



## Stage One Speaker Upgrade Installation Instructions for BMW 5 Series / M5 '04-'09 (E60)



### What you'll need to complete the installation:

- **BAVSOUND Tool Kit** (or some variety thereof - the video highlights the tools needed for this particular installation) - <https://www.youtube.com/watch?v=oiWzFb9LN50>
- Optional: **Heat gun or hair dryer** (to dry your hair - only kidding - to heat up sound deadening for better pliability).
- **Tunes in the garage** (your choice)

# Before you Begin

- **Please review and familiarize yourself completely with these instructions before starting work on your vehicle!**
- **Install all your speakers before you audition the Stage One.** Installing one speaker and then listening to the system to “see if it sounds better” is like putting one high performance shock on your car and taking it for a test drive. Feel free to test to make sure the connections were properly made after installing each speaker, but beyond that, keep the process moving along and audition it once all speakers have been installed.
- **Ensure that your bass and treble settings are set to their default middle positions before installing your new speaker upgrade.** Once you’ve installed your Stage One, you can reset the bass and treble settings to taste. Keep in mind that we generally recommend keeping them both very close to center as large adjustments introduce distortion into the audio signal and will lower performance of your system.
- **Perform the installation one door at a time.** Since there are many small parts that you’ll remove when completing the project, limiting the work you’re doing to one door will prevent you from confusing which parts go with what door.
- **Installation is essentially the reverse of the removal process outlined below.**
- **Variations occasionally occur,** so if anything seems out of line with what is contained in the pages that follow, don’t hesitate to contact us.

Ready? Let’s get started!

# Part 1: Front Doors

## Front Door Panel Removal:

**1.** Start by rolling down the windows on all of the doors. This will decrease the chance of mistakenly scratching the glass or tint on the window.

**2.** Starting with the driver door, identify the airbag plug on the upper rear portion of the panel. Using your plastic panel removal tool, remove this piece.



**3.** Remove the Torx T27 bolt behind the airbag cover.

**4.** Now, we need to locate the small screw cover on the front inside edge of the panel. Using your angled pick tool, carefully remove the cover as shown. You may pierce the plastic with your tool, but don't worry. There is a Philips head screw behind this cover. Remove it and place it aside.



4. We will use our plastic panel removal tool and insert it. Carefully pry outward, as we're going to free the outer perimeter of the door panel first. The outer clips and upper clips along the window edge are to be removed by prying **outward**, or towards you.



5. The door panel is secured by a large plastic clip located roughly in the middle of the door panel.

With the outer perimeter fasteners loose, we need to firmly grasp the panel and rock it up and down, while pulling towards you to free it from the door.



6. With the panel free, we now need to begin disconnecting the various harnesses and plugs from the panel, as we need to gain workable access to the midrange speaker.

Let's get the midrange and tweeter freed up before we do anything else. These are the shortest wires on the panel, so once they're disconnected we can have more room to work with.

It's simple: **just pull** to disconnect the wiring from the midrange.



7. Now unplug the door lock mechanism.



8. Completely remove the wiring harness that runs along the upper section by using our panel removal tool and freeing the plastic fasteners that secure it to the door.

**DO NOT DISCONNECT THE AIRBAG CONNECTOR!**



9. Now disconnect the lock mechanism itself at the door handle on the panel. Simply lift the lock mechanism out of the handle by lifting outward.



10. We can now disconnect the window switch and free the harness going down to the light, thus allowing us to work on the panel. **The rest of the installation must take place with the panel on our laps**, as the panel cannot be completely removed due to the airbag.



**DO NOT UNPLUG THE AIRBAG.**

## Front Tweeter Installation

1. The factory tweeters are loosely pressure fitted into the plastic housing shown below. All we need to do is carefully remove the tweeter sail and pop the factory tweeter out of it's housing using our angle pick tool included with your Bavsound tool kit.





