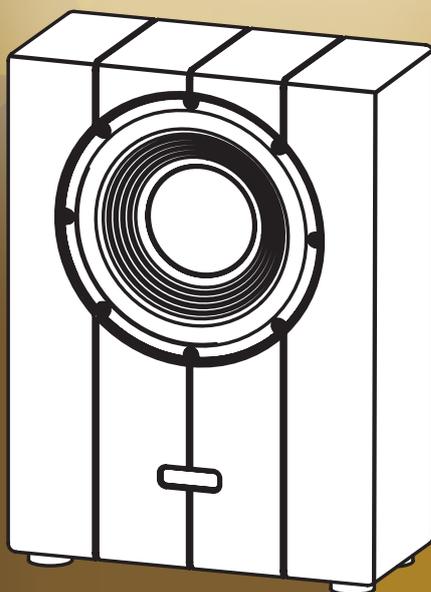


**ASCENDO**

ELEVATE YOUR SOUND

**THE 12 SUB  
PRO-PASSIVE  
SEALED SHALLOW**



**OPERATION MANUAL**

# THE 12 SUB PRO-PASSIVE SEALED SHALLOW

## Contents

1 IMPORTANT SAFETY INSTRUCTIONS .....	2
2 PACKAGE CONTENTS .....	3
3 PLACEMENT .....	4
4 CONNECTIONS .....	5
5 CARING FOR YOUR PRODUCT .....	6
6 SPECIFICATIONS .....	6
7 DIMENSIONS .....	7
8 DOCUMENTS / RESOURCES.....	7

## IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with a dry cloth.
6. Install this apparatus in accordance with the manufacturer's instructions.
7. Do not install this apparatus near any heat sources such as radiators, heat registers, stoves or other apparatus.
8. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, or the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

## DISPOSAL

Correct disposal of this product (Waste Electrical & Electronic Equipment) This symbol means the product must not be discarded as household waste and should be delivered to an appropriate collection facility for recycling. Proper disposal and recycling help protect natural resources, human health, and the environment. For more information on disposal and recycling of this product, contact your local municipality, disposal service, or the shop where you bought this product.

## RoHS

This product is RoHS compliant. This product is in compliance with Directive 2011/65/EU, and its amendments, on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

## REACH

REACH (Regulation No 1907/2006) addresses the production and use of chemical substances and their potential impacts on human health and the environment. Article 33(1) of REACH Regulation requires suppliers to inform the recipients if an article contains more than 0.1 % (per weight per article) of any substance(s) on the Substances of

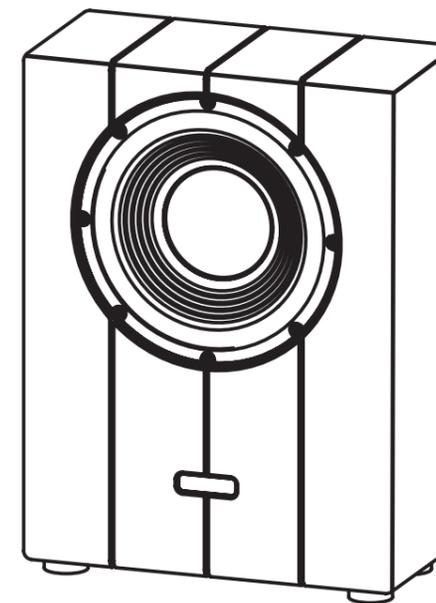
Very High Concern (SVHC) Candidate List ('REACH candidate list'). At the time of release of this product, no substances of REACH candidate list are contained in a concentration of more than 0.1% per weight in this product.

## THANK YOU FOR CHOOSING ASCENDO IMMERSIVE AUDIO.

For more than 23 Years, ASCENDO has been involved in music reproduction. We are confident that the PRO product you have chosen will provide every note of enjoyment that you expect.

Please take a moment to register your product on our website at [www.aia-cinema.com](http://www.aia-cinema.com). This enables us to keep you posted on our latest advancements and helps us to better understand our customers and build products that meet their needs and expectations. All features and specifications are subject to change without notice.

