

CALIBRATION

It's important to match the levels of your main monitors and the CLA-Sub in order to ensure that no frequencies are over- or under-represented. This is a quick but critical process to getting the most out of your subwoofer. You will need an SPL meter and some pink noise to do this. There are many free SPL meter apps available; pink noise samples can be found for free online or produced in your DAW.

1. Connect your monitors and CLA-Sub as described above. If your system uses an EQ, turn it off for now.
2. Turn your CLA-Sub and monitors' input levels all the way down.
3. Play pink noise from your DAW.
4. Turn up the volume of your monitors until the pink noise reaches 82 dB on your SPL meter at the listening position.
5. Turn your full-range monitors off.
6. Turn up the volume on your CLA-Sub until the pink noise reaches 79 dB on your SPL meter at the listening position.
7. Set the Subwoofer High Cut on your CLA-Sub to max (180 Hz.) This will create a frequency overlap between your CLA-Sub and your main monitors that we will correct in the last step.
8. Turn your full-range monitors back on, and play pink noise through both the monitors and the CLA Sub. Flip the polarity switch on your CLA-Sub to see which position provides the best bass response. Leave the polarity switch where the bass is the loudest.
9. Enough noise. Play some of your favorite music through your system. Check the specs of your main monitors; if your monitors' low-end extends down to 90 Hz, set the Subwoofer High Cut on CLA-Sub to 90 Hz as well to match. The goal is to minimize overlap between your monitors and the sub.

SPECIFICATIONS

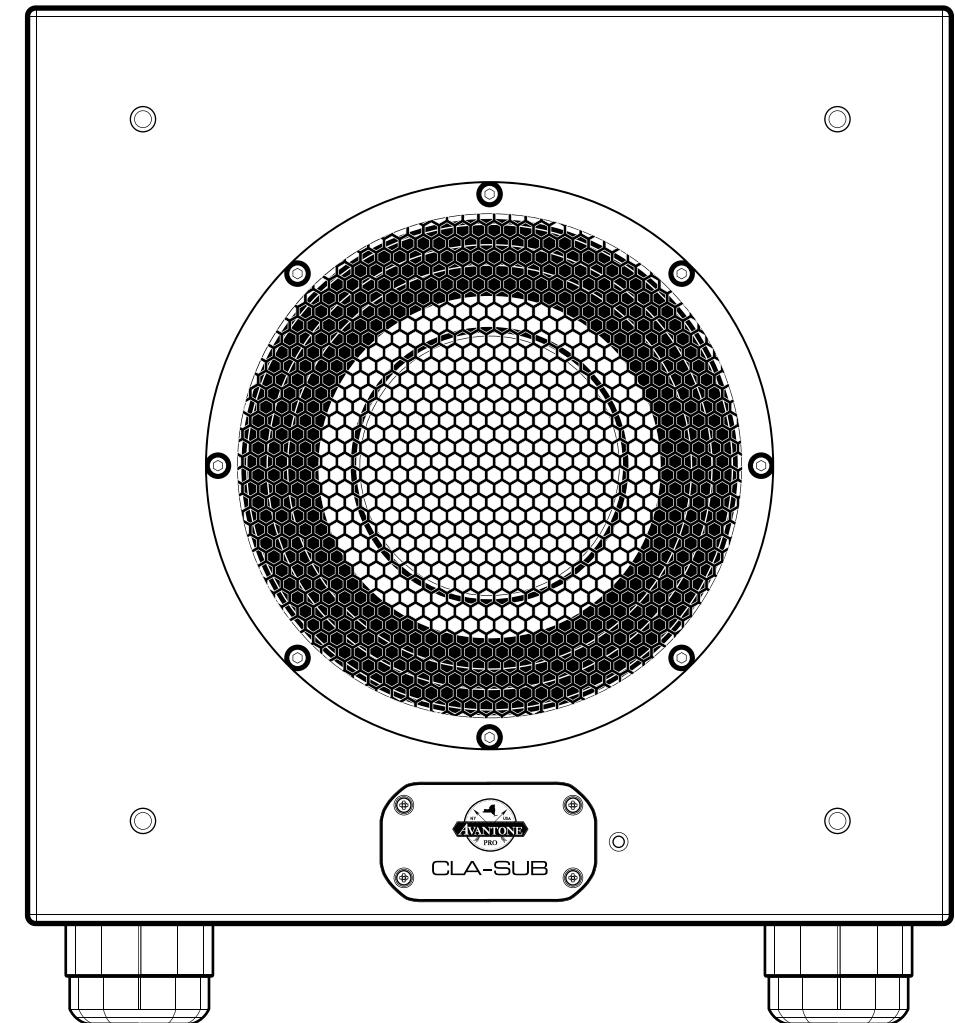
> Weight	55.12 lbs (25 kg)
> Input	XLR/TRS Combo jack
> Thru	XLR
> Input Impedance	10 kOhm Balanced
> Amplification Type	Class D
> Amp Power RMS / Music	200 W / 300 W
> Frequency Response	25 Hz – 180 Hz
> THD	> 55 Hz ≤1%
> Max. peak SPL at 1 m	≥116 dB
> Crossover Frequencies	50 – 180 Hz
> Driver Basket Diameter	10"
> Driver Voice Coil Diameter	2"