**2.** Use your plastic panel removal tool and carefully pry at the location of the arrow. Once the plastic housing is free, it will free itself and allow you to gain access to the tweeter.



**3.** Remove the foam backing from the tweeter sail, and the tweeter itself will be revealed.



**4.** Using your pick tool, gently pry to remove the factory tweeter. Sometimes, we've even seen the tweeters fall right out of their housings!



**IMPORTANT!** Before installing your new BAVSOUND tweeter, you **MUST** plug the included capacitor harness inline with the front tweeter or your tweeter **will NOT** function correctly.

**If you have DIRAC / Enhanced Premium Sound**, you will instead plug the the included crossover networks in-line between the tweeter and midrange driver.

**5.** To install your new front tweeters, simply snap them into the housing. Our new tweeter is a perfect fit; be thorough in pressing the tweeter into the factory hole and making sure it snaps into place.



**6.** Reinstall the foam backing material.



**7.** Snap the tweeter housings back into place on the doors.





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## Front Door Midrange Installation

1. It doesn't get much easier than upgrading these midrange drivers! The factory speaker is attached by (3) 7mm nuts as shown, and then further by a couple of 10mm nuts and a single Torx T20 bolt.

Remove these nuts and bolts to free the metal cover and midrange.

**NOTE: Take careful note of the metal bracket as it sits against the new speaker terminals. It is possible that the terminals can "arc", causing a short across the terminals. Make sure to bend back the terminals so no contact is made, or use a small piece of electrical tape to isolate the terminals.**



2. With the speaker removed, we can now apply the optional sound deadening material to the door panel itself. (Optional: start by heating the sound deadening up to activate the glue on the sticky side of the material).

**How to apply sound deadening:** The material can be applied as desired. However, we want to focus as much material as possible on the area around the midrange driver, as the goal of the sound deadening is to minimize resonance between the speaker and the metal brackets behind it.



3. With the sound deadening installed, reinstall the upgraded Bavsound midrange driver and metal cover in the door panel.

4. **NOTE: Take careful note of the metal bracket as it sits against the new speaker terminals. It is possible that the terminals can "arc", causing a short across the terminals. Make sure to bend back the terminals so no contact is made, or use a small piece of electrical tape to isolate the terminals.**



(Reinstallation is the reverse of removal).

## Wiring & Door Panel Reinstallation

1. Connect your new BAVSOUND tweeter to the black two pin connector attached to the new midrange driver.
2. Connect the green connector on the midrange driver to the original midrange connector.
3. Reinstall the door panel (installation is the reverse of removal).
4. Repeat all steps with the opposite door.

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# Part 2: Rear Door, Rear Deck, & Center Channel Speakers

## Rear Door Speakers

(Logic7, Harman Kardon, DIRAC, and EPS equipped vehicles only)

Removal and reinstallation is exactly the same as the front doors with the following exceptions:

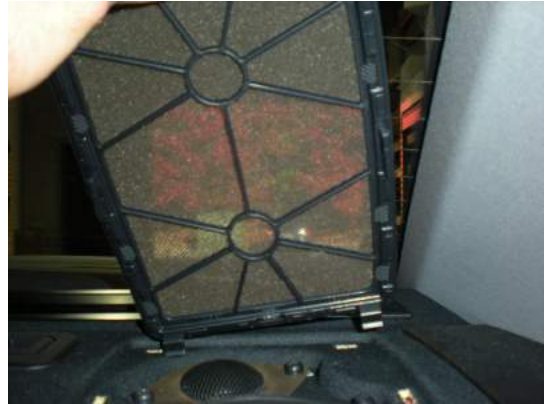
- There are no airbags in the rear doors
- There are no tweeters in the rear doors.
- There may be a second Phillips head screw covered by a cap on the bottom edge of the door panel.
- The top of the rear door panels are removed by prying them towards you using your blue panel removal tool.

