

Joy E Auto installation for 2016 AMG GTS

Author: trbofly@yahoo.com

Intro:

This document details how to install the JoyEAuto Car Play unit for the AMG GT platform. This FAQ was done on my personal GTS. I am not an audio installer, and I do not work for JoyEAuto. I am just someone who really wanted Car Play.

If you live in the Portland area, I am happy to help you install it if you like

If this works for you and you want to say thanks, you are welcome to donate a couple bucks to my future ECU tune project. <https://www.gofundme.com/craigs-eurocharged-tune>

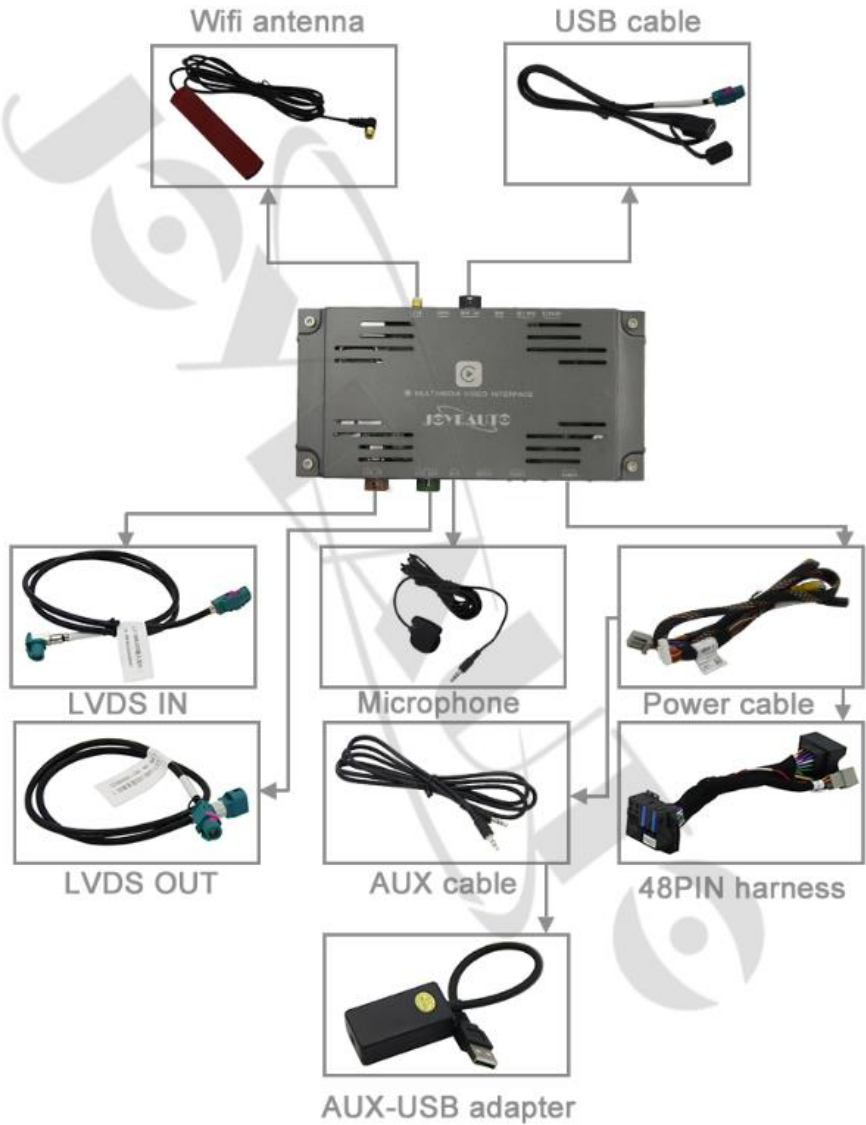
What you need:

- Interior Molding Tools (To pry things)
- Picks to help pry things open or to unclip connectors
- Torx T15 Screwdriver (Not sure T15 is right, but it worked for me. Little lose in the screw head)
- Zipties if you want to make it neat
- Side cutter for zip ties
- Some double sided tape
- Razor Blade
- Handwipes or paper towels (Note that the inside of the console is sticky from the adhesives on the wires. Trust me and have these handy)
- Part of a coat hanger or some other way to fish wires through hard areas.
- JoyEAuto Carplay unit for Mercedes NT5.0/5.2 (Listed to work with A, B, C, E G, GL, GLA, GLK, ML and CLA platforms)
- **Ground Loop Isolator (PAC LPGL-2) (not included in JoyEAuto package)**
- Makers Mark or beer (Optional... but really required)

The JoyEAuto Package

- Comes with the JoyEAuto unit
- Wifi Antenna (Mine is a little stubby antenna and not what is pictured here)
- USB Cable for CarPlay cabled use
- Microphone for Siri
- LVDS IN (Note, mine is purple)
- LVDS Out (Mine is green)
- AUX Cable (basically a long 3.5 cable)

