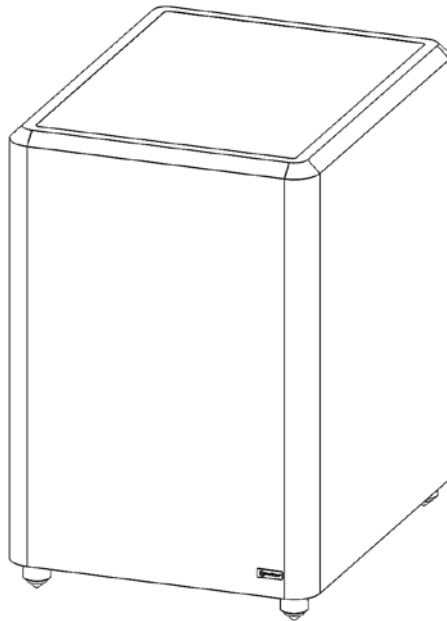


# Ultra-X13

THX Ultra Powered Subwoofer



**Outlaw**

®

**Owner's Manual**

Version 1.0

## Please Read First



**Caution:** To reduce the risk of electric shock, do not remove the cover. No user serviceable parts inside. Refer to qualified personnel.

**Warning:** To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

The lightning flash with arrowhead, 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 electrical shock to persons.

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

## Warning: Important Safeguards

- **Read instructions:** All safety and operating instructions should be read before the unit is operated.
- **Retain instructions:** The safety and operating instructions should be retained for future reference.
- **Heed warnings:** All warnings on the unit and in the operating instructions should be adhered to.
- **Follow instructions:** All operating and use instructions should be followed.
- **Water and Moisture:** Do not use the unit near water – for example, near a bath tub, wash bowl, kitchen sink, laundry tub; in a wet basement; or near a swimming pool.
- **Heat:** The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.
- **Power Sources:** The unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your unit dealer or local power company.
- **Grounding or Polarization:** The unit may be equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact a licensed electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- **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 where they enter a plug, a convenience receptacle, and the point where they exit from the unit.
- **Lightning:** For added protection for the unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect any antenna or cable system. This will prevent damage to the unit due to lightning and power-line surges.
- **Cleaning:** unplug the unit from the wall outlet before cleaning. The unit should be cleaned only as recommended by the manufacturer.
- **Overloading:** Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

- **Object and Liquid Entry:** Never push objects of any kind into the unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.
- **Servicing:** Do not attempt to service the unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- **Damage Requiring Service:** Unplug the unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:  
When the power supply cord or plug is damaged,  
If liquid has been spilled, or objects have fallen into the unit,  
If the unit has been exposed to rain or water,  
If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation,  
If the unit has been dropped or damaged in any way, and great care should be exercised in handling, and the unit should be examined by qualified service personnel,  
When the unit exhibits a distinct change in performance (this indicates a need for service).
- **Replacement Parts:** When replacement parts are required, be sure the replacement parts used have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

## IMPORTANT SAFETY NOTE

Before connecting a new component such as the Ultra-X13 to your audio or home theater system it is always good practice to make certain that all components are turned off, and preferably unplugged from their AC power source. Many modern electronics products feature automatic turn-on circuits that may be activated during an installation, causing the potential for damage to electronic components. Such damage is not covered by product warranties and Outlaw Audio specifically disclaims responsibility for any such damage.

## Precautions

### Verify the Line Voltage

Your new Ultra-X13 has been factory configured for 120V (+/-3%) AC lines. Connecting the unit to a line voltage other than that for which it is intended can create a safety and fire hazard, and may damage the Ultra-X13. If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact Outlaw Audio before plugging the unit into a wall outlet.

**NOTE:** *It is always a good idea to avoid using any audio or video equipment on the same AC circuit as equipment with motors, such as air conditioners or refrigerators. This will lessen the possibility of power variation and electrical start-up noise affecting your sound system.*

### Power Cord

The removable power cord that is shipped with the Ultra-X13 is specifically designed to be used with this product. DO NOT use any other power cord, as that may reduce the unit's performance and possibly create a safety hazard. In particular, DO NOT use standard IEC type power cords designed for computers and other business equipment products, as they have a three-prong plug that is not meant for use with the Ultra-X13. Should the power cord require replacement, use an identical type, or contact Outlaw Audio for service.

## Handle the AC Power Cord Gently

When disconnecting the power cord from an AC outlet, always pull the plug, never pull the cord. If you do not intend to use the Ultra-X13 for any considerable length of time, disconnect the plug from the AC outlet. If the power cord is replaced, make certain that it is of similar gauge. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them. Damaged power cords should be replaced immediately with cords meeting factory specifications.

## AC Fuse

The fuse is located inside the chassis and is not user-serviceable. If power does not come on, contact Outlaw Audio.