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CLA-SUB



IMPORTANT SAFETY INSTRUCTIONS

Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a period of time. The U.S. Government's Occupational Safety and Health Administration (OSHA) have specified the permissible noise level exposures shown in the following chart.

According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels use hearing protectors while the equipment is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating the equipment in order to prevent permanent hearing loss if exposure is in excess of the limits set forth here.

Duration, per day in hours Sound Level dBA, Typical example slow response

8	90	Duo in small club
6	92	
4	95	Subway train
3	97	
2	100	Very loud classical music
1.5	102	
1	105	That couple screaming at each other
0.5	110	
<0.25	115	Loudest parts at a rock concert



The Avantone CLA-Sub Monitors comply with all applicable RoHS / WEEE European Union directives.

Do not attempt to service this unit yourself, as it will void your warranty. Please check your unit carefully upon receipt and return to place of purchase immediately if there are any problems with the product. After that, the standard AVANTONE 5 YEAR warranty will apply to defects in materials and workmanship.

This warranty is not transferable.



LIMITED 5 YEAR WARRANTY

AVANTONE CLA-Sub's are warranted by Avantone Pro to be free from defects in materials and workmanship for the period of 5 YEARS to the original purchaser. In the event of such defects, the Avantone Pro product will be repaired without charge or, at our option, replaced with a new one if delivered to Avantone Pro prepaid, together with a copy of the sales slip or other proof of purchase date. The warranty excludes problems due to normal wear, abuse, shipping damage or failure to use the product in accordance with the specifications.

All speaker systems are vulnerable to damage from sustained amplifier clipping. This can be described as a distortion of the signal caused by the amplifier running out of headroom. Heat will then be generated in the voice coil of the driver beyond the heat handling capabilities of wire and glue. At some point the voice coil will burn, causing the speaker to sound very distorted; eventually the driver will stop working.

All parts and labor are covered under this Limited Warranty. However, if it is determined by AVANTONE PRO that the voice coil was burned due to sustained amplifier clipping, we reserve the right to charge the customer for the cost of the repair, since this is considered abuse.

Avantone Pro shall not be liable for damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation or commercial loss or any other damages, whether incidental, consequential, or otherwise. This warranty gives you specific legal rights, and you may have other rights, which will vary from state to state.