- AUX USB Adapter (This is how this technically works. Car play goes through the AUX cable to the AUX USB adapter which is plugged into your existing USB port. This makes CarPlay audio come through similar to an iPod)
- 48PIN harness
- Power Cable (This is a bit more than a power cable. I am going to call it the JoyEAuto cable)



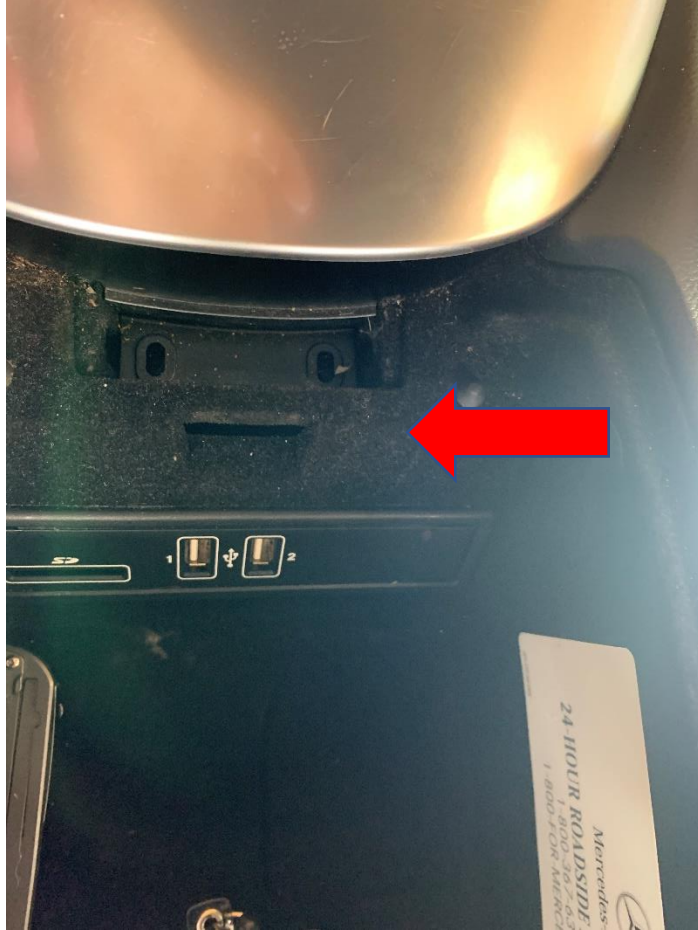
1. Pre-Installation

In this section we will take care of a few things that will make your life a lot easier.

- a. Open the windows to your car and move the seats back if you want extra room
 - b. Remove the negative terminal from the battery for safety
 - c. Get a really thick beach towel and cover your passenger seat and leave some extra to drape over the edge of the console opening once you remove the console
 - d. Have a place to put your screws and tools. A box or a Tupperware container. Don't throw the picks on your seats or you may scratch / poke holes.
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2. Opening the center console
 - a. Pry open lower screw cover in the center console. It has a strange shape so it feels like it wont come out. You may need to pry hard. I used a metal right angled pick and eventually popped it out. Remove the two Torx screws and set them aside.



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- b. Use a plastic interior molding tool to pry open the upper leather panel. Don't use a sharp pick for this.



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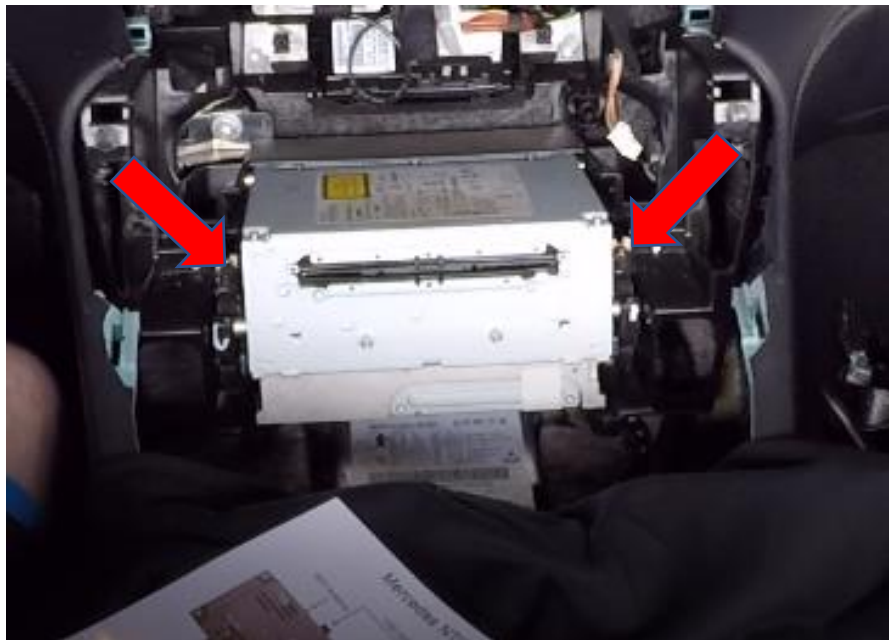
- c. Pull the lower console up until the bracket that had the two screws in it clears the center console storage area. I used a small plastic prybar to get it passed the storage area liner.
- d. Once its clear, pull the entire center console towards the back of the car and it will be free from where it clips in the front. Note where it came out of so you can put it back in the same spot.
- e. Don't try to unplug the center console. Its more trouble than it is worth. Just rotate it over onto the towel in your passenger seat and tuck the extra towel over the edge of the opening to protect it.