## Wiring

Cables that are run inside of walls should have the appropriate markings to indicate compliance with, and listing by the UL, CSA or other standards required by the UL, CSA, NEC or your local building code. Questions about cables inside of walls should be referred to a qualified custom installer, or a licensed electrician or low-voltage contractor.

## Installation Location

To assure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface capable of supporting its weight.

Avoid installation in humid locations, in extremely hot or cold locations, or in areas that are exposed to direct sunlight or space heating equipment.

## Do Not Open the Cabinet

There are no user serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object, such as a paper clip, coin or a staple, accidentally falls inside the unit, disconnect it from the AC power source immediately, and contact Outlaw Audio for further instructions.

## FCC Information for User

**CAUTION:** ANY changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

## Table of Contents

<b>2</b>	<b>Please Read First</b>
<b>4</b>	<b>A Brief Note on This Manual</b>
<b>4</b>	<b>For Future Reference</b>
<b>4</b>	<b>Unpacking</b>
<b>4</b>	<b>Before You Begin</b>
<b>5</b>	<b>Controls and Connections</b>
<b>6</b>	<b>Bass and Overall System Performance</b>
<b>6</b>	<b>Setup Guide</b>
6	Connecting to Your System
6	Connecting with Subwoofer Output
7	Connecting with Left/Right Preamp Outputs but without Subwoofer Output
<b>7</b>	<b>Subwoofer Placement</b>
7	Notes on Subwoofer Placement
<b>8</b>	<b>Subwoofer Controls</b>
8	Power
8	Subwoofer Mode
9	Variable Low-Pass Crossover
9	Phase Knob
9	Volume Level
<b>10</b>	<b>Scattered Subwoofer System</b>
10	Why Two Subwoofers?
10	What's Needed to Connect Two Subwoofers?
10	Placement and Level Control
<b>11</b>	<b>Care and Maintenance</b>
11	Cleaning
11	When You're Away
11	Outlaw Service Information
<b>12</b>	<b>Troubleshooting</b>
<b>12</b>	<b>Ultra-X13 Specifications</b>
<b>13</b>	<b>Notes</b>
<b>14</b>	<b>Outlaw Audio Limited Warranty</b>

C E R T I F I E D B Y



# Ultra-X13 Owner's Manual

Thank you for purchasing the **Outlaw Audio Ultra-X13 Powered Subwoofer**. The Ultra-X13 continues Outlaw Audio's tradition of offering subwoofers that balance the need to fill a home theater or music room with bass while also retaining the ability to produce a flat, accurate frequency response. In a first for Outlaw Audio, the Ultra-X13 has been delivered to the experts at THX, earning the THX Ultra certification.

## A Brief Note on This Manual

To get the maximum performance and enjoyment from your Ultra-X13, please take a few minutes to read this manual. This advice may seem counter to the Outlaw approach to audio, but the pages that follow will help you get full benefit of the Ultra-X13. It contains everything you need to know to connect, configure, and use your new subwoofer. You'll learn how to make your Ultra-X13 work with all of the other components in your system, and how to adjust its settings for the best possible performance.

If you have any questions about your Ultra-X13, its installation or operation, please contact us via e-mail at [customerservice@outlawaudio.com](mailto:customerservice@outlawaudio.com) or via telephone at **1-866-OUTLAWS** (688-5297). You may also find fellow Outlaws hanging out at the Outlaw Saloon. Stop in by clicking on "Saloon" near the top of our home page at [outlawaudio.com](http://outlawaudio.com).

## For Future Reference:

Serial Number:

---

Date of Purchase:

---

The contents of this manual are Copyright © 2017 by Outlaw Audio, LLC, and may not be duplicated or reproduced by any means, whether physical, electronic or otherwise without prior written consent from Outlaw Audio.

Outlaw Audio and the Outlaw Audio logo are registered trademarks of Outlaw Audio, LLC.

Specifications are those in effect at the time of printing. Outlaw Audio reserves the right to change specifications or designs at any time without notice without obligation to modify existing units.

## Unpacking

Your Ultra-X13 has traveled to you in packaging designed to protect it from the hardships of shipping that it inevitably must endure. We recommend you retain these materials for use if you move or if the unit ever needs to be shipped back to the Outlaws for any reason.

You can minimize the size of the carton and packaging for storage. Flatten the inner and outer cartons by carefully opening the top and bottom flaps and folding them flat. Do the same with all cardboard inserts. For foam and other packaging that can't be folded, save it in the unit's protective bag.