## Rear Deck Speakers

1. Lift each rear headrest all the way up to make space to work on the rear speakers.
2. Using your Bavsound plastic panel removal tool, carefully pry upward on the front edge of the grille covering each speaker set. There are two hooks on the rear most edge, so don't pry on the rear edge.



**3.** Once the front clips release, remove the cover by lifting upward slightly and sliding the cover towards the front of the car.



**4.** Unbolt the factory midrange and tweeter, then disconnect and remove them. Both the tweeter and midrange are attached using 8mm bolts.

Save these bolts and reuse them with the new speakers.



**5.** Install the new tweeter first.

**6.** Then, connect the tweeter plug to the new midrange, and the new midrange the factory plug.

**7.** Now bolt the midrange in place.

**8.** Repeat with the other side.

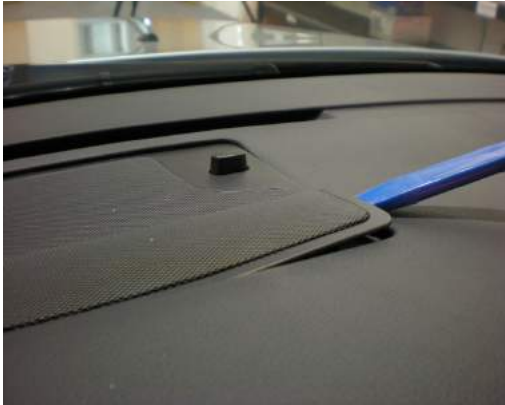


## Center Channel Speaker Installation

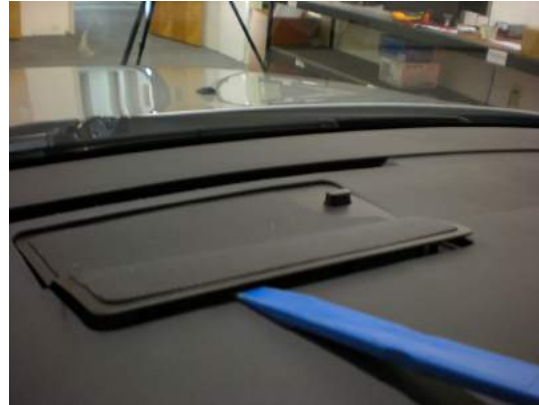
(Logic7, Harman Kardon, DIRAC, and EPS equipped vehicles only)

**1.** Carefully pry the plastic panel surrounding the center channel speaker out using our Bavsound plastic panel removal tool (shown below), exposing the factory speaker.

a.



b.



c.



d.



**2.** The speaker is held in either by (3) 8mm bolts, or in some cases, Philips head screws.

Remove these and place them aside, as we will be reusing them to attach the new speaker.





**3.** Remove the factory speaker, and plug in the Bavsound center channel driver back into the factory connector.

**4.** Bolt the new speaker in place.



# BAM!

**You've now completed your BAVSOUND Stage One Speaker Upgrade!**  
Head up front, put on your favorite album, and go for a drive.

And most importantly, enjoy your new BAVSOUND system!

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**Love your new Stage One?** Let us know!

Tweet us [@bavsound](https://twitter.com/bavsound) with hashtag #StageOne or #bavsound and tell us what you think!

# Troubleshooting

If you're experiencing an issue with your new speakers, please carefully read through this guide, as it covers almost any issue that you are likely to encounter. (If the guide doesn't resolve these issues for you, please feel free to contact us - [www.bavsound.com](http://www.bavsound.com)).

## ISSUE #1: No Sound from Speaker

One of three things is most likely happening, and they are listed in order of most common occurrence along with how to correct them:

### **Possible Cause 1: The wiring on the plug-n-play connector is misaligned.**

**Step 1.** Check for alignment of wires from their factory plug through the BAVSOUND connector. Do they line up (see below)?