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3. Removing the head unit

- a. The head unit is held in with two Torx screws. You don't need to fully remove the screws, just loosen until the head unit can pull forward. The bracket has a pivot that the head unit slides into, so once the screws are loose it slides out.



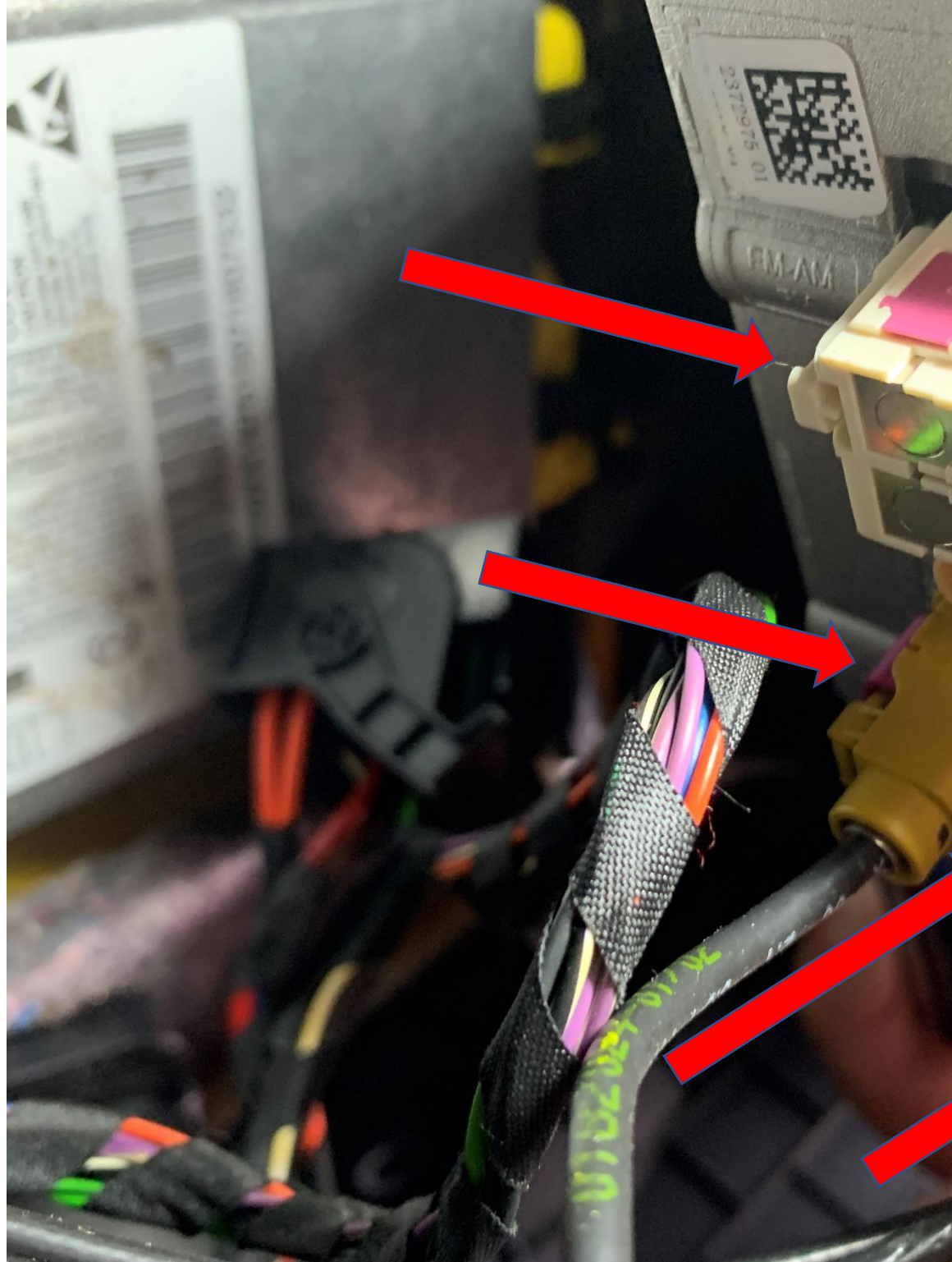
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- b. Reach behind and remove the 48 pin connector from the head unit. You have to pinch the top of it and then pull the lever back to pop the connector.



