



The Sound That Will *Move* You

XJ-300ST

Modular Class "J"
Stereo or Mono Amplifier



User Manual



The Sound That Will *Move* You

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Earthquake Sound Corporation
2727 McCone Avenue, Hayward CA, 94545
Phone: (510) 732-1000 Fax: (510) 732-1095

Earthquake Sound Corp. | (510) 732-1000 | www.earthquakesound.com

Earthquake Sound Corporation
2727 McCone Avenue
Hayward, CA 94545
Tel: 510-732-1000
Fax: 510-732-1095



Customer Support
tech@earthquakesound.com
Tel: 800-576-7944
Fax: 510-732-1095

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Safety Instructions

Safety First

This documentation contains general safety, installation, and operating instructions for XJ-300ST. It is important to read this user's manual before attempting to use these products. 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.

- Bent amplifier casing, damaged finish on the casing due to abuse, misuse or improper use of cleaning material.
- Burnt tracers on PCB.
- Product/part damaged due to poor packaging or abusive shipping conditions.
- Subsequent damage to other products.

A warranty claim will not be valid if the warranty registration card is not properly filled & returned to Earthquake with a copy of the sales receipt.

(E) Service Request:

To receive product service, contact Earthquake Service Department at (510) 732-1000 and request an RMA number (Return Material Authorization). Items shipped without a valid RMA number will be refused. Make sure you provide us with your complete/correct shipping address, a valid phone number, and a brief description of the problem you are experiencing with the product. In most cases, our technicians might be able to resolve the problem over the phone, thus eliminating the need to ship the product.

(F) Shipping Instructions:

Product(s) must be packaged in its original protective box(es) to minimize transport damage and prevent repackaging cost (at the ongoing rates). Shipper claims regarding items damaged in transit must be presented to carrier. Earthquake Sound Corporation reserves the right to refuse improperly packed product. A copy of the original sales receipt must accompany product returned to service. We encourage you to include with the package a written description of the problem. Ship product to:

Earthquake Sound Corp.
2727 McCone Avenue, Hayward, CA 94545
Tel: (510) 732-1000

You are responsible for the cost of shipping the product to Earthquake Sound Corporation.

(G) Disputes Resolution:

All disputes between clients and Earthquake Sound Corporation resulting from the five (5) year limited warranty policy must be resolved according to the laws & registration of the county of Alameda, California.

5 Year Limited Warranty

Earthquake warrants the original purchaser that all Factory Sealed New Audio Products to be free from defects in material and workmanship under normal and proper use for a period of five (5) years from the date of purchase (as shown on the original sales receipt with serial number affixed/written on it).

The five (5) year limited warranty period is valid only if an authorized Earthquake dealer properly installs the product and the warranty registration card is properly filled out and sent to Earthquake Sound Corporation. If a non-authorized party installs the product, a ninety (90) day warranty period will be applied.

(A) Five (5) years limited warranty plan coverage guidelines:

- **First year:** Earthquake pays for labor, parts, and ground freight (only in US mainland, not including Alaska and Hawaii. Shipping to us is not covered).
- **Second, third, fourth & fifth year:** Earthquake pays labor only. Customer must pay for parts and freight both ways.

(B) Warning:

- Products (sent in for repair) that are tested by Earthquake technicians and deemed to have no problem will not be covered by the limited warranty. Customer will be charged a minimum of one (1) hour of labor (at ongoing rate) plus shipping charges back to customer.
- Each product sent in for repair must be packaged in its original packaging. Otherwise, **repackaging charges will apply in addition to the labor, parts and shipping charges**

(C) Earthquake will repair or replace at our option all defective products/parts subject to the following provisions:

- Defective products/parts have not been altered or repaired by anyone other than an Earthquake factory approved technician.
- Products/parts are not subjected to negligence, misuse, accident or damage by improper line voltage.
- Products/parts were used with incompatible products.
- The serial number or any part of the product has been altered, defaced or removed.
- Products/parts have been used in any way that is contrary to Earthquake's written instructions.

(D) Warranty Limitations:

Warranty does not cover products that have been modified or abused, including but not limited to the following:

- Damages to speaker cabinet and cabinet finish due to misuse, abuse or improper use of cleaning materials/methods.
- Bent speaker frame, broken speaker connectors, hole(s) in speaker cone, hole(s) in surround &/ dust cap, and burnt speaker voice coil.
- Fading and/or deterioration of speaker components & finish due to improper exposure to elements.

