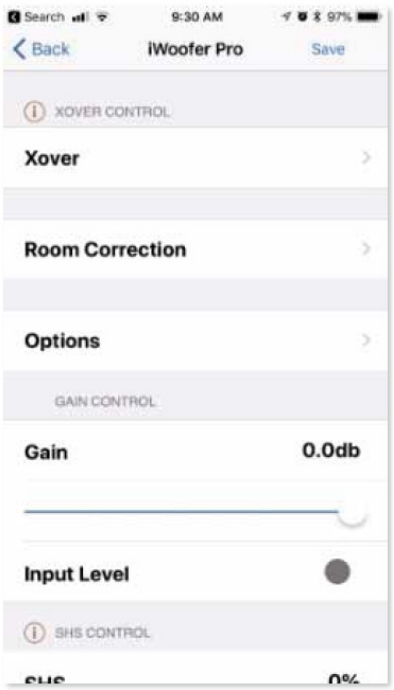
Once connected, the iWoofer™ application will automatically take you into the main menu. The iWoofer™ menu

features and options are listed below.

- XOver Control
- Gain Control
- SHS Control
- Delay Control
- Phase Control
- Limiter-Compressor Base Control
- Limiter-Compressor Detailed Control*
- Dynamic Bass Base Control
- Dynamic Bass Detailed Control*
- Remote Hardware Control
- Preset Manager
- Preset Import/Export Features
- Room Correction*
- SPLMeter*

iWoofer Pro Features Only

Main Menu Continued



Xover Control

- The XOver or Crossover control allows the user to control both the Low Pass and High Pass filters by double tapping the curve, or pressing and holding it for more than 1 second. The curve can then be slid left to right to control the frequency from 20Hz up to 500Hz. The curve can also be slid up and down to control the order of the filter up to an 8th order or 48 db/oct filter.
- To add a fully Parametric Equalizer (PEQ), select the “+” icon. Up to 25 bands can be added, to remove a band

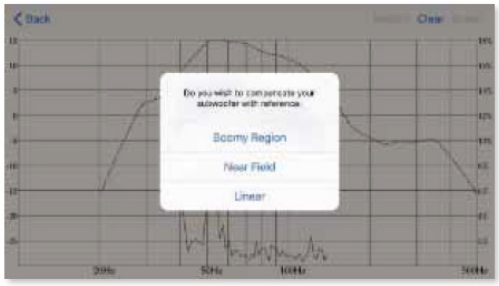
select the trash icon. Double tap or press and hold a band for more than one second to select it. Once selected, slide the band left or right to change the frequency and up and down to control the gain. You can also use two fingers in a zoom in or zoom out fashion to change the Q factor, or PEQ bandwidth.

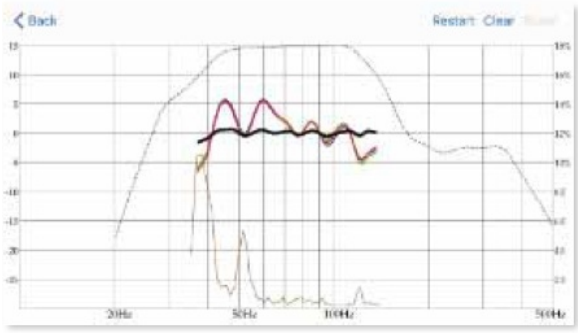
Room Correction Control

- The iWoofer™ Pro app features automatic room correction. To begin select “Room Correction” from the main menu. Once there select “Wizard” to begin the automatic correction process. Before beginning, ensure that the gain knob is properly adjusted on the woofer and that the sub is not overdriven.
- The iWoofer™ Pro app will begin by taking a near field measurement. Place the microphone as close as possible to the subwoofer and equal distance from the passive side. This can best be done by placing the microphone so that it is facing the side of the subwoofer halfway between the active and passive. After placing your mobile device in the proper location, select “Next” to begin the sweep. It is important to remain as silent as possible during the sweeps. The subwoofer will now sweep through the frequency range. Once completed, you will be asked to add an additional response or sweep measurement or you may continue. Earthquake Sound

recommends performing a minimum of 3 response sweeps in order to get an accurate measurement.

- Once you have obtained the desired sweeps select “No, Next” to continue to the next step. You will then be prompted to select the reference type for the room compensation, Boomy Region, Near Field or Linear. We recommend the “Boomy Region” selection since it maintains the high energy peaks of the low frequencies while creating a linear response for the mid range. The Near Field option is ideal for users with poor mic tolerance as it measures relative SPL and only compensates for the room reflection and not the woofer/box itself. The final reference, Linear, creates as flat as a response curve as possible throughout the frequency range.
- After the desired option is selected, iWoofer™ will then instruct you to place the mic in your typical listening position. Once the mic is placed, click
- “Next”. The iWoofer™ Pro app will then proceed to sweep again. As before, we recommend performing at least 3 response sweeps. Click “No, Next” when you have concluded your response sweeps and iWoofer™ will proceed to make the necessary adjustments to your subwoofers response.





For more information on additional features of iWoofer™ and iWoofer™ Pro, please refer to the user manual found here: https://iwoofer.jimdo.com/app/download/786915331 4/iWoofer_AppManual.pdf?t=1507516193

FREQUENTLY ASKED QUESTIONS

DOWNLOAD THE PDF LINK: Earthquake Sound XJ-700DSP LFE Class J 700W Subwoofer Amplifier USER MANUAL

Manuals+,