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- c. Next you need to patiently pull the remaining plugs out of the back of the head unit. I flipped the entire head unit over and bent it forward so I could easily see all the hooks you have to press in order for each plug to come undone. Technically you don't have to remove them all, but I would find it a lot harder to run the wires around with the head unit still in the car.



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- d. With the head unit removed, set it aside. We won't need it for a while. Take a look at the area where the head unit sits. I originally thought I could put the JOYEAuto unit right above the head unit where there is a slot, but it turns out that area is where the

cup holder cover slides into. Ultimately, I chose to put the JOYEAuto unit under the brace in the middle of the console opening. I couldn't fit it anywhere else.



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4. Running the Microphone

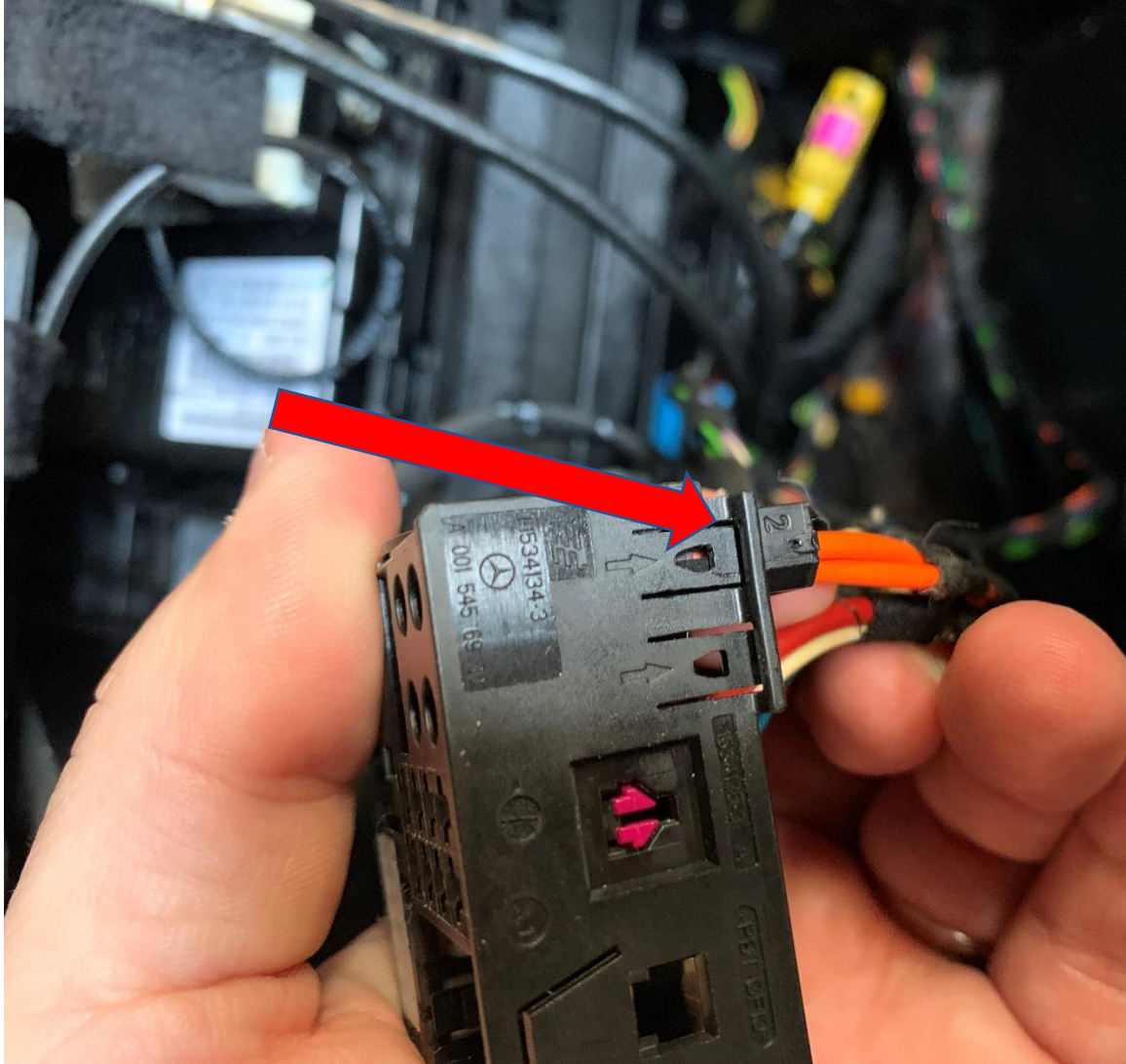
- a. Pull the lower and upper weather gasket back from the door opening. It just pulls back from the opening and isn't attached with adhesive.
- b. Unscrew the panel under the driver's footwell. You don't need to remove it, but make sure it can hang loosely so you can run your wire.
- c. Now it gets tricky. Start at the top of the driver's side pillar and run the mic wire through the interior panel and down the door opening. I used a combination of the hanger piece and some spare wire to pull the 3.5 connector under the moldings. I didn't remove the entire molding as that seemed like way too much work. I used the plastic pry bar to simply pull the panels back until I could get the wire through. This is the most annoying and hardest part of the install.