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 short cuts).
- 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. A 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 & accessories specified by the manufacturer.
- 12) Use only compatible rack or cart for final resting position.
- 13) Unplug this apparatus during lightning storm 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 anyway, 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.

Unpacking System Components

- Keep the original carton and packing materials 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.

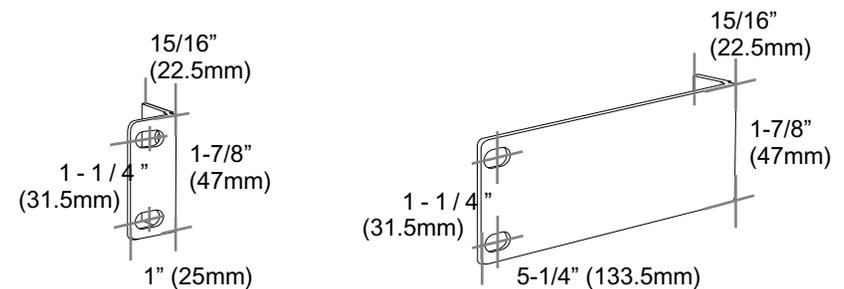
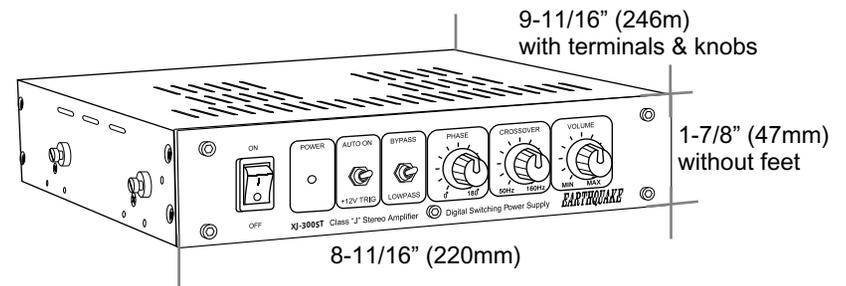
System Installation Considerations

There are several factors to consider before installing Earthquake Sound's **XJ-300ST**.

- What are the intended listening zones?
- What system options and accessories might be required for features such as local sources, etc.?
- From where in each zone will the listener prefer to control the system? Where will the remote gains be located? Where will the speakers be located?
- Where will the source equipment be located?

Connection Tips

- Keep all power cords away from all signal cables to prevent humming from induced 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 to reduce potential hum noise pick up.
- Label both ends of all wires with the corresponding room location.
- It is best to use a grounded electrical outlet to power the amplifier. Lack of input ground reference could be unsafe. Consult your electrical contractor about proper grounding.



Short Mounting Ear
included with every XJ-300ST

Long Mounting Ear
sold separately (model no. RM-300FR)

Output Power	2 x 110 Watts RMS @ 8-Ohm 2 x 170 Watts RMS @ 4-Ohm 1 x 170 Watts RMS @ 8-Ohm Mono 1 x 300 Watts RMS @ 4-Ohm Mono (Do not use this amplifier in 2-Ohm)
Frequency Response	20Hz - 20kHz
Total Harmonic Distortion	< 0.08%
Damping Factor	> 400
Signal to Noise Ratio	> 97 dB
Input Sensitivity for Full Output	0 - 5V
Input Connections	RCA
Input Impedance	10-kOhm
Output Connections	5-way binding posts
Fuse Ratings	110-115V~60Hz: ø5x20mm, T5.0AL/250V 220-240V~50Hz: ø5x20mm, T5.0AL/250V
Rack Mountable	Yes (1U)

FUSE RATING: T5.0AL/250V

Introduction

The XJ-300ST amplifier is an extremely versatile and modular amplifier. It can be used as a two channel, 2.1 channel, or bridged as a 1 channel amplifier. The XJ-300ST runs completely cool while outputting twice the power of most amplifiers its size. Therefore, it is extremely flexible and can be used in many different applications.