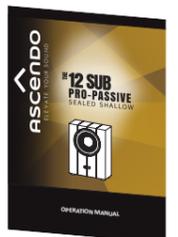
## PACKAGE CONTENTS



1 x Subwoofer



1 x Grille



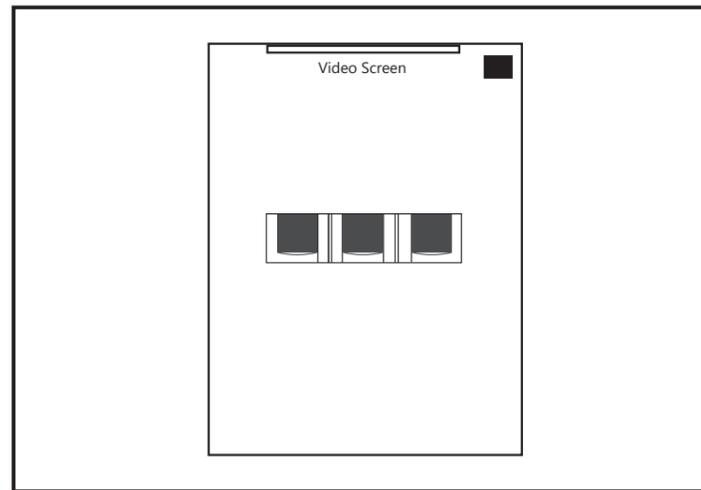
1 x Quick Start Guide

## PLACEMENT

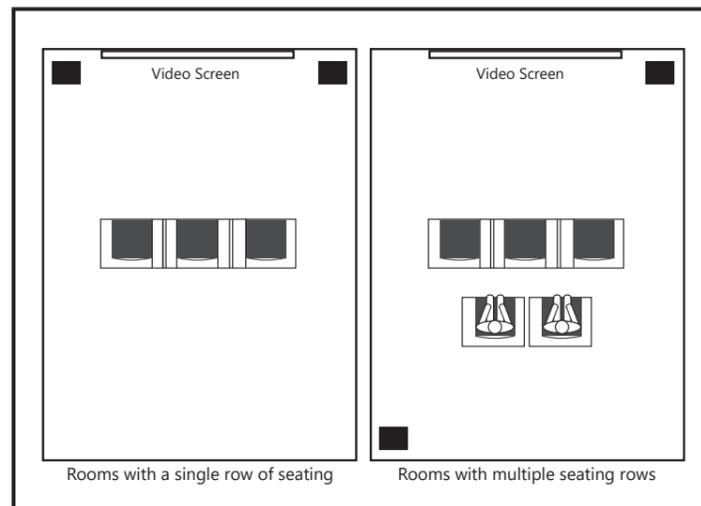
When using subwoofers within the limited confines of a typical home theater room, the boundary reflections, standing waves, and resonant absorbers within the room will create peaks and dips in the bass response that can vary greatly depending on where the listeners are seated in the room. A listener located in one place may hear an overabundance of several bass frequencies created by a response peak at the location, while another listener only a few feet away may hear far less bass at those frequencies but have other peaking or dipping frequencies at that location.

The locations of subwoofers within the room (along with the room's dimensions) also have a profound effect on the creation of these bass response peaks and dips. Careful subwoofer placement alone cannot compensate for all bass response peaks and dips throughout a room, but careful subwoofer placement can eliminate or significantly reduce the largest response dips. It is important to reduce response peaks and dips throughout the room as much as possible via proper subwoofer placement because equalization cannot be used to compensate for large response dips, only peaks. For example, using equalization to restore a 13dB response dip requires that the subwoofer amplifier deliver 20 times the power at that frequency if it solves the problem at all, which it does not in most cases. This can quickly overdrive the subwoofer amplifier into clipping, which will significantly degrade audio quality and reduce the overall output capability. In almost any room, placing the subwoofers in corners will produce the fewest large bass response dips and will also produce the largest bass response peaks. We strongly recommend that you install multiple subwoofers regardless of the room size. A single subwoofer will result in the least consistent bass performance throughout the room. Using multiple subwoofers can reduce some room modes at the various listening locations, resulting in much more consistent low frequency throughout the listening area. It is often impossible to place a single subwoofer in a way that large response dips, which cannot be corrected via equalization, are not present. The use of two or more properly placed subwoofers almost always reduces or eliminates such response dips. Common placement formulas such as placing the subwoofers at 1/4 points rarely work in practice. The best solution is to make high-resolution measurements from the primary listening area while experimenting with speaker placement. Placing a subwoofer at the listening position and measuring it from the potential installation positions around the room – using acoustic reciprocity – can help speed finding the best position(s). Measurement at the best positions in this manner will produce the measurements with the fewest and smallest peaks and dips in the response.