- d. Runt the mic wire under the footwell panel and under the center console leather panel. Eventually you will get it into the center console opening.
 - e. Once the cable has been run, screw the footwell panel back into place and press the weather stripping back into its slot on the door opening.
5. Running the USB Cable
- a. This is a bit easier. I ran mine under the leather panel on the passenger side and left it hanging there a bit. It isnt noticeable and is easy to connect your phone to.
6. Running the AUX In cable and adapter
- a. The AUX USB adapter must connect into the USB port in the center console. This means you need to run the AUX 3.5 cable into the center console storage area. This means you need to drill a hole. I used a standard drill, then a Xmas tree bit to make a hole just big enough for the 3.5 connector right above the SD Card slot. It isnt noticeable.

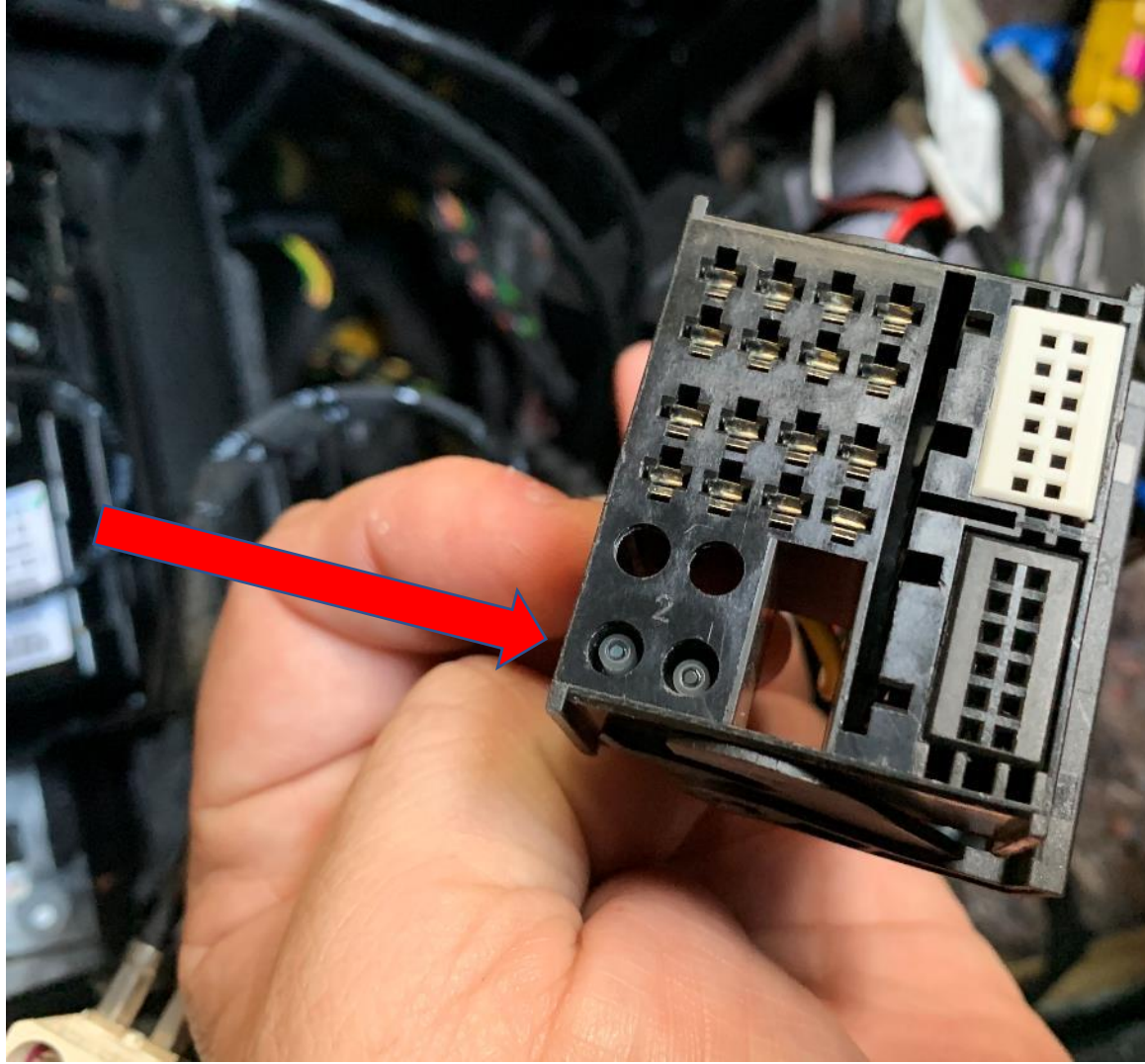


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- b. Routing the 3.5 cable into that area is a bit of a pain, but the hanger piece helped fish the wire through.
 - c. I suggest using a Ground Loop Adapter (Link below) to fix the slight buzz I heard while the car was running. If you choose to use this adapter, you can mount it in the next to the JoyEAuto unit. Just make sure to run the short 3.5 cable through to the console.