Multiple Mounting Options

The XJ-300ST is only one rack space tall and has a half-rack width chassis. This smart design features a patented interlocking design so two XJ-300STs can be connected side by side and be rack mountable. Other amplifiers of the same size run too hot to mount them near anything else which defeats the purpose of their size. Because the XJ-300STs run completely cool, you can comfortably mount other components directly above or below them in the rack. This means ultimate convenience for the installer. There are also additional mounting holes on the sides of the amplifier so that short brackets can be attached and the amp can be mounted directly to a wall or inside a cabinet.

Speaker Set-up Options

One or two XJ-300STs can power a 2.1 channel system. This depends on how much power you want to output to your speakers. One XJ-300ST can be used for two speakers while the other can be bridged as a monoblock. Alternatively, you can use two linked XJ-300STs as a 4 channel system. For a more high powered system, bridge both of them and designate one speaker or sub to one amplifier and another speaker or sub for the other. The installer is completely in charge of how the amplifier's power is distributed.

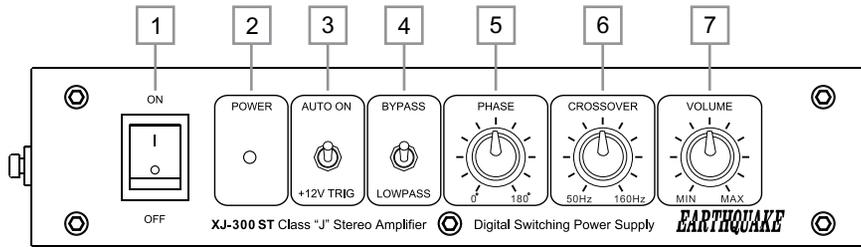
Applications

The XJ-300ST has countless applications because of how customizable the channel set-up is. If you need to install in-ceiling speakers in the kitchen, tower speakers in the living room, or rock speakers outside, the XJ-300ST can perform accurately in every situation.

Included in the Box

- 1 XJ-300ST Class "J" Amplifier
- 4 Short Mounting Ears
- 12 Screws for Mounting Ears
- 1 Back Bracket
- 4 Screws for the Back Bracket
- 4 Rubber Feet
- 1 Power Cord

Front Panel Overview



1) Power Switch

Turns the amplifier unit ON or OFF.

2) LED Status Light

This green LED indicates the power status of the amplifier.

Power	Signal Sensing	audio signal?	+12V signal?	LED
ON	AUTO ON	Yes	n/a	On
		No	n/a	Off
ON	+12V TRIG	Yes	Yes	On
		No	No	On
OFF	+12V TRIG	Yes	Yes	On
		No	No	Off

3) Signal Sensing Toggle Switch

When set to "AUTO ON", the amplifier will only turn on whenever signal (50mV minimum) is present. Once signal is no longer present, the amplifier will shut off automatically after about 20 minutes. Note that the power switch must be in the ON position at all times for the AUTO sensing to work.

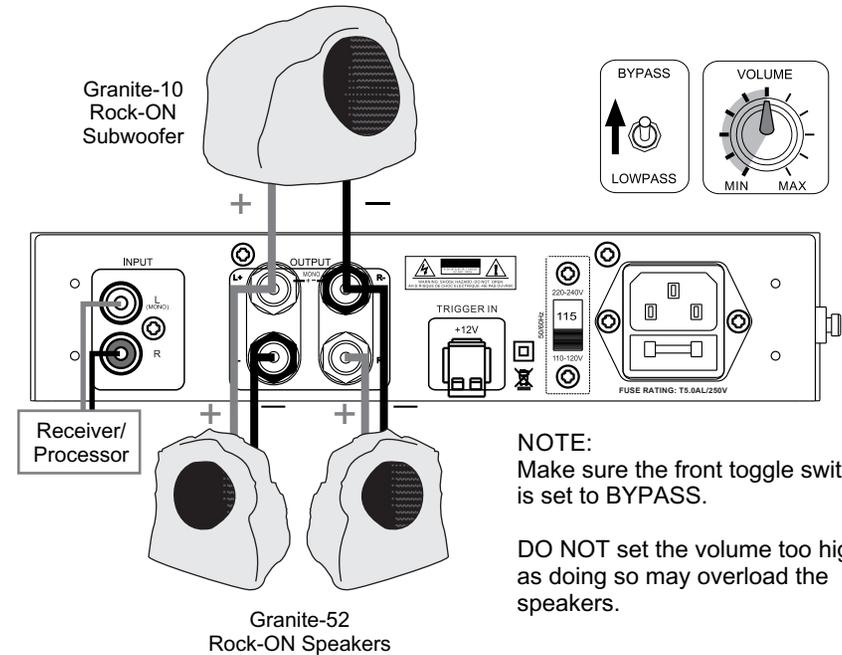
Set to "+12V TRIG" if the amplifier is being powered by an external source. The power switch can either be in the ON or OFF position. However, we suggest keeping the power switch in the OFF position so the amplifier shuts off once the external source is turned off.

