

## Subwoofer System Installation Guide for BMW 3 Series / M3 Coupe, Sedan 92-99 (E36)

### Tools Required:

<ul style="list-style-type: none"><li>• Panel Removal Tool</li><li>• 10mm socket wrench</li><li>• Crimping Tool / Wire Cutters</li></ul>	<ul style="list-style-type: none"><li>• Brain</li><li>• Needle Nose Pliers</li></ul>
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### We're going to proceed as follows:

1. **Disassembling the trunk**
2. **Making appropriate wiring connections for audio inputs**
3. **Power/ground wire connections**
4. **Installing the subwoofer enclosure**
5. **Tuning/testing the system**

### The Process:

1. Begin by removing all items from the trunk of the vehicle. Make sure that all tail lights are in working order. If not, now is a good time to replace them. Also, remove the carpet that covers the floor of the trunk, as it will reveal several fasteners that will need removing.
2. Start by removing the taillight covers. Twist the lever clockwise to free the plastic housing.



3. Now, look to the floor and you'll notice that there is a large black plastic tray on the driver's side of the vehicle. We'll need to remove this. It is secured in place by 10mm plastic nuts.

Once the floor panel is removed, we can now pry the carpeted panel on the driver's side out of the car, which will reveal the factory amplifier where our wiring connections will take place. See photos next page.



## Power/Ground 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.
- **Do NOT put the fuse into the fuse-holder until you have made all other connections to the amplifier.**

### Ground Wire (Black Wire)

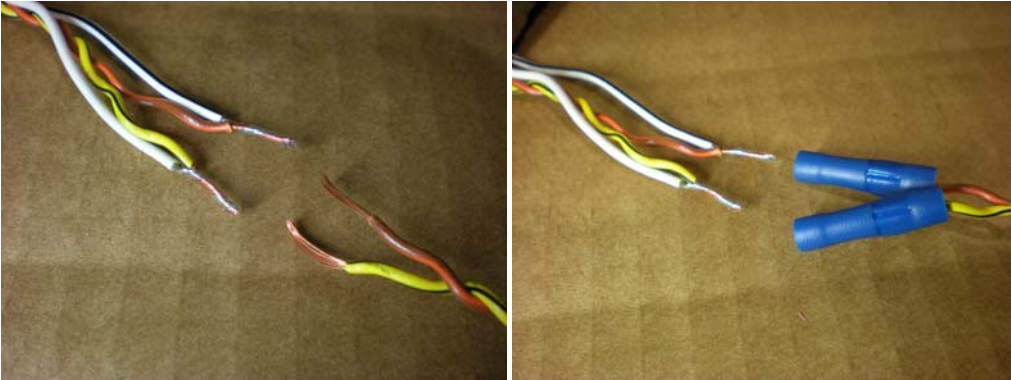
- The large black wire goes to a chassis ground. We're going to use the factory ground point shown in the photo below. (Large Plugs with multiple brown wires in it) Simply loosen the 10mm bolt and attach the ring terminal over the bolt.



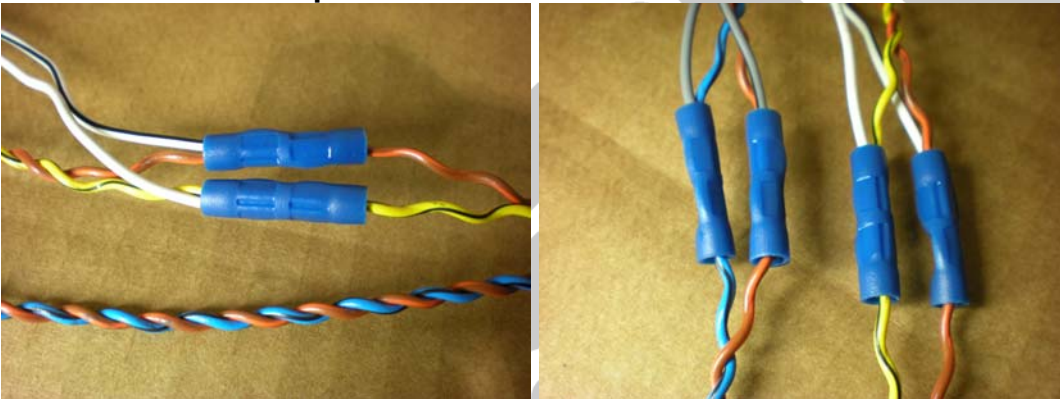
### Remote Turn-On Wire (Blue Wire)

The remote turn-on wire is the small, **white wire** in the plug located closest to the front of the car. Tap into this wire in the same manner as outlined below for the audio input connections.