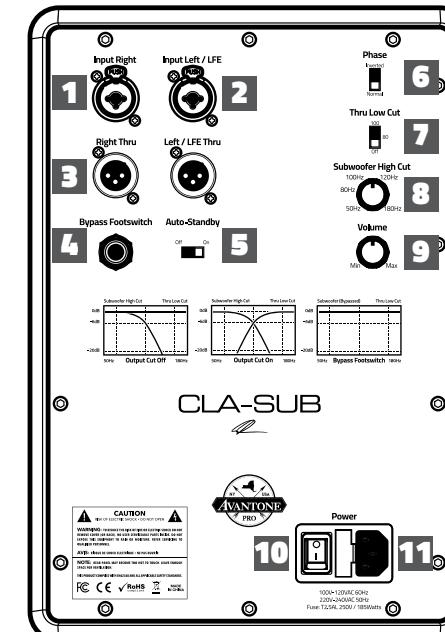
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INTRODUCTION

Thanks for choosing the CLA-Sub! It's an ideal studio subwoofer for producers and engineers who work with cinema sound or any modern music genre. It will serve your music well for years to come.

CONNECTIONS AND CONTROLS

1. **Input Right:** Right channel combo XLR/TRS input.
2. **Input Left / LFE:** Left channel combo XLR/TRS input and LFE input for mono use.
3. **THRU:** Right and Left channel XLR outputs for connection to studio monitors.
4. **Bypass Footswitch:** 1/4" TS connection for footswitch bypass. Use a non-momentary/latching footswitch to toggle the bypass.
5. **Auto-Standby:** Enables Auto-Standby mode, which puts CLA-Sub into power-saving sleep mode after 15 minutes of inactivity.
6. **Phase:** Inverts phase of input signal. Engage to eliminate phase issues with your main studio monitors.
7. **Thru Low Cut:** Cuts the low-frequency content sent to the Thru outputs at the selected frequency: 80 or 100 Hz. When bypassing CLA-Sub, the Thru Low Cut is bypassed; you will hear your monitors in full frequency without the cut when CLA-Sub is bypassed.
8. **Subwoofer High Cut:** Cuts the high-end frequencies entering the CLA-Sub at the selected cutoff, sweepable from 50 Hz to 180 Hz. Check the specs and/or settings of your main monitors so that the CLA-Sub picks up where your monitors leave off.
9. **Volume:** Sets overall output volume. See "Calibration" section for tips on how to best use this setting.
10. **Power Switch:** Toggles power for the unit. Lit when CLA-Sub is receiving power.
11. **AC Input:** The AC inlet accepts standard IEC320 C14 cables. The integrated fuse tray should have the correct fuse value installed as indicated on the rear panel for the AC voltage being applied.
12. **Status indicator LED:**
 - > **Lit Blue:** Sub On and Passing Audio
 - > **Lit Red:** Sub Bypassed
 - > **Off:** Sub powered down or in standby



FIRING MODE

CLA-Sub can operate in downward-firing or front-firing modes. Choose the firing mode that best suits your mix room and your music.

- > **Front-firing mode** provides the cleanest possible reproduction from CLA-Sub, as the woofer does not couple with the floor of the room.
- > **Downward-firing mode** deliberately takes advantage of coupling to the room to increase output by +3 dB.

CLA-Sub ships in front-firing mode by default.

To convert for downward-firing mode, unscrew the feet from the bottom face of the CLA-Sub and re-attach them to the speaker face. Cautiously rotate the sub forward and place it in your desired location.

HOOKING IT UP

There are a few different ways to hook up your CLA-Sub.

Direct (without a monitor controller)

If you're not using a monitor controller, the CLA-Sub should be connected between your audio source (likely a mixer or audio interface) and your studio monitors.

Audio interface → CLA-Sub → Studio Monitors

Connect the main outputs of your audio interface to the Input Right and Input Left / LFE of the CLA-Sub. Connect the Output Right and Output Left of the CLA-Sub to your studio monitors. Set the Thru Low Cut to the desired frequency.

With a monitor controller

If you're using a monitor controller with a dedicated subwoofer output, connect the CLA-Sub's Left/LFE input to the Left output of your monitor controller. If your monitor controller has an adjustable crossover, be sure to set the CLA-Sub's High Cut filter to 180 Hz.

Home theatre

For home theater Low-Frequency Effects (LFE) use, connect your receiver's LFE channel output to the Left/LFE input of the CLA-Sub.