4) Bypass/Lowpass Toggle Switch

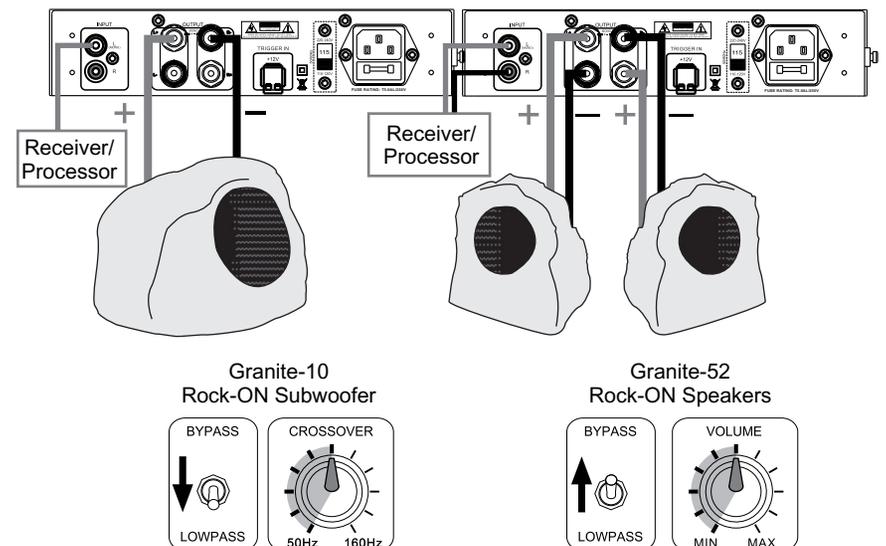
Setting the switch to "BYPASS" will turn the crossover control OFF. This setting is best when using the XJ-300ST in the 2-channel or 2.1 configuration.

Setting it to "LOWPASS" turns the crossover control ON. This setting is best when using the XJ-300ST as a mono block or subwoofer amplifier.