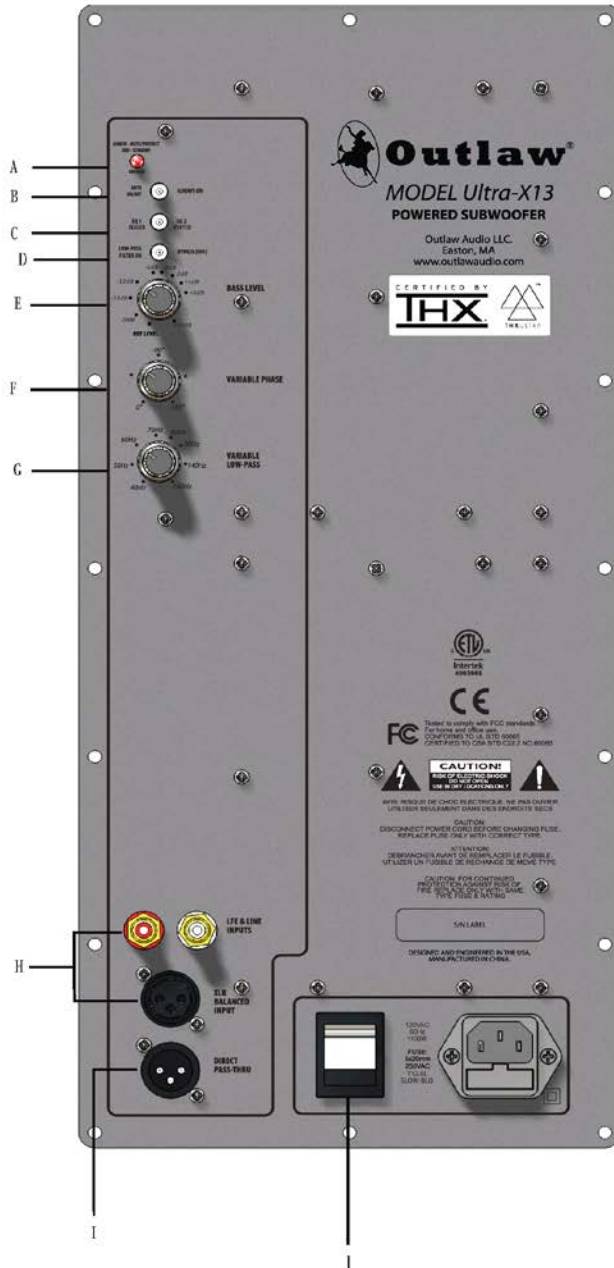
The Ultra-X13 is very heavy, and the heavier internal components are not evenly distributed. We do not recommend moving it alone – even Outlaws need accomplices sometimes.

## Before You Begin

Before proceeding with the integration of the Ultra-X13 into your system, please observe the following precautions and suggestions.

- Do not plug the power cord into the Ultra-X13 until all other connections are made.
- Always refer to the instructions that came with the receiver or processor for specific procedures, warnings and options.
- Make sure to insert all plugs and connectors securely. Improper connections can result in noise, poor performance, or damage to the equipment.
- Do not bundle the subwoofer cable or speaker wire with the power cord. This may adversely affect the sound quality and introduce unwanted hum into your system.

## Controls and Connections



### A. Indicator Light (Page 8)

This LED will light green when receiving signal. It will illuminate red when in standby.

### B. Auto Switch (Page 8)

Setting this switch to AUTO enables the Ultra-X13's signal sense mode, allowing the unit to come out of standby when an audio signal is present.

### C. EQ Switch (Page 8)

You can change the frequency response of the subwoofer by changing both the EQ switch along with how the subwoofer is ported.

### D. Low Pass Filter Switch (Page 9)

When an external crossover, such as those found in a modern AVR or surround processor, is used set this switch to BYPASS the Ultra-X13's internal crossover.

### E. Bass Level (Page 9)

Use this knob to control the output level of the Ultra-X13. We recommend starting with the sub set to REF level and then calibrating your system with your AVR or surround pre-amp/processor.

### F. Variable Phase (Page 9)

Adjusts the phase of the Ultra subwoofer with respect to the main speakers.

### G. Variable Low Pass (Page 9)

Use this control to adjust the crossover frequency of the subwoofer.

### H. LFE & Line Inputs; XLR Balanced Input (Page 6)

Connect the subwoofer output of your receiver, processor, or other source device to one or both of the RCA jacks, or the XLR input.

### I. Direct Pass-Thru (Pages 6-7)

When using XLR, you can use this jack to daisy chain to an additional sub.

### J. Master Power Switch (Pages 6-7)

Use this switch to turn the AC power to the Ultra-X13 subwoofer on or off. If the unit will not be used for an extended period of time, we recommend setting this switch to OFF.

## Bass and Overall System Performance

The goal of an audio system is to recreate the source material as accurately as possible. The components needed to perform this task are an audio source, a receiver or processor/amplifier combination, and speakers.

In the era of digital, multi-channel sound, many listeners have chosen to use frequency-limited "satellite" speakers for the front, center and surround channels. By limiting their frequency range, these speakers may be made smaller, to more easily fit into a wide range of spaces. However, by eliminating the capability to reproduce bass frequencies, a separate speaker that is custom designed to deal with signals below 200Hz is required. That speaker, along with its companion, built-in amplifier is a powered subwoofer.