 - i. Ground Loop Adapter: https://www.amazon.com/PAC-LPGL-2-2-Channel-Isolator-Converter/dp/B00DHUA5RI/ref=sr_1_11?gclid=CjwKCAjwtajrBRBVEiwA8w2Q8G3CE0VI7A_7MeyhrZ62vN5rEmH9CtjONFj2Ix1Nj44aBjFV6GwluhoCRT4QAvD_BwE&hvadid=241909091736&hvdev=c&hvlocphy=9033604&hvnetw=g&hvpos=1t1&hvqmt=e&hvrnd=14909293415094303430&hvtargid=aud-646675773986%3Akwd-5426136937&hydadcr=24660_10400767&keywords=pac+ground+loop&qid=1567295138&s=gateway&sr=8-11
 - d. Plug the adapter into the USB port and the 3.5 cable into the adapter.
7. Preparing the 48 PIN connector
- a. The first time I put it all together I missed a really important step. It isnt clear in the video or instructions and I must of missed it. You need to pop the plug that has the two fiber optic cables out of the factory 48Pin connector and move it over to the 48 pin harness. Do this now. If you use a pick to pry the tab back a little, the entire plug will slide out. Slide it into the same exact spot on the new 48Pin harness.

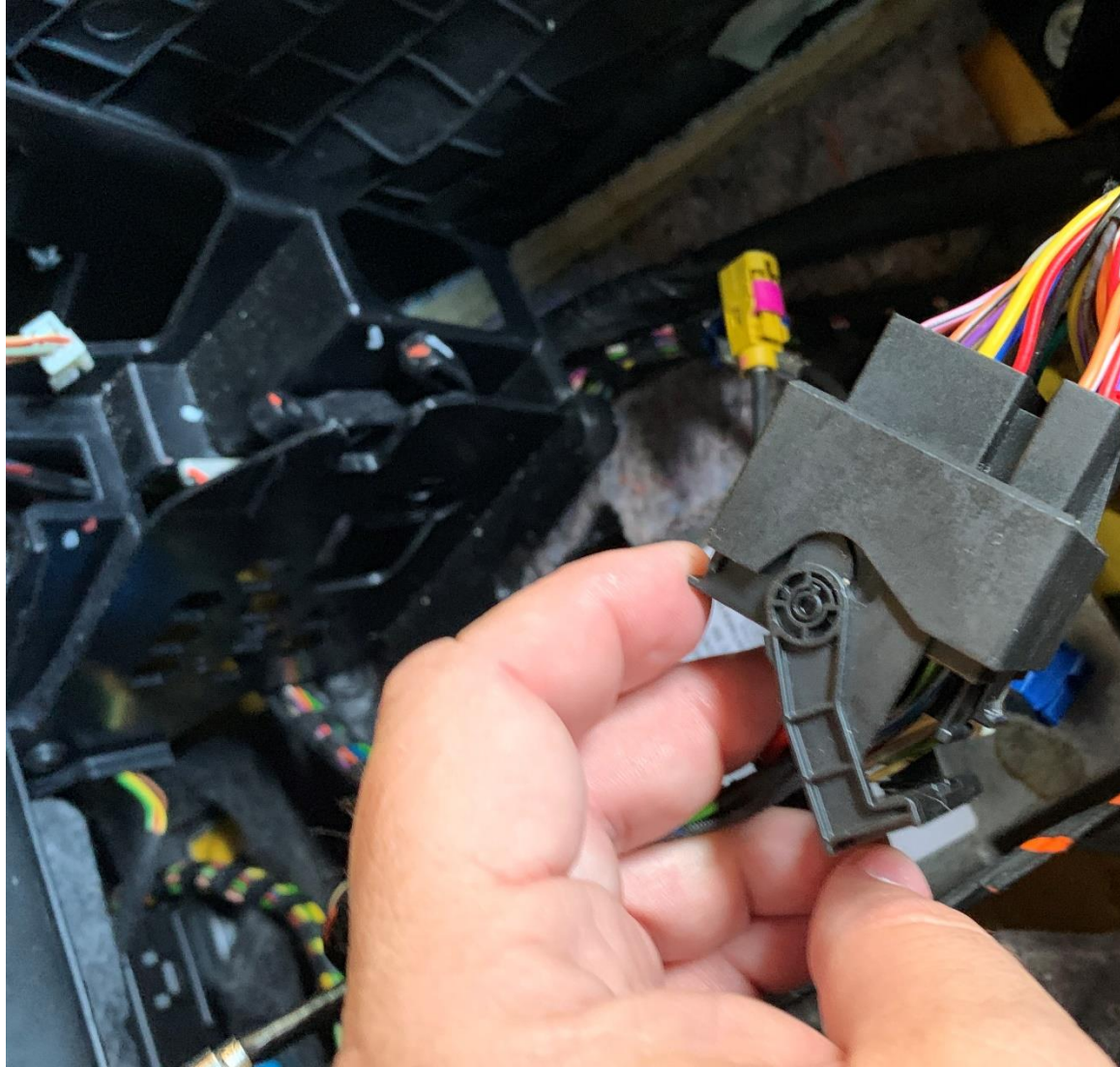


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- b. Plug the factory 48Pin plug into the female side of the JoyEAuto 48Pin harness



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8. Other wires

I ran most of these wires underneath the plastic slot where the head unit goes so that it isn't in the way of the head unit when it slides back in.