To Power the Rock-ON Outdoor 2.1 System - Option 1

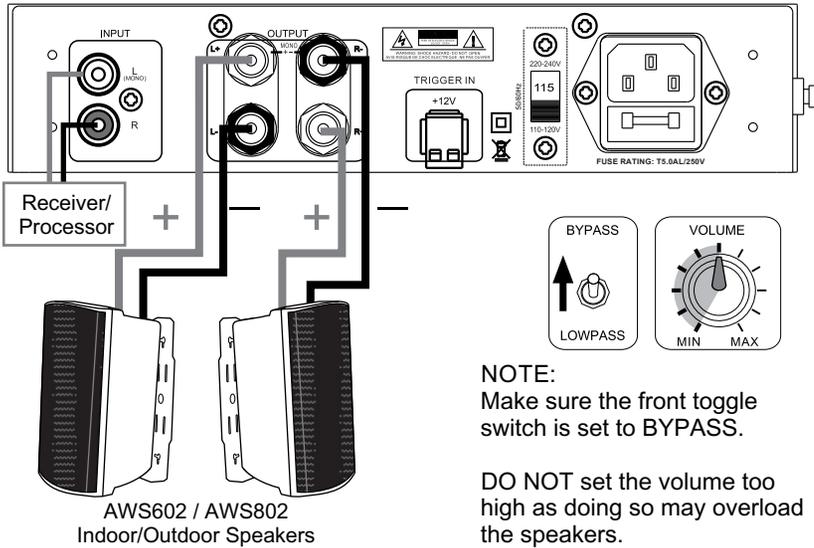


To Power the Rock-ON Outdoor 2.1 System - Option 2

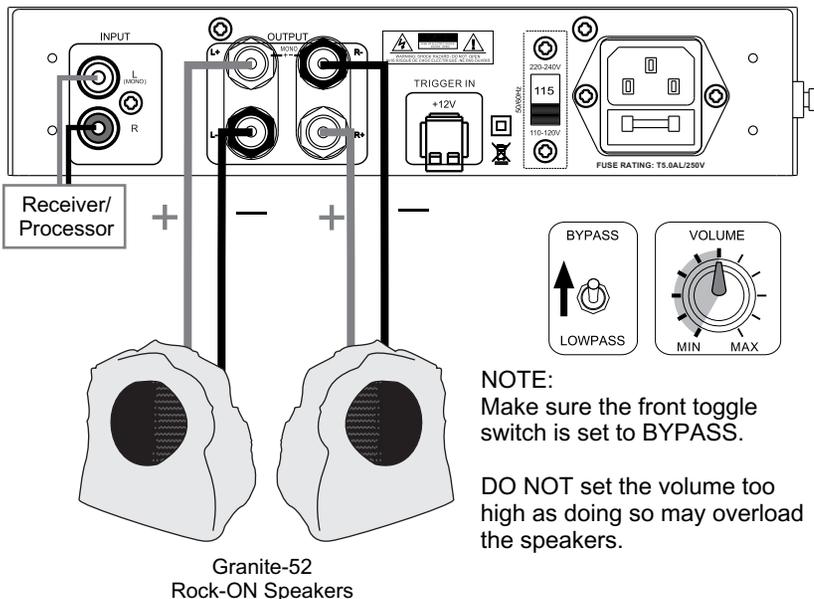


Connecting to Outdoor Speakers

To Power the All Weather Speakers - Stereo Wiring



To Power the Rock-ON Outdoor Speakers - Stereo Wiring



5) Phase Setting

If you are using the XJ-300ST to power a subwoofer, use this knob to correct the arrival time of the subwoofer's frequencies to that of your speakers. Note that this feature only works when the amplifier is set to "LOWPASS".

To do this with the highest accuracy, you will need an SPL meter - available at most electronics stores. To set the phase:

- Send a 50Hz continuous tone signal through the speakers and the subwoofer at the same time.
- Turn the phase knob to 0 and place the meter in the listening position.
- While the system is playing the 50Hz tone, read the meter.
- Rotate the phase knob until the meter reads the highest possible.
- Take note of the position for future reference.

6) Crossover Setting

Sets the 3dB down maximum frequency range. This feature only works when the amplifier is set to "LOWPASS".

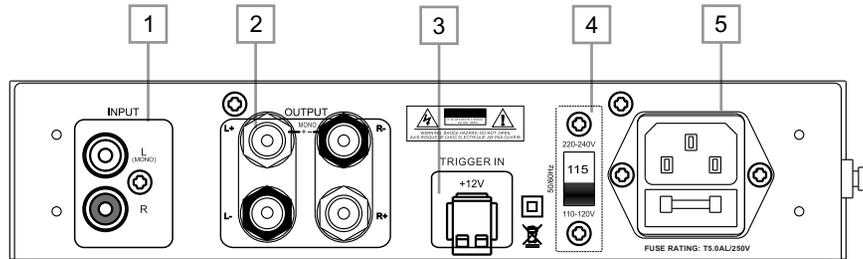
As a rule of thumb:

- If you are powering the THOR IW-SUB10, Q10B tactile transducer, or a large subwoofer (12"–18"), set the crossover to 50Hz–100Hz.
- If you are powering an MQB1 tactile transducer, a 10" subwoofer, or a small front speakers, set the crossover to 70Hz or the 9 o'clock position.
- If you are powering a small subwoofer (8" or smaller) or small speakers, set the crossover to 100Hz or the 12–2 o'clock position.

7) Volume Setting

You should always start at the MIN position and slowly increase the volume to reach the desired sound level. Set based on the input level and power rating of your load.

Back Panel Overview



1) RCA Inputs

This is the most common audio input. If you are using the XJ-300ST as a mono block (1-channel amplifier), connect to both RCA input terminals to get the full 300W output.

2) Speaker Outputs

To use the XJ-300ST as a stereo 2-channel amplifier, connect the right speaker to the R+ and R- terminals. Then, connect the left speaker to the L+ and L- terminals.

If using the XJ-300ST as a monoblock/1-channel amplifier, connect the positive speaker wire to the L+ terminal and connect the negative speaker wire to the R- terminal. Do not connect anything to the lower speaker terminals.