Even in two-channel systems with traditional bookshelf or tower speakers the bottom two octaves of sound (20 Hz to 80 Hz) are frequently rolled off or not reproduced at all. Here, too, a specialized speaker/amplifier combination is required to deliver the full spectrum of sound from a system.

Finally, many multi-channel digital soundtracks contain a special audio channel devoted specifically to extreme low frequency extension. This signal is the ".1" in 5.1, 6.1 and 7.1 systems and is sometimes referred to as the LFE channel.

Regardless of which of these situations create the need, a subwoofer is absolutely essential for accurate audio reproduction of both movies and music. A properly designed subwoofer such as the Outlaw Ultra-X13 can provide a visceral impact that most speakers are not able to provide on their own. No matter what type of speakers comprise the rest of your system or what your favorite movie or music is, the Ultra-X13 is up to the task of completing the sonic presentation by providing the impact that only a subwoofer can provide.

## Setup Guide

### Connecting to Your System

To get the maximum performance from your new Ultra-X13 it must be properly connected, positioned properly within the room and configured to match your speakers. To connect the Ultra-X13 you will need either a single audio interconnect cable (in the case of systems with a subwoofer output), a pair of audio interconnects (in the case of systems with a left/right pre-amp output), or an XLR interconnect cable for use when connecting from a receiver or processor with a balanced subwoofer output jack. We also recommend the Outlaw Audio PCA sub cable, but any high quality, shielded audio interconnect will work properly.

### Connecting with Subwoofer Output

If a low-level subwoofer output is available, use this jack to connect your Ultra-X13 subwoofer to your receiver or processor.

To connect the Ultra-X13 to a subwoofer preamp output:

1. Turn off all system components and unplug the processor or receiver and the Ultra-X13 from their AC power source.
2. Locate the "Subwoofer/LFE Output" on the rear panel of your receiver or processor. *Any audio product that decodes Dolby Digital or DTS soundtracks will have this type of jack. Depending on the particular brand or model, this RCA or XLR jack may be labeled "Sub", "Subwoofer", or "LFE Out". If your receiver or processor does not have this type of output you will need to follow the "Connecting to a System with No without a Subwoofer Preamp Output, but with Standard Left/Right Preamp Outputs" instructions that follow this section.*
3. Connect one end of the subwoofer cable to the subwoofer output on the receiver or processor.
4. Locate the connection labeled "LFE & Line Inputs" or "XLR Balanced Input" (H) on the rear panel of the Ultra-X13 and connect the other end of the subwoofer cable to that jack.
5. Plug the Ultra-X13's power cord into an unswitched AC outlet.  
*CAUTION: Due to the power requirements of the Ultra-X13, it must not be connected to the accessory outlets on a receiver or processor.*

*If a power-strip or surge protector is used, make certain that it is rated to accommodate the Ultra-X13's power requirements.*

6. Reconnect your processor or receiver to the AC power source.
7. Proceed to the "Subwoofer Controls" section to learn about the Ultra-X13's controls and how they operate.

### **Connecting to a System without a Subwoofer Preamp Output, but with Standard Left/Right Preamp Outputs**

If your system does not have a dedicated subwoofer preamp output, but has left/right preamp outputs, you can use these jacks to connect your receiver or processor to the subwoofer amplifier.

To connect an Ultra-X13 Subwoofer using standard Left/Right preamp outputs:

1. Turn off all system components and unplug the processor or receiver and the Ultra-X13 from their AC power source.
2. Locate the "Left/Right preamp outputs" on the rear panel of your receiver or processor. Some audio products that do not offer digital surround processing will have these types of jacks. If your receiver or processor does not have this type of output you will need to follow the "Connecting to a system with no pre-amp outputs" instructions that follow this section.
3. If using an external power amplifier, connect a Y-Adapter/Splitter to the left and the right pre-amp outputs (one for each output). If a separate amplifier is not being used, connect a pair of RCA cables to the left and right preamp output and skip ahead to Step 5.
4. Connect one set of the pre-amp outputs created by the Y-Adapters/Splitters directly to your power amplifier with a pair of RCA cables.
5. Locate the connections labeled "LFE & Line Inputs" (H) on the rear panel of the Ultra-X13.
6. Connect the remaining pre-amp output connections to both of the "LFE & Line Inputs" (H) connections on your Ultra-X13 with a pair of RCA cables.
7. Plug the Ultra-X13's power cord into an unswitched AC outlet.

*CAUTION: Due to the power requirements of the Ultra-X13, it must not be connected to the accessory outlets on a receiver or processor. If a power-strip or surge protector is used, make certain that it is rated to accommodate the Ultra-X13's power requirements.*

8. Reconnect your processor or receiver to the AC power source.
9. Proceed to the "Subwoofer Controls" section to learn about the Ultra-X13's controls and how they operate.