**Step 2a.** If the connections line up, go ahead and plug the factory speaker back in to confirm operation. If the factory speaker works, and the wires in the plug are aligned, the speaker is defective. We need to get you a new speaker!

**Step 2b.** If the connections don't line up, you'll need to move them so polarity is correct and the positions are correct. On our wires, the Red Stripe is positive, while the solid black is negative, while on the BMW side of the plug that following holds true:

- Black Stripes, Red Stripes, White Stripes, Purple Stripes are Positive.
- Solid wires are negative, as are wires with Brown Stripes or Grey Stripes.

### **Possible Cause 2: The speaker connections are being shorted out.**

Check to make sure that no speaker terminal is touching metal. This can cause the speaker to not function, as it is effectively grounded (shorted) out (most common in midrange speakers).

If you find that this was the case, place electrical tape over the terminals to prevent future mishaps. If the entire system has no sound after the installation of

new speakers, we almost know for sure that there is a speaker whose terminals are grounded out. Let's check by disconnecting each speaker until the music comes back on and we've isolated the problem speaker.

### **Possible Cause 3: The amplifier may be broken.**

If there was a speaker or location in your system which didn't play before installing the Stage One, this is probably the issue.

If this was the case, and you were trying to fix the problem by purchasing new speakers, we may need to look at the factory amplifier, as it is most likely the culprit.

Is the entire side (left front, right rear, right front, left rear) not working, or is it a particular speaker that was not working? Most likely it was a single speaker.

If an entire side is not working, make sure, especially on the tweeters that you just installed, that neither the positive or negative terminals are touching metal. This can contribute to an entire side (channel) not working properly.

## **ISSUE #2: Distorted Sound coming from new Speaker**

1. **Where are the bass/treble settings on the radio/EQ?** Flatten out the settings to ensure no pre-amp distortion is the cause of the problem. If you're using the radio to test the speakers, go ahead and use a CD or directly connected iPod instead.
2. **Are speaker terminals touching ground (metal)?** Where is the distortion coming from? A single speaker, an entire side (channel), or the entire system? Its best at this point to go back and disconnect each speaker until the distortion goes away. The most likely culprits are the front tweeters.
3. **Was the factory speaker distorted as well?** If a single speaker was distorting, the most likely culprit is the amplifier. We may need to explore replacing/repairing your factory amplifier.

## ISSUE #3: Lack of Bass Response

A common occurrence when a mid bass speaker is wired “out of phase”. This means that the positive (+) and negative (-) are backwards on the plug and play connections.

Here we’ll want to check alignment of the connectors as they come together between the speaker and the factory plugs. The lack of bass response generally is due to one speaker being out of phase and the other speaker(s) being in phase.

The easy fix is checking these connections to make sure that positives go to positive and negatives go to negatives. Basically, double check your wiring on each speaker. If one speaker is out of phase, the bass response of the entire vehicle can be compromised.

## ISSUE #4: Too Much Treble, Harshness, or Brightness

Where are the bass/treble settings on the radio/EQ? Go ahead and flatten out the settings to ensure no pre-amp distortion is the cause of the problem. If you’re using the radio to test the speakers, try using a CD or directly connected iPhone or iPod instead.

## ISSUE #5: Missing Product(s)

If you feel that a product or accessory is missing, let’s check a few things before we send out replacements. It’ll save everyone a lot of time!

1. **Please check to make sure that nothing has gone unnoticed in the packaging.** If you’re calling from your office and don’t have access to the package, please bring the package to the office the next day so that we can go over with you exactly what was supposed to be in the packages that we shipped out to you. Sometimes our shipping department uses filler boxes in packages to ensure that your products aren’t damaged in shipping, and often times those boxes are mistaken for missing products.
2. **If indeed a product is missing, firstly please accept our apologies.** We try our best to ensure that all orders are filled as they should be, but we’re only human. Please contact us ([www.bavsound.com](http://www.bavsound.com)) and we’ll get it resolved for you shortly!