To use the XJ-300ST as a 2.1-channel amplifier (TRI-MODE), connect the right speaker to the R terminals (R+/R-) and connect the left speaker to the L terminals (L+/L-). Then, connect the subwoofer positive to the L+ terminal and the subwoofer negative to the R- terminal.

3) +12V Trigger Input

Used when an external source is powering the XJ-300ST. For this to work, the Signal Sense toggle switch in the front of the amplifier must be set to "+12V TRIG."

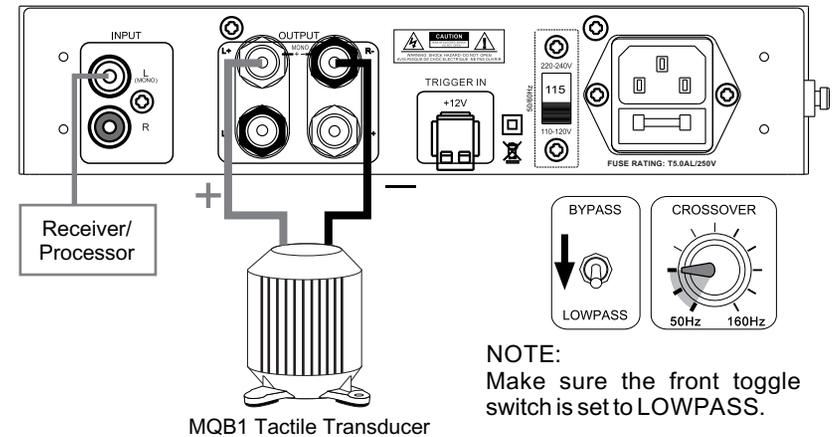
4) 110V/220V AC Selector

The XJ-300ST can operate in a 110-120V or 220-240V environment. The amplifier should already be set to the correct voltage depending on your region.

If not, make sure the amplifier is not connected to any power source. Set the selector to the required power setting and replace the fuse to the proper rating prior to connect the amplifier back to a power source.

Connecting to Tactile Transducers

To Power the MQB1 Tactile Transducers - Mono Wiring

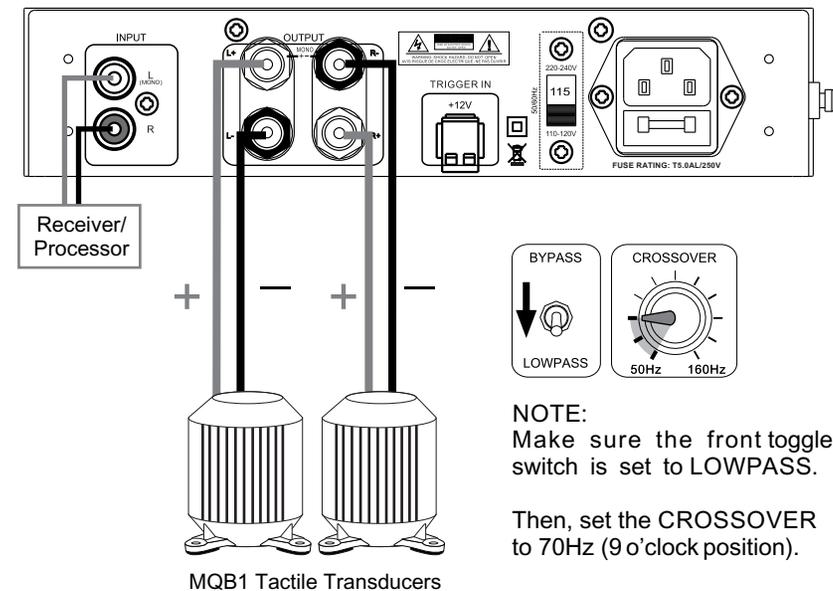


NOTE:
Make sure the front toggle switch is set to LOWPASS.

Then, set the CROSSOVER to 70Hz (9 o'clock position).