## Subwoofer Placement

Placement of your subwoofer is a critical component in maximizing the performance of your Ultra-X13. Placement influences the subwoofer's "perceived" frequency response, sound pressure level (SPL), and overall accuracy. Since each listening room differs in virtually every aspect, the ideal location will also vary.

An easy way to find the right spot to place your new Ultra-X13 is to experiment with what we call the "Subwoofer Switch Trick." This process puts the subwoofer where you normally sit and then lets you play the role of the subwoofer.

1. Place the subwoofer as close to your favorite listening position as possible. If possible, place the unit in front of your couch or easy chair, right in the room's "sweet spot." Provided that there is no damage to your furniture, you may even place the subwoofer on the chair or couch, but remember that the Ultra-X13 is heavy, and the Outlaws are not responsible for any damage to your furniture or for arguments this might cause with other members of the household!
2. Activate the test tone from your processor or receiver's internal test tone generator, or use your favorite test disc so that pink noise plays through the subwoofer. While the test tone is playing, walk around your room to find the spots where you hear the best bass response. Sometimes this may be in the center of the room, while in other cases you may find the best spot in a corner or along a side wall.
3. Turn off the test tone and move the subwoofer to the location where you hear the best bass response. If that location is unacceptable or impractical, repeat the procedure to the spot that is the best compromise between bass performance and aesthetic considerations.

### **Notes on Subwoofer Placement**

Try to avoid creating a listening position that falls directly between the front and back walls as this may cause a strong interference effect due to the collision between bass waves bouncing off the

# Ultra-X13 Owner's Manual

rear wall and new bass waves from the Ultra-X13. When this happens, you might hear an unnatural “build up” in the low frequencies where the bass sounds “bloated”, based on the specific dimensions of the room and the particular frequency being reproduced.

In other situations, you might encounter a “null”, which is caused by two low frequency waves canceling each other out. When this happens, you will find that your favorite listening position is bass shy. In this type of placement situation bass response will suffer greatly regardless of how powerful the subwoofer is. The best way to solve this problem is to change the location of the seating position so that the distance to the front of the room is different than that to the back of the room.

## Subwoofer Controls

### Power

Alongside the power socket is the Master Power Switch (J), which should be switched on once all connections are complete. When this is done, the Indicator Light (A) will illuminate.

The Auto Switch (B) can be set to “Auto On/Off” or “Always On.” In “Auto On/Off” mode, the Ultra-X13 will switch to standby mode after 30 minutes pass without any signal at the subwoofer’s inputs. The Ultra-X13 will also switch out of standby mode when a signal is detected. In “Always On” mode, the Ultra-X13 will remain on even if no signal is present.

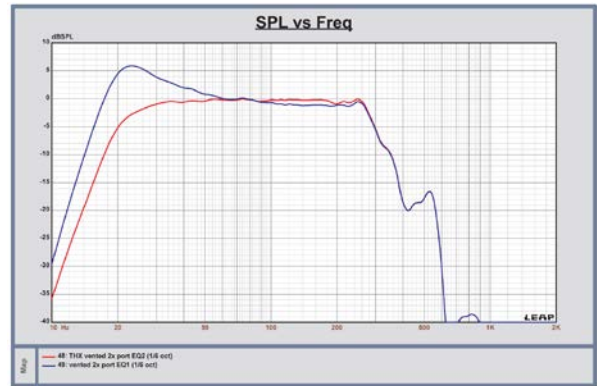
*Note: Some users may connect the Ultra-X13’s power cord to a switched outlet that is controlled by the receiver or processor, in which case the “Always On” setting is recommended.*

### Subwoofer Mode

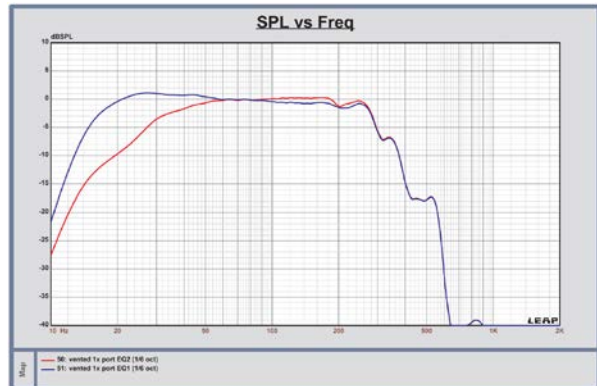
The design of the Ultra-X13 allows you to select from six modes of operation with different bass output and extension performance. The Ultra-X13 is shipped with foam plugs in both ports to produce a sealed subwoofer, but one or both of these plugs can be removed to create a ported subwoofer. In addition to the port plugs, the Ultra-X13 has two equalization modes (EQ Switch (C), settings EQ1 and EQ2) that provide different frequency response curves. The combination of

EQ setting and port plugging provides six possible modes.