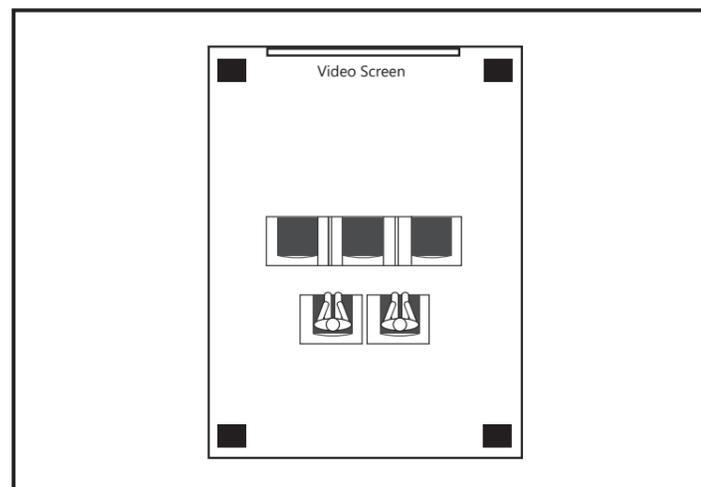
Single Subwoofer



Double Subwoofer



Four Subwoofers



## CONNECTIONS

Speakers and electronics have corresponding (+) and (-) terminals. Most manufacturers of speakers and electronics, use red to denote the (+) terminal and black for the (-) terminal. It is important to connect both terminals identically: (+) on the speaker to (+) on the amplifier, and (-) on the speaker to (-) on the amplifier.

! This connection ensures, that all speakers work in unison and make a forward movement if a positive signal is applied and move backward when a negative signal is applied.

Wiring "out of phase" results in thin sound, weak bass, and a poor stereo image. With the advent of multichannel surround sound systems, connecting all the speakers in your system with the correct polarity remains equally important to preserve the proper ambience and directionality of the program material.

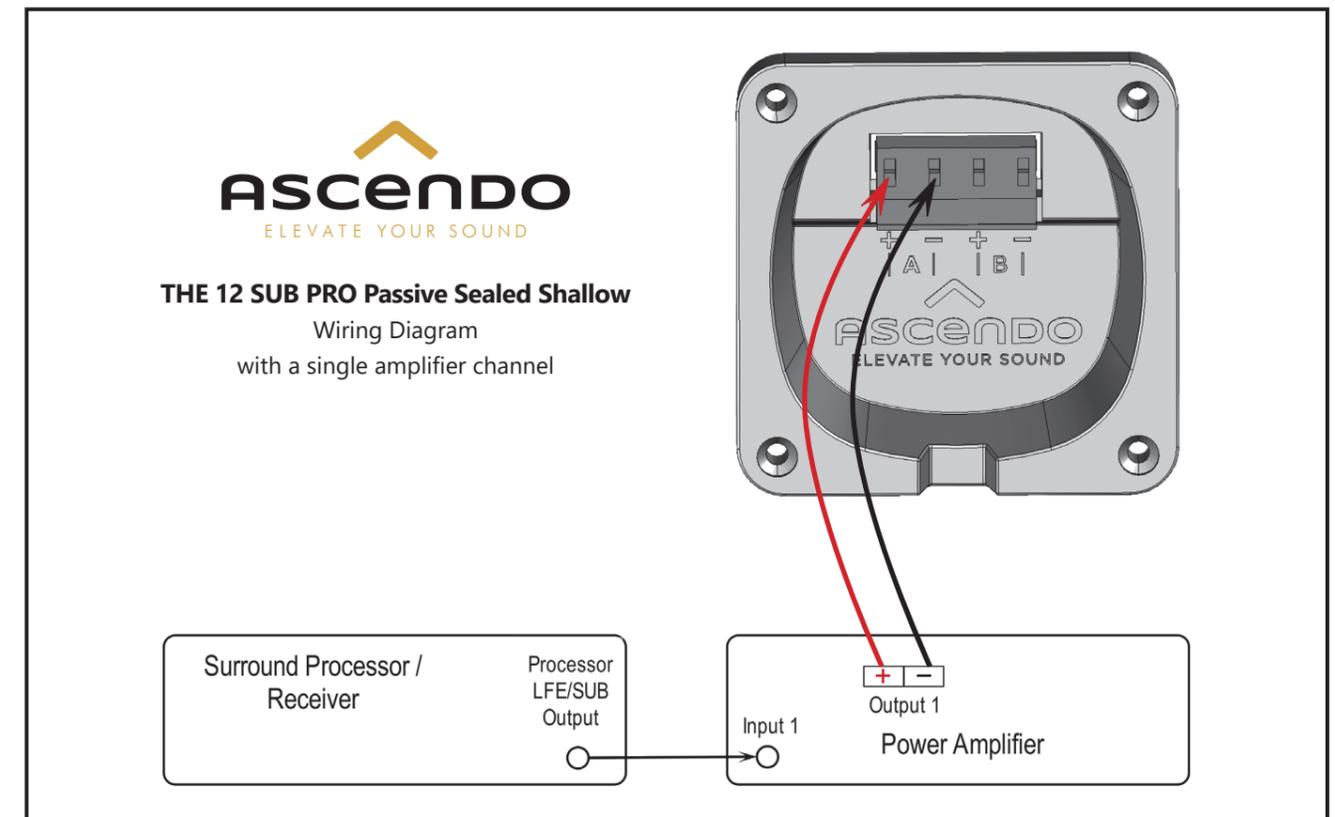
The AIA "The 12 SUB Pro Passive Sealed Shallow" subwoofer has a single speaker wire input terminal. Usually The 12 is driven from a single amplifier channel, the (+) terminal of the amplifier should connect to (+) input terminals of the The 12. The (-) terminal of the amplifier should be connected to (-) terminals. In this wiring configuration, the amplifier will be presented with a 4 Ohm nominal load.