Connecting to Tactile Transducers

To Power the MQB1 Tactile Transducers - Stereo Wiring

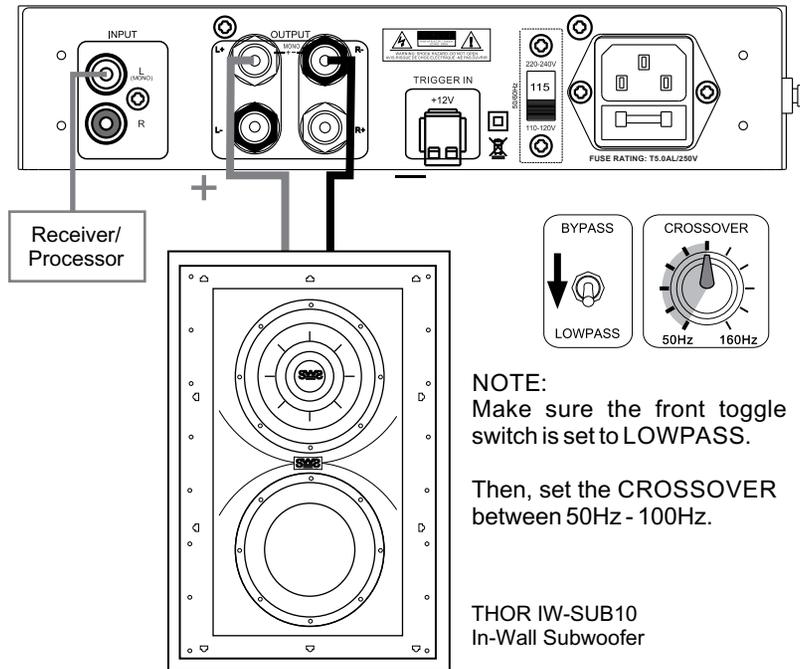


NOTE:
Make sure the front toggle switch is set to LOWPASS.

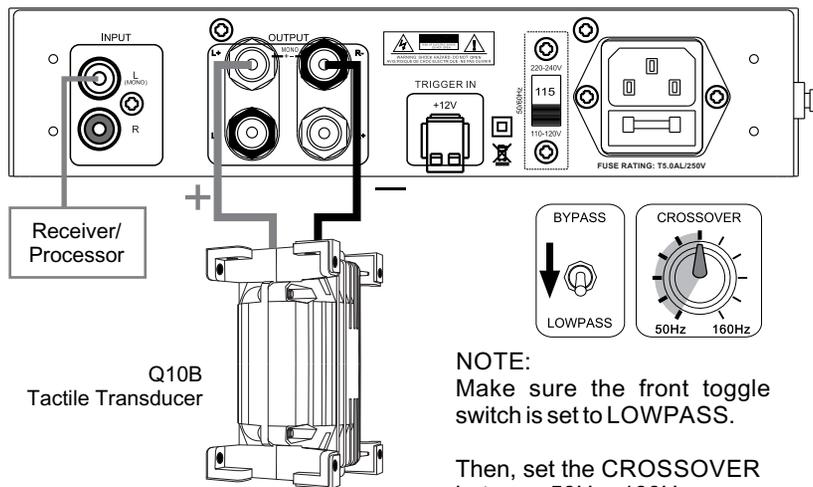
Then, set the CROSSOVER to 70Hz (9 o'clock position).

Connecting to a Subwoofer/Tactile Transducer

To Power the THOR In-Wall Subwoofer - Mono Wiring



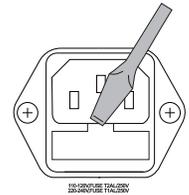
To Power the Q10B Tactile Transducer - Mono Wiring



5) AC Power with Built-in Fuse

This AC line connector is fused to protect the amplifier from unwanted power surge. Be sure to use the proper fuse rating when replacing the fuse:
110-120V~60Hz: ø5x20mm, T5.0AL/250V
220-240V~50Hz: ø5x20mm, T5.0AL/250V

To access the fuse compartment, simply unplug the amplifier from any power source, place a flathead screwdriver in the small notch and pry it open as illustrated.

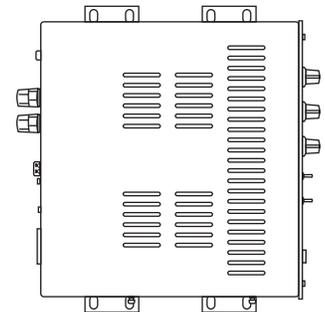


Mounting Options for 1 XJ-300ST

Wall (or anywhere) mountable

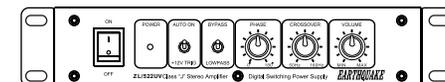
The XJ-300ST can be mounted to a wall or inside a cabinet. Simply screw in the four short mounting ears to the matching holes on the side of the amplifier chassis. Then, secure the amplifier to any vertical or horizontal surface.