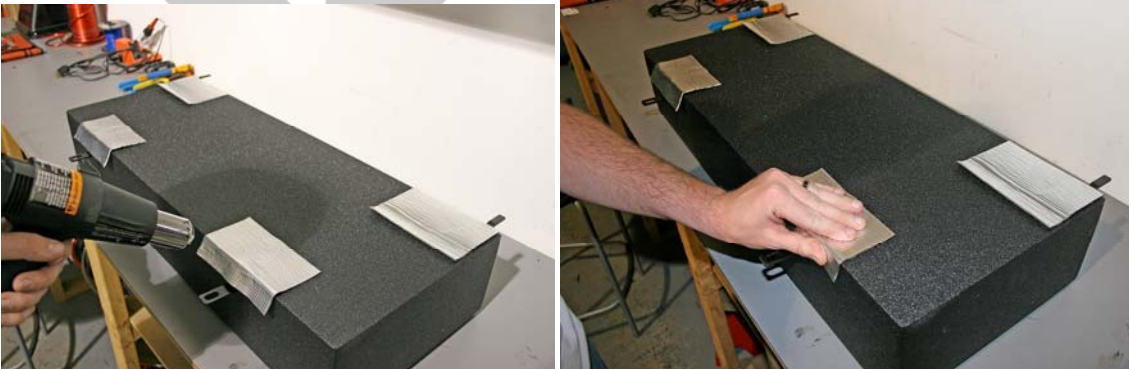
Here's what the completed connections will look like:



At this point, you can put the grey carpeted panel back into the car and route the RCA Cables and Power harness up to the top, leaving about 12" exposed.

### Preparing the Enclosure for Installation:

We need to apply the strips of included sound deadening to the top of the enclosure before we install it. Using your heat gun, or more likely, hair dryer, get the strips warm to the touch and apply as shown.





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## Installing the D110.E36 into your BMW

The first thing we need to do is familiarize ourselves with the way the quick release mechanism works. The photo below shows how the hardware fits together. The space between the two washers represents the chassis of the car.



Now, we need to identify the mounting locations that the enclosure will use to mount to the rear deck. In the photo on the upper right you can see the front mounting holes (Enclosure has "BSW" on front side of it) where the front tabs simply slide into the holes. You may find small plastic inserts covering these holes in your car. Remove these.



Having installed the quick release bolts, we can now install the enclosure. To do this, it helps to have a friend handy, although it isn't completely necessary. You'll want to lie down in the trunk with the enclosure resting on top of you.

1. Lift the front of the enclosure (side with BSW logo on it) up and slide the front brackets into the holes closest to the rear of the car.
2. With the brackets inserted into the holes, you can lift the rear of the enclosure up, being sure to align the holes in the brackets with the bolts that you dropped down into the I-Beam.



3. Using a small pair of needle nose pliers to hold the bolt steady, install the second washer up onto the bolt.
4. Now, slide the lock washer and quick release knob up onto the bolt and tighten down securely. Repeat for both sides.



## Basic Testing of your Install

First things first, after physically completing the installation, let's go ahead and plug the amplifier in. We need to 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 turn the ignition off. 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.

## Amplifier Tuning

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.

## Let's Add Some Low End

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

**Preliminarily set the gains as follows. The tuning is the most important aspect of the installation.**

**Gains:**  $\frac{1}{4}$  of a turn, or roughly 9 o'clock.

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 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  $\frac{1}{8}$ <sup>th</sup> 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.

## Troubleshooting Guide

Invariably you'll come across one or two things in your install that didn't quite match up or weren't perfectly clear to you. We've put together several common things that may come up during an install, and how to isolate and troubleshoot them if they do. It is very advantageous to have a digital multi-meter on hand to troubleshoot anything electrical in your BMW. They can be found at any hardware store for around \$20-\$30.

### No Sound from subwoofer(s):

- The fuse wasn't installed inline on the red 8 gauge power wire at the battery. This is very often overlooked. Pop in the fuse, and you'll be good to go.
- There isn't a connection between the amplifier and the subwoofer. Did you route the included speaker wire from the amplifier to the subwoofer enclosure?
- Amplifier isn't turning on properly. See next section.

### Amplifier isn't Powering Up:

- The fuse wasn't installed inline on the red 8 gauge power wire at the battery. This is very often overlooked. Pop in the fuse, and you'll be good to go.
- Check to make sure you've found the correct remote turn-on wire. This is a very common oversight. Set your DMM to direct current and place one lead on the ground terminal of your amplifier and one on the remote turn on terminal. Turn the car and the radio on. If you don't have 12-14 volts on the remote turn on terminal, your connection may be the issue.
- Make sure your power and ground connections are correct. Using your DMM, again check each terminal to make sure that a connection has been established.

**-Ground Connection:** Set the DMM to its continuity section. Place one lead of the DMM on the amplifiers ground location where you screwed into the chassis, and the other lead on the negative battery terminal. If you don't see any continuity, move your ground wire until you do.

**-Power Connection:** Set the DMM to direct current again, and place one lead on the amplifiers power terminal and the other on the amplifiers ground terminal. You should see 12-14 volts. If not, check your inline fuse.

### Subwoofers sound muffled or quiet:

- Check to make sure your phasing is correct between the amplifier and the subwoofer. Positive should go to positive, and negative to negative.
- Your input signals are out of phase. Check to make sure that your input connections are exactly as outlined in the guide. An easy test is to simply cut one of the input wires and see if the sound output increases exponentially.