



Tech Talk: Setting Sub Amp Crossovers

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Our tip this month deals with how to quickly and correctly set the crossovers on a DD sub amp. You will not need tools except your ears and a little flat blade screwdriver. An understanding of how to set crossover points is a must in the world of high performance car audio. The harder you push your audio equipment the more protection you'll need to utilize in your install, and one of the most easiest ways to protect your speakers is through the proper use of crossovers. That's why all DD sub amps come equipped with both Subsonic and Low Pass(LPF) crossovers enabling you to set up a bandpass filter for better speaker protection and efficient use of your amps energy.

Two common mistakes when setting sub amp crossovers is setting the Subsonic to low and the LPF to high. This usually occurs when the installer is trying to extract every drop of output from the system. This is a reckless installation method and will most likely result in damaged equipment. When the Subsonic is set to low your amplifier will waste massive amounts of energy trying to produce sub frequencies that are inaudible due to the vehicles transfer function. Another symptom of an improper Subsonic setting is reduced enclosure control of the subwoofer/s during high volume listening. This is due to the woofer playing below the system's actual tuning. When The LPF is too high enclosure control isn't a much of a concern, but wasting amplifier energy trying to make a sub play mid-base is.

If you're not careful another common mistake is crossing your crossovers. For example this happens when the subsonic is set to 80Hz and the LPF is set to 50Hz. This will not allow any audio signal to pass and can result in a misdiagnosis as an amplifier issue. The universal go to bandpass setting on a sub amp is 30Hz on the Subsonic and 80Hz on the LPF. What most people fail to realize is every vehicle has a different sub frequency transfer function. This means when setting up crossovers there's not really a one size fits all setting. Luckily setting the crossovers for your specific system can quickly and easily be done by ear with the following steps:

1. Complete the tuning on your mids and highs, and set the desired gain level on the sub amp.
2. If possible, to allow for the most accurate tuning close the vehicles doors, trunk, hatch, etc.
3. Put on your favorite song and turn the volume up to your normal listening level.
4. Turn your Subsonic Filter down to 10Hz then slowly turn up the filter frequency until you hear it take effect on your sub bass. The Subsonic is now correctly set.
5. Turn the Low Pass Filter to the setting that allows for the most accurate sub bass sound for your system. This will vary depending on type of sub and source material being played. when the LPF is set correctly you sub will sound nice and punchy, not muddied up with mid and high frequencies.

Now that your crossovers are correctly set for your specific system you will have more enclosure control, more output capability all with a much more enjoyable sound.