With no ports plugged, EQ1 applies a boost from 25Hz to 50Hz. When using EQ2, the input signal is reproduced without any boost, providing playback that is as close as possible to the original intent of the sound mixer. The two EQ curves with the ports open (no port plugs) are shown below, with EQ1 in blue and EQ2 in red.



With one port plugged, EQ1 provides a necessary bass boost to extend your low end while retaining a relatively flat frequency response.



### Subwoofer Configurations

- Configuration 1: Two port plugs and EQ1  
Freq. Response (-6dB): 20-200Hz
- Configuration 2: Two port plugs and EQ2  
Freq. Response (-6dB): 28-200Hz
- Configuration 3: One port plug and EQ1  
Freq. Response (-6dB): 15-200Hz
- Configuration 4: One port plug and EQ2  
Freq. Response (-6dB): 23-200Hz
- Configuration 5: No port plugs and EQ1  
Freq. Response (-6dB): 16-200Hz
- Configuration 6: No port plugs and EQ2 \*  
Freq. Response (-6dB): 20-200Hz



# Ultra-X13 Owner's Manual

The Ultra-X13's performance is THX Ultra Certified when in configuration 6. This certification requires that the subwoofer provide low distortion in conjunction with high enough output to fill a 3,000 cu.ft. room with robust, accurate bass.

## Variable Low-Pass Crossover

By adjusting the variable low-pass crossover (G) on the Ultra-X13, you can perfectly match the subwoofer to your main speakers. If your receiver or processor already has a built-in crossover, disable the crossover on the Ultra-X13 by flipping the Low-Pass Filter switch (D) to the "BYPASS (OFF)" position. Refer to the owner's manual for your receiver or processor to see how to disable any internal crossover capability it may have. If your receiver or processor does not have internal crossover control, set the switch to "Low-Pass Filter On" and follow these steps to set Ultra-X13's variable crossover (G):

Determine the +/- 3dB point of your main speakers. This frequency is usually found on the speaker's specifications sheet or may often be available on the speaker manufacturer's web site. Start with the crossover set approximately to the point closest to this without being lower (such as 50Hz for a -3dB point of 43Hz). By experimenting with the crossover frequency and level control, you can fine-tune the Ultra-X13 so that there is a seamless link between the Ultra-X13 and the main speakers.

If the actual +/- 3dB point cannot be obtained from the speakers' specifications or the manufacturer's web site, you can use the following chart as a guideline:

40Hz	Large tower speaker with one 12 or 15-in. woofer or two 10-in. woofers
50Hz	Small tower speaker with one 10-inch woofer or two 8-inch woofers
60Hz	Small tower or large bookshelf speaker with one 8-in. or two 6-in. woofers
70Hz	
80Hz	Bookshelf speaker with one 6-in. or two 5-in. woofers
90Hz	Bookshelf speaker with one 5-in. woofer or two 4-in. woofers
140Hz	Satellite speaker with one 4-in. woofer or one
160Hz	or two 3.5-in. woofer(s)

## Phase Knob

Depending on the absolute phase of your main speakers and amplifier, as well as the relative distance from the Ultra-X13 and main speakers to the listening position, the bass in the crossover region may be smoother if you reverse the phase of the Ultra-X13. Try the 0°, 90°, and 180° positions on the Variable Phase knob (F) to determine which way sounds more bass-heavy. The bass-heavier position is the setting where the output of the Ultra-X13 and the main speakers are most in phase. Use program materials with bass in the crossover region such as music containing bass drums, double basses, bass guitar, etc. to determine the correct setting. Once you identify the strongest of those three positions, you may fine-tune up or down from that point.

## Volume Level

Using the built-in test tones of your receiver or processor, match the levels of all of your speakers including the Ultra-X13 as described in your receiver or processor's owner's manual. Prior to adjusting settings in your receiver or processor, adjust the Bass Level knob (E). The "-6dB" setting on the Ultra-X13's volume knob should provide enough gain to properly match the sub level to your speakers.

Many receivers and processors will offer an automatic calibration tool such as Audyssey, which will perform this adjustment for you. Other receivers will provide a set of manual test tones. For those receivers, we recommend using an SPL meter such as the Radio Shack (part number 33-2050) or a sound meter app on your smartphone. When using the test tones, measure from the listening chair and set the meter to the 75dB level. In order to accurately measure levels between channels use "C" weighting and the "slow" setting.

*Note: The Radio Shack meter is down about 12 dB at 16 Hz, 7 dB at 20 Hz, and 4 dB at 25 Hz. Add these numbers to the readout to compensate for these errors if necessary.*

## Scattered Subwoofer System

### Why Two Subwoofers?

In most circumstances two subwoofers will perform better than one. While you might assume this is for added SPL, the greatest benefit will actually be smoother bass response.