- a. LVIDS In: Run it under the head unit slot and leave it there with some slack
 - b. LVIDS Out: Run it under the head unit slot and plug into the factory LVIDS plug. It is blue. It only plugs into the one side so you can't do it wrong.
9. JoyEAuto Cable: This cable has two sides and a lot of things hanging off it. You need to be aware of three of those plugs only.
- a. The thin white connector will go to the JoyEAuto unit. Don't plug it in yet.

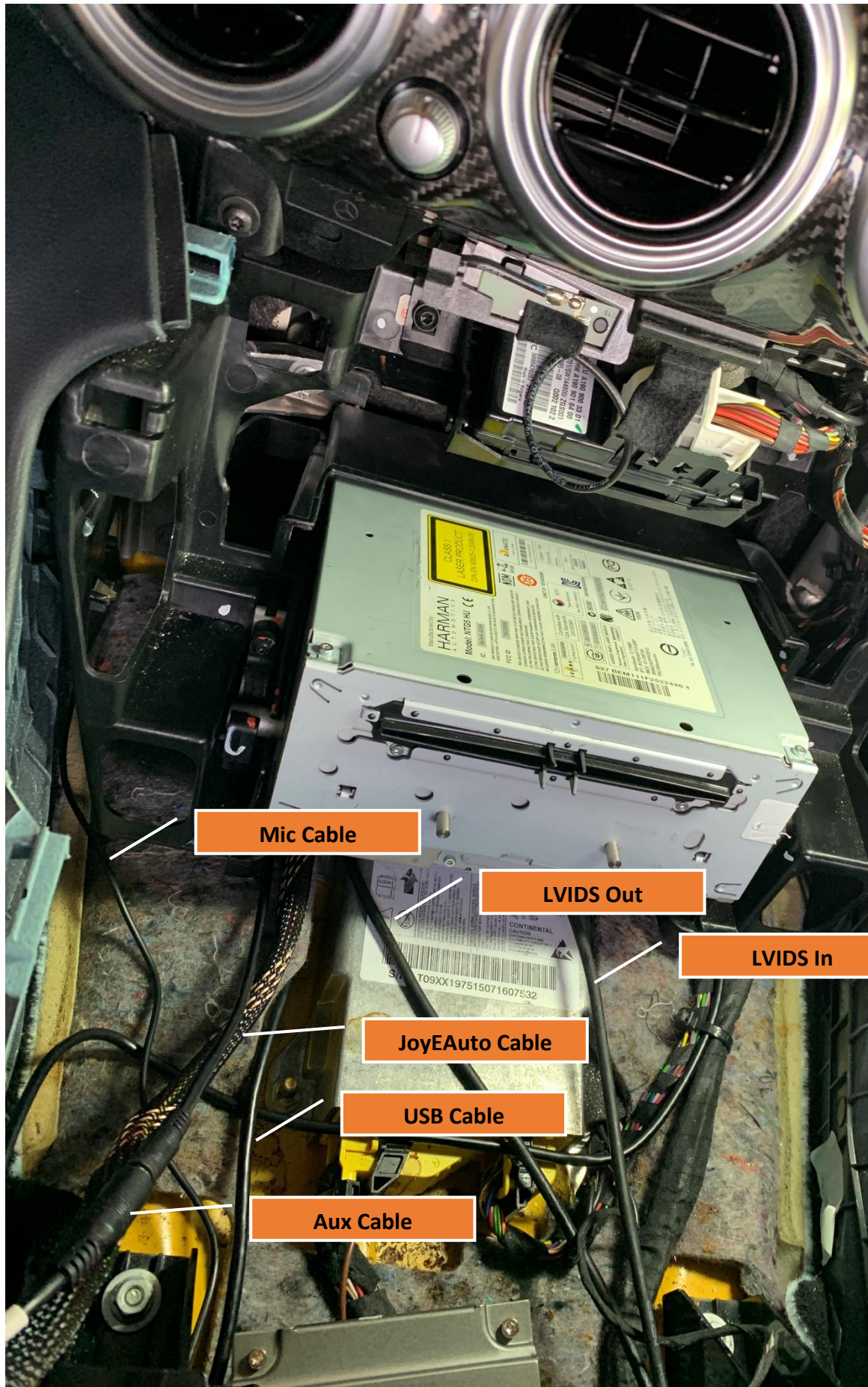
- b. The Gray thicker connector plugs into the female plug on the JoyEAuto 48 Pin harness. Run the side of the harness with this plug under the head unit slot and plug into the 48 pin harness behind where the head unit goes.
- c. Aux Audio In: Plug the Aux 3.5 Cable that comes from the center console into the female connector on the JoyEAuto cable. Don't plug it into the one on the 48PIN harness.