If two The 12 subwoofers are used, the wires for both speakers should be similar in length. If the bass response seems low, there may be a polarity problem between the two subwoofers, with the sound waves from the two subwoofers canceling each other out. In this case check the correct polarity of all wiring including Speaker wires, XLR signal cables, DSP settings etc.

To connect the speaker terminals on the terminal cup located behind the The 12, unplug the phoenix connector for easier termination. Insert the bare end of the wires (max 12GA (3,3mm<sup>2</sup>) making sure to observe the correct polarity. The wire from the amplifier's negative (-) terminal is to be connected to the negative (-) terminal on the terminal cup, and the amplifier's positive (+) terminal is to be connected the positive (+) terminal on the terminal cup.

The 12 subwoofer is specifically designed for use in conjunction with the AIA DSP amplifiers. It is optimized to offer the best dynamics and frequency response which is specially designed to use the proprietary The 12 tuning file. When using a different amplifier with the The 12, contact your certified AIA installer or calibrator for correct adjustment and loading of the tuning file. Connect your main receiver or processor's LFE subwoofer output to the line-level input on your subwoofer amplifier. When using two or more subwoofers, use the correct number of amplifier channels (these can be mono or multi-channel amplifiers) each connected to the appropriate output on your processor or receiver. Then connect the positive and negative terminals for each amplifier channel to a single The 12 subwoofer system.

USING ONE The 12 SUB Pro Passive Sealed Shallow SUBWOOFER WITH A SINGLE AMPLIFIER CHANNEL



## CARING FOR YOUR PRODUCT

Wipe the cabinet with a clean, dry cloth to remove dust. A damp cloth may dull the cabinet's finish. Do not use volatile liquids such as benzene, paint thinner or alcohol on the cabinet.

Do not spray insecticide near the cabinet.

To remove dust from the grille fabric, use a vacuum cleaner, soft brush and set to low suction.

Do not wash the grille in water, as water may fade the grille's color or make it uneven.

If the surface of the woofer cone becomes dusty you can carefully sweep it clean with a soft, dry calligraphy brush or paint brush or low air pressure. Do not use a damp cloth.