The XJ-300ST also comes with four rubber feet to prevent any damages to the bottom of the amplifier when it simply sits on a shelf or cabinet.



Rack mountable

To rack mount an XJ-300ST amplifier, install the long rack mounting ears (sold separately - model no. RM-300FR) to each side of the amplifier.



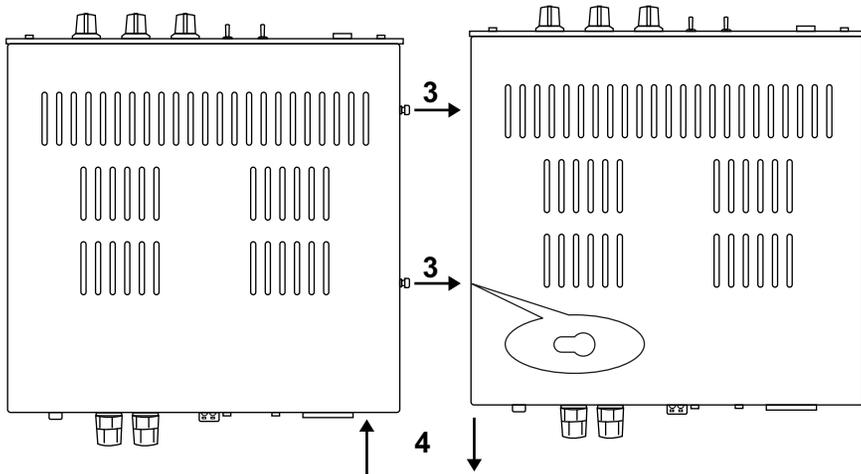
Small Mounting Ears Included
Half Rack Compatible



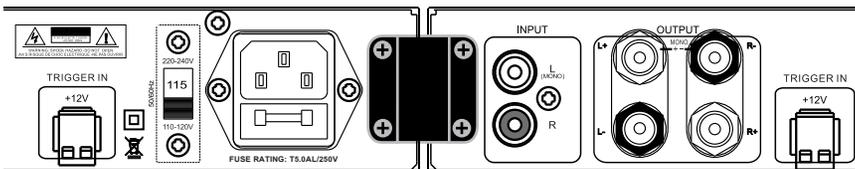
Long RM-300FR Mounting Ears
Full Rack Compatible
(Sold Separately)

Linking 2 XJ-300STs

The XJ-300ST's ingenious design lets the user link two amplifiers together depending on the desired channel setup.



- 1) Line up the linking bolts on one amplifier with the linking holes of the other amplifier and push them towards each other.
- 2) Once the linking bolts are in the linking holes, push the amplifier with the linking bolts towards the faceplate while pushing the other amplifier towards the backplate to lock the two amplifiers together. The amplifiers are linked together correctly when both face plates are flush with one another.
- 3) Install the linking bracket to the backplates of the linked amplifiers for added reinforcement (as shown below).



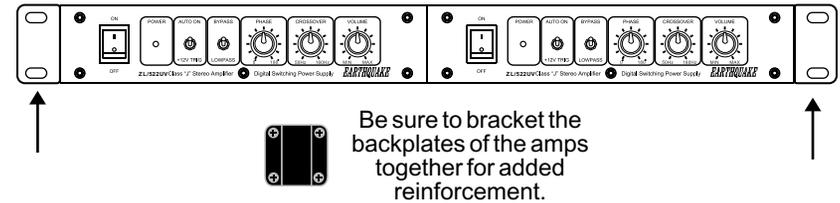
WARNING

DO NOT APPLY ANY PRESSURE TO THE FRONT OR BACKPLATES OF THE AMPLIFIERS AS DOING SO WILL CAUSE DAMAGE TO THE KNOBS, TOGGLE SWITCHES AND/OR TERMINALS. AMPLIFIERS DAMAGED IN THIS MANNER ARE NOT COVERED BY WARRANTY.

Mounting 2 XJ-300STs

Rack mountable

To rack mount two linked XJ-300ST amplifiers, install one short rack mounting ear to each side of the amplifier as shown below.



Wall (or anywhere) mountable

To wall mount two linked XJ-300ST amplifiers, install two short mounting ears to the outer sides of the linked amplifiers as shown below.

