

BMW Subwoofer System by BSW Installation Guide for BMW 5 Series, M5 04+ (E60)

You'll want to start by first deciding exactly where you want to mount your new amplifier. From there, you'll decide on appropriate paths to run your wiring. We typically mount amplifiers on the seat backs of BMW's with fold down seats, and on the back wall of BMW's without fold down rear seats. Get creative here. Don't do anything permanently until you have figured out where you're going to run the wiring. This is the hardest part. The actual wiring shouldn't take more than half an hour.

First, before we do anything, you'll need to locate your factory amplifier. It resides behind the removal panel on the driver's side of the trunk. It's clearly an amplifier, with two plugs that exit the bottom side towards the floor of the trunk. It is silver in color, and will be facing towards you as you look into the trunk.



Power/Ground/Remote Turn-On Connections for the new Amplifier:

*Before you make any connections, we recommend disconnecting the negative battery terminal from the battery. This will eliminate any chance electrical damage to the vehicle.

Power Wire (Red Wire)

- You'll want to run the large red wire to the positive terminal of the battery. Loosen and remove the 10mm nut on top of the terminal that secures the actual terminal to the battery. Put the amplifier power wire ring over the bolt, and tighten the nut back down with the terminal on the battery. This is the primary power supply for your new amplifier. This wire will be connected to the +12 terminal on the amplifier. Do **NOT** put the fuse into the fuseholder until you have connected the other end of the wire to the amplifier. Once you've made this connection at the new amplifier, it is safe to install the included fuse into the fuseholder.

Ground Wire (Black Wire)

- The large black wire goes to a chassis ground. This essentially means metal. Ideally, the ground needs to be on the battery side of the vehicle, securely mounted to the chassis on a paint-free surface. If it isn't practical to ground the amplifier on the driver's side due to amplifier mounting location, you can ground it on the passenger side; just make sure it's grounded securely to the chassis or on a frame rail. You can just use a screwdriver to scrape the paint off of the chassis railing, and ground the amplifier there using the provided self-tapping ground screws. Be sure to look for any wires or fuel lines before you drill. This wire will connect to the GND terminal on the amplifier.

Remote Turn-On Wire (Blue Wire)

With the remote turn on lead, there will be a couple of extra steps you'll need to take.

- You'll notice a small, secondary box with a red L.E.D. on top of it attached to the Line Output Converter. This piece generates a turn on signal to your new amplifier. You'll notice a red and black wire twisted together coming from this piece. The red wire is power and the black wire is ground. The red wire will need to be attached to the red/green wire at the factory amplifier. The black wire will be grounded directly to chassis ground using the provided self tapping screw.

Here are the connections you'll make:

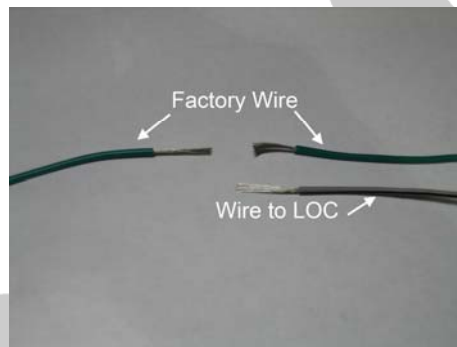
Wire		Factory Amplifier
Red	Connects to:	Red w/Green Stripe
Black		Chassis ground

Line Level Adapter Connections:

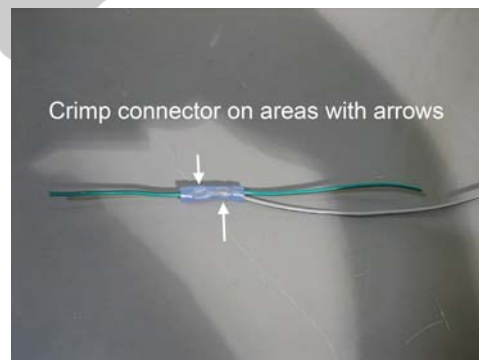
This part of the installation is the most time consuming. Use the supplied blue butt connectors to make the connections. To access the factory amplifier, simply remove the carpeted panel on the driver's side of the vehicle.



1. Carefully observe the factory amplifier. You will see a large bundle of wires going into the amplifier on the bottom side. The harness contains several wires, but don't be overwhelmed. We will be using only four of them, and they are easy to locate. The wires will be twisted together, and each twisted pair represents a speaker or input.
2. You will need to separate the following two pairs of twisted wires:
-Red w/White Stripe and Brown w/Yellow Stripe
-Red w/Blue Stripe and Brown w/White Stripe.
3. Now, orient yourself with the Line Output Converter (from here on out referred to as LOC) that you received with your order. There are four individual wires coming out of the unit.
4. You will need to strip back approximately ¼" of the insulation from the ends of the wires, exposing the copper wiring.