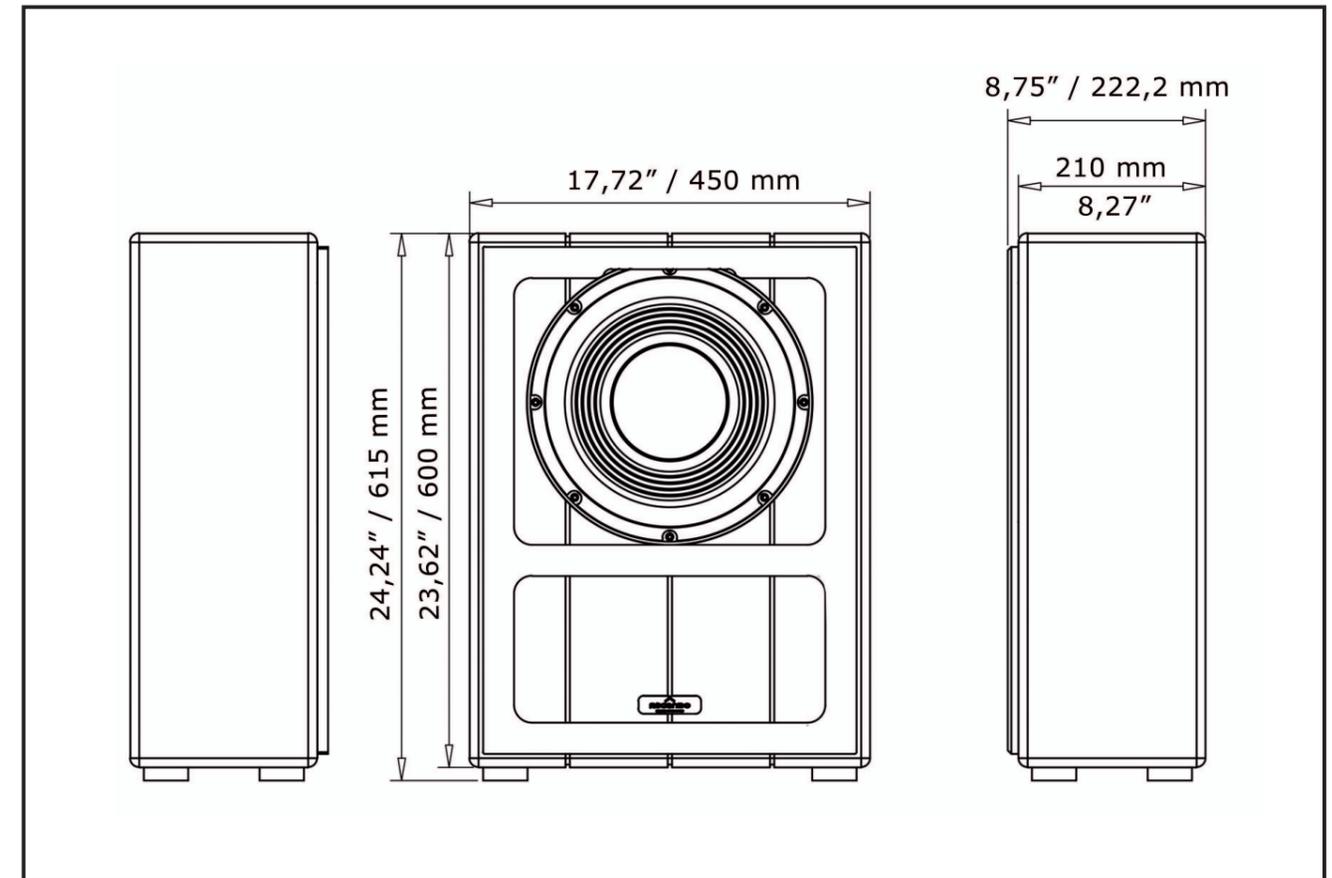
## SPECIFICATIONS

Enclosure type	Sealed
Low frequency driver size and material	12-inch forward-firing, advanced carbon nomex pulp mix cones, neodymium motor with 4" Ultra-high-temperature voice-coil
Recommended amplifier type external	AIA DSP4-6K2
Recommended amplifier power	1500W RMS with correct RMS & Peak limiting & compression settings
Amplifier Features	DSP crossover and EQ
Nominal Impedance	4 Ohms
Sensitivity	88 dB/W/m
Max peak SPL	122dB @100Hz
Frequency Response, -3 dB	44 Hz – 400 Hz
Frequency Response, -15 dB	22 Hz – 400 Hz
Speaker Input	One 4-conductor Phoenix 12 AWG (3,3 mm <sup>2</sup> ) push on binding post
Dimensions (W/H/D) mm	450 / 615 / 210 (with grille 218,7)
Dimensions (W/H/D) inch	17,72 / 24,21 / 8,27 (with grille 9,01)
Packing dimensions (W/H/D) mm	600 / 730 / 340
Packing dimensions (W/H/D) inch	23,62 / 28,74 / 13,39
Weight	22 kg / 48,5 lbs
Gross weight	25 kg / 55,11 lbs
Finish	Matte black paint

Technical modifications subject to change without further notice

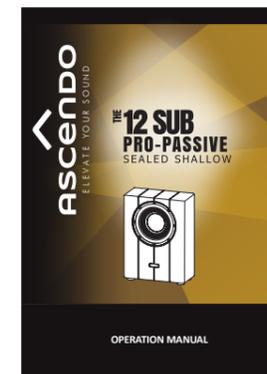
## DIMENSIONS

The 12 SUB PRO PASSIVE SEALED Shallow



## DOCUMENTS RESOURCES

ASCENDO\_The 12 SUB PRO PASSIVE SEALED Shallow (pdf)



  
**ASCENDO**  
ELEVATE YOUR SOUND



CE

**ASCENDO Immersive Audio GmbH**

Adlerstrasse 2, Gebäude C, EG

D-91560 Heilsbronn · Germany

Tel.: +49 9872-9 537 157 · [www.aia-cinema.com](http://www.aia-cinema.com)

