

Optimal Subwoofer Performance

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Another common question we receive is about how to improve bass performance. Here are some common issues and methods to correct them.



Using multiple subwoofers and have very little bass output

- Double check the polarity of all subwoofers to make sure they are wired the same. If one subwoofer or more in a group are wired with the positive and negative backward compared to the others it will cause bass cancellation
- Make sure that the subwoofers are in the correct enclosure. When using multiple subwoofers it is necessary to multiply the volume for a single subwoofer by the number of subwoofers you are using. Placing multiple subwoofers in an enclosure meant for just a single will usually restrict the subwoofers and severely hurt low end range and response of the subwoofers.

Subwoofer seems to lack low frequency range

- Make sure the subwoofer is in the correct enclosure. Double check the manufacturer's recommendations. A subwoofer in a sealed enclosure that is too small or a ported enclosure that is tuned too high can compromise its low frequency range.
- Double check the crossover settings and make sure that the Low Pass filter is being used. If the High Pass filter is being used by mistake it could limit the low frequencies going to the subwoofer. A starting point of 80 Hz for Low Pass is suggested



Subwoofer seems muddy or lacking in detail, impact or output

- Check the level balance between the subwoofer system and the main component speakers. If the bass level is too high the midrange can seem low or the bass undefined and muddy.
- If you are using a ported enclosure make sure the tuning is not too low. This can compromise upper bass range and the transition with the midrange speakers. Double check with the manufacturer for suggested tuning if unsure.
- Make sure the enclosure is of rigid construction, built to the manufacturer's recommended size and secured to the vehicle. If the enclosure is loose bass energy will be lost since the enclosure will move when the subwoofers play and acoustic energy will be wasted. Read more on [Securing Enclosures](#).
- Try facing the subwoofers different directions to see if impact or output improves.

Subwoofer sounds boomy

- Make sure the sealed enclosure volume is not too small. This can compromise the lower bass range and may emphasize the upper bass range resulting in bass that sounds boomy. Learn more about [Sealed Enclosure Characteristics](#).
- Make sure, if you are using a ported enclosure, that the tuning is not too high. This may compromise low frequency range and emphasize the upper bass range too much. Learn more about [Ported Enclosure Characteristics](#).
- Check EQ settings on the amplifier or source unit and make sure they are flat

Low bass output in a convertible vehicle with the top down

In many convertible vehicles a down fire enclosure works best. This maintains a good loading effect for the bass frequencies even with the top down. Often if the enclosure were to point up, back or forward in a convertible you would not have the added benefit of the loading effect, leading to a good amount of bass escaping into the open air while the vehicle is moving.