5. First, connect the green wire coming off of the supplied LOC to the Red w/White Stripe wire. Do this by cutting the Red w/White Stripe wire in half, and stripping back the insulation on both sides of the wire.
6. Next, twist the green wire to one of sides of the Red w/White Stripe wire that you just cut. Now, using the supplied blue butt connectors, crimp those two wires that you twisted together with a quality set of crimpers.



7. Insert the other side of the Red w/White Stripe wire into the other end of the butt connector and you have just made your first connection!
8. Now connect the green/black wire coming off of the LOC and make the same connections to the Brown w/Yellow Stripe wire that was twisted together with the Red w/White Stripe wire. This will complete the left input to the LOC.
9. As for the right input, locate the Red w/Blue Stripe and Brown w/White Stripe twisted pairs of wires. Connect the Purple wire from the LOC to the Red w/Blue Stripe wire and the Purple/Black wire from the LOC to the Brown w/White Stripe wire following the same methods in the instructions above.
10. Go ahead and plug in your RCA cables into the LOC, and then clean up your work with a couple of the supplied wire ties. This will not only make your install look nice, but ensure that all connections will remain solid.
11. Run the RCA cables over to the mounting location of the amplifier, and plug them into the input section of the amplifier. It doesn't matter which RCA plugs into which input, as subwoofer sound isn't stereo.

Speaker Wiring Connections:

- Now, we need to get the music from the amplifier to the subwoofer. We'll now connect the provided speaker wire (6 foot section) between the amplifier and subwoofer enclosure. We will be bridging the amplifier, therefore use A+ and B- for the speaker connections on the amplifier.

Wire	Amplifier Output	Connects to:	Subwoofer Enclosure
(+) side	A+ (Gold)		Red Connector (+)
(-) side	B- (Silver)		Black Connector (-)

Amplifier Settings:

As for the amplifier itself, here are a couple of hints for tuning and installation:

1. Adjust the bass boost to all the way off initially.
2. Set the Crossover Switch to LPF-BP and the LPF dial to around 80Hz. Set the HPF dial all the way to the left.
3. The gain is set at zero from the factory. If you don't hear any sound at first, this is why. You will need to adjust the gain accordingly to blend the subwoofer into the rest of your music.
4. Follow the amplifier tuning guide below to get the most out of your new system.

Amplifier Tuning

Testing the Actual Installation Prior to Tuning

First things first, after physically completing the installation, make sure your amplifier is powered up properly. It needs to turn off and on with the key. The power light should turn off when you take the key out of the ignition. Test this out a couple of times to make sure. If it does not, and you are having trouble figuring out why, give us a call or drop us a line. Trust us, it won't be anything major. Go back over the above connections, and you'll undoubtedly find a small, silly mistake.

Now, go to the front of the car, and turn on the stereo. Put in your favorite CD (not a burned CD, but one that was professionally mastered and recorded), and tune in to your favorite track. We recommend using a very dynamic type of music, with many types of musical variations within the CD. Make sure that your bass settings on your radio are set in the middle or slightly lower. This will decrease distortion and increase the overall sound quality in the vehicle.

Make sure all bass and treble settings on your radio or EQ are flat, or in the middle.

Gain Adjustments:

-Begin turning up the volume until you hear the music at a reasonable level and increase the volume slightly up to the point that you begin to hear distortion coming from your interior speakers. Now, back down the volume until the distortion disappears and stop there. Head back to the trunk and slowly begin adjusting the gain(s) of the amplifier until you are content with the amount of bass being produced by the subwoofer without any audible distortion of the woofer. Make sure that this blends in with the rest of the music, and you're on your way to a rich, full sound.

When adjusting the amplifier gains, do everything in very small increments.

We recommend 1/8th turn adjustments of the gain to find that sweet spot where there is no distortion and plenty of volume.

Everyone listens to music differently, so the tuning process may take some of us days, while others can do it in a matter of minutes, whether they're a beginner or not.

The tuning is the most important aspect of the installation. Don't rush any aspect of the tuning. You may ride around a few days and find that you need to make some adjustments. Don't worry, this is perfectly normal.

Crossover Adjustments:

This can be tricky, but if you keep your ears open, it shouldn't take long at all. Here are some tricks to finding that sweet spot.

Keep your ears open!

-You can also readjust the bass on the radio down a notch or two to compensate for the distortion, but again, **keep your ears open.**

Keep a fine ear out for any distortion, and once you've found that sweet spot where the volume and the fullness you desire is ideal, you shouldn't ever need to adjust the amplifier again.