Room shape, the cubic volume of the room (width x depth x height), furniture, floor coverings and even wall and ceiling material all play a role in bass performance. These factors create peaks and dips in the level of low frequencies at different points in the room. That said, two properly positioned subwoofers will distribute the bass throughout the room with greater accuracy than a single sub. For this reason, many professional acousticians and installers recommend more than one subwoofer. The final result is that you will create a much larger "sweet spot" where the bass is powerful but more importantly smooth and consistent. If near perfect bass response is your goal, consider using two Ultra-X13's for the Outlaw Audio Scattered Subwoofer System.

### What's Needed to Connect Two Subwoofers?

Most of today's digital receivers and pre-amp/processors provide a single subwoofer output. Connecting two subwoofers to these systems is as simple as adding a Y-adapter. A Y-adapter splits a single output into two separate outputs. Be sure to use a Y-adapter that is of equal or better quality than the subwoofer cables you intend to use.

To use the Y-adapter, insert the single male end of the cable to the subwoofer output of your receiver or processor. On the opposite end of the Y-adapter you will now have two separate subwoofer outputs, one for each sub.

When using the XLR input on the Ultra-X13, you may also connect a second subwoofer to the first subwoofer using the Direct Pass-Thru output (I).

### Placement and Level Control

Placement and level control of two subwoofers is somewhat more complicated than using a single subwoofer. However, the end result of two properly placed and calibrated subwoofers is well worth the added effort.

The procedure for placement of the second subwoofer is identical to that of determining the placement of the first subwoofer (see the "Subwoofer Placement" section of this manual). However, the second sub should be placed in the seating area outside of the "sweet spot" where good bass response is also required. Walk around the room until you find the area where the bass sounds the best, just as described in the process for locating a single sub. This spot will almost always be different than the one that was best for the primary sub.

*NOTE: When calibrating your second subwoofer, be sure to turn off the first sub. This will help you to determine ideal placement without being misled by the response of the first sub.*

When calibrating the final levels of each subwoofer, you may want to reduce their output to compensate for the added 3 or 4 dB of gain created by using two subwoofers together.

If you sense a loss of bass output after properly locating and calibrating both units in a two-subwoofer system, the likely problem is that the two units are out of phase with each other. If this occurs try adjusting phase knob on the back of one subwoofer at a time until the bass returns. For more information regarding the phase control function, please read the "Subwoofer Controls" section of this manual.

## Care and Maintenance

### Cleaning

When the Ultra-X13 Subwoofer cabinet becomes dirty, wipe it with a clean, soft, dry cloth. If necessary, first wipe the surface with a soft cloth slightly dampened with mild soapy water, then with a fresh cloth dampened with clean water. Wipe dry immediately with a dry cloth.


NEVER use benzene, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of the metal parts. Avoid spraying insecticide, waxes, polishing agents, or any aerosol product near the unit.

### When You're Away

If you will not be using your home theater system for an extended period of time, it is always a good idea to turn the unit off using the Master Power Switch on the rear panel of the subwoofer. This will prevent the automatic turn on circuits from accidentally powering the system on during your absence.

### Outlaw Service Information

The Outlaw Audio Ultra-X13 Subwoofer does not contain any user serviceable parts. If you suspect a problem that may require service assistance, call us at 866-688-5292. It is important that only a service agent authorized by Outlaw Audio carry out any repairs. Keep your sales slip or receipt in a safe place with this manual so that it will be available to verify the purchase date, should you experience a problem covered by our warranty.



THX ULTRA

**THX RECOMMENDED USE**

Large Home Theaters or Living Rooms

**THX CERTIFICATION FEATURES**


Extended Bandwidth and Flat Frequency Response.

High Output, Low Distortion Design at 12 ft Listening Distance.

Conforms to THX Bass Management Requirements.

**THX PERFORMANCE NOTES**

Capable of THX Reference Level in a room up to 3,000 cubic feet (85 cubic meters).



THX.COM

## Troubleshooting

Your Ultra-X13 Subwoofer is designed for trouble free operation. If you follow the instructions in this manual you should experience many years of high quality listening enjoyment. However, as with any sophisticated electronic device, there may be occasional problems upon initial installation, or during the life of the unit

The table below provides a brief list of minor problems that you may be able to correct yourself. You can also look at the Ultra-X13 section of our website ([www.outlawaudio.com](http://www.outlawaudio.com)), or enter the Ultra-X13 Section of our Outlaw Saloon. If these solutions do not rectify a problem, or if the problem persists, If your problem persists, please call us at 866-OUTLAWS (688-5297) or 866-OUTLAWA (688-5292).

Symptom	Solution Options
Humming or Buzzing Noise	Disconnect all interconnects from the subwoofer amplifier. If still hums, call or email technical support.  If the hum goes away when interconnects are disconnected, it is coming from the rest of your equipment. Add them back one piece at a time. The one that causes the system to hum is the source of the noise.
No output from the subwoofer (Indicator LED does not light up)	On the back of the subwoofer, make sure the power switch is set to "on" or "auto", and the power cord is fully inserted and receiving power.
Subwoofer is not receiving a signal (indicator LED does not change from red to green)	Recheck the connections between the receiver/processor and the subwoofer. On the back of the subwoofer, make sure the power switch is set to "on" or "auto".
No output from the subwoofer (Indicator LED lights up red)	Connect the signal cable to another subwoofer or amplifier. If you get output, then the amplifier is faulty. Email or call technical support for authorization to send the amplifier back for service.
No output from the subwoofer (Indicator LED lights up green)	Remove the woofer and make sure that the two speaker wires that come from the subwoofer amplifier are securely connected to the woofer. If they are not, secure them or call/email technical support for assistance.

## Ultra-X13 Powered Subwoofer Specifications

Woofer	Down-firing 13" long-throw with magnetic shielding
Excursion	Linear 39mm p-p maximum Mechanical 80mm p-p
Ports	Dual (port plugs included)
Amplifier	1000W RMS
Frequency Response	
Sealed	20Hz-200Hz (EQ1)
One Port Open	15Hz-200Hz (EQ1)
THX Certified Mode	20Hz-200Hz (EQ2), 2 ports open
Low Pass Crossover	4 <sup>th</sup> Order Low Pass Network
Crossover Frequency	40Hz to 160Hz and Bypass
Phase	0 to 180 degrees
SPL	120dB (subject to placement and room gain)
Inputs	RCA and XLR
Outputs	XLR Pass-thru
Dimensions	26.875" high x 17.0" wide x 23.0" deep
Weight	105 lbs



## Outlaw Audio Limited Warranty

This warranty protects the owner of the Outlaw Ultra-X13 Powered Subwoofer (the PRODUCT) for three (3) years from the date of purchase. This warranty covers all defects in material and workmanship with the following specific exceptions. These are:

- Damage caused by improper installation or adjustment
- Damage caused by accident, unreasonable use or neglect
- Damage from failure to follow instructions contained in this Owner's Manual
- Damage from the performance of repairs by someone not authorized by Outlaw Audio
- Any unit on which the serial number has been effaced, modified, or removed
- Damage occurring during shipment
- Units which have been altered or modified in design, appearance or construction.

This warranty covers only the actual defects within the PRODUCT itself. IT DOES NOT cover costs of installation in (or removal from) a fixed installation, or normal setup, claims based on any misrepresentation by the seller, or performance variations resulting from installation related circumstances such as signal quality, AC power or incompatibilities with speakers and/or other system components.

During the warranty period, Outlaw Audio will, at their option, either repair the defect, or replace the defective product, or the defective parts, or components thereof at no charge to the owner for parts and labor covered by this warranty. If necessary repairs are not covered by this warranty, or if a unit is examined which is not in need of repair, you will be charged for the repairs and/or the examination. If non-warranted repairs are needed, we will notify you of the estimated cost and ask for your authorization to perform said repairs.

You must pay shipping charges incurred in getting your Product to the factory. We will pay the return shipping charges if the repairs are covered by the warranty.

Please save the original shipping cartons, as the unit MUST be returned in the original carton and packing. (Replacement cartons are available at a modest charge.)

If your product needs service, please call Outlaw Audio at 866-OUTLAWS (688-5297).

You will need to present the original bill of sale to establish the date of purchase. In the event that the proof of purchase cannot be established with the original receipt, the warranty period shall be determined by the earliest date of manufacture shown on the unit, provided that the serial number label has not been altered in any manner, or by our records relating to that serial number.

In the event that you wish to return your Outlaw Product back to us, for any reason, please call to arrange for a Return Authorization Number. This will ensure that your problem is discussed with a service technician who will determine if there is a quick solution to your problem.

Outlaw Audio shall not be liable for, in any way responsible for, any incidental or consequential damages of any kind. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion of incidental or consequential damages; therefore, the limitations and exclusions stated herein may not apply to you. This warranty gives you specific legal rights; and you may also have other rights that vary from state to state.

THERE ARE NO WARRANTIES GIVEN BY OUTLAW AUDIO THAT EXTEND BEYOND THE DESCRIPTION GIVEN HEREIN. ANY IMPLIED WARRANTIES OF FITNESS FOR PURPOSE SOLD, MERCHANTABILITY, DESCRIPTION, QUALITY OR ANY OTHER MATTERS ARE LIMITED TO THE TERMS OF THE EXPRESSED LIMITED WARRANTY STATED HEREIN.

Products are sold on the basis of specifications applicable at the time of sales. Outlaw Audio shall have no obligation to modify products once they have been sold.

This warranty is applicable only in North America.

For applicability in other countries, please call Outlaw Audio.