10. Install the head unit

- a. Time to put the head unit back in. I started with the misc colored plugs and did the 48Pin harness last. Please note that you will need to plug the LVIDS In cable into the plug where the old blue plug was connected. It's a blue plug on the head unit.
- b. Once you have plugged all the wires into the head unit, slide the extra slack back behind the head unit slot and slide the head unit into place. Don't force it, but you do have to shove it all back in there as there isnt a lot of room.
- c. Screw the two Torx screws back in so that the head unit is fully seated and in place.

11. Take a moment to breath

- a. At this point you should have the head unit in place.
- b. You should also have the following cables, with some slack, sitting in the console opening un-plugged
 - i. JoyEAuto cable (thin white connector)
 - ii. Microphone 3.5 connector
 - iii. One side of the LIVDS Out cable (green)
 - iv. USB Cable connector
 - v. The AUX 3.5 cable is plugged into the JoyEAuto cable



12. Preparing the JoyEAuto Unit

- a. Since we are putting the JoyEAuto unit in the middle of the center console, there isn't any way to really hold it in place. I wanted to make sure it didn't rattle around. In this step you want to stick some foam or padding to the underside of the JoyEAuto unit so it is padded against the floor of the console. I used double sided tape and some of the foam from the packaging the JoyEAuto unit came in. I used a razor to slice the foam into a manageable thickness as well. If you have a better source of padding, knock yourself out. Make sure you stick the foam to the side of the unit that doesn't have vents.



- b. Change the DIP pins on the bottom of the unit. The settings should be:

1. On
2. Off
3. Off
4. Off
5. Off
6. Off
7. Off
8. On

- c. Attach the WIFI antenna. Make sure its tight, but don't overtighten.

13. Installing the unit

- a. Note: I situated the unit so that the WIFI antenna is pointed towards the drivers side.
- b. Keeping in mind where you are going to put the JoyEAuto unit, make sure you route all the following plugs to the unit and plug them in.
- c. The LVIDS IN cable (Mine is purple) plugs into the CD_In spot on the unit
- d. The LIVDS Out (Mine is green) plugs into the CD_Out on the unit
- e. The Thin White connector of the JoyEAuto cable plugs into the unit (only one place for it)
- f. Plug the MIC cable into the side of the unit
- g. Plug the USB cable connector into the CP_USB connector (Mine is blue). Note that this connector plugs into the side with the WIFI Antenna.
- h. Slide the JoyEAuto unit under the center console and under the center console support bracket. With the foam on the underside, it seems to fit there nicely without moving around.



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14. Testing it out (Optional)

- a. If you want to test it before putting the console back on, now is the time to do it. You can skip to the testing part and come back to step 15 if you want

15. Putting it all back together

- a. Rotate the center console back into the center console opening. Slide the two prongs at the front of the console into their holes just as they came out. You shouldn't have anything in the way at this point, so it should slot back in nicely.
- b. Once the front of the console is pushed into place, push the back of the console back into the slot where the screws go in. You may need to push it a bit on the hard side to clear the inner lining of the center console storage area.

- c. Install the two Torx Screws into the center console slot. Do not overtighten
- d. Install the lower screw panel cover. It doesn't go in easy, so push it hard.
- e. Install the upper leather trim cover.
- f. Reattach the negative terminal to the battery.
- g. Pray there is no smoke: Breath
- h. Note: When you reattach the battery for the first time, the car will not start via the center console starting button. Use the key and use the slot in the center console to manually start the car. Once you have done this once, turn off the car and the center console button should work again.

16. How To Use the system

- a. The JoyEAuto system appears to hijack the video feed whenever you want to use it. It is not as slick and easy as factory car play, but it isn't bad. To switch to the JoyEAuto unit, press and hold the back button next to your control wheel on the console. After a second or so, the JoyEAuto menu comes up. You can navigate using the control wheel once you are in the system
- b. The * key next to the control wheel will trigger Siri when in the JoyEAuto unit.
- c. You can set up Bluetooth CarPlay in the JoyEAuto settings menu.

17. Fixing the backup camera

- a. When I first put this together, the backup camera wouldn't come on when in reverse. The video feed would just go dark. Turns out you need to go into the JoyEAuto settings menu, go to the RearView option and change the setting to "Video". This fixed the issue for me.



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18. Ground Loop Isolator:

- a. After installing my unit I noticed a buzz in the sound coming through the AUX-USB connector. The buzz was noticeable only when the JoyEAuto unit was active.
- b. I fixed the issue by purchasing a Ground Loop Isolator that connects between the USB-AUX adapter and the 3.5 audio jack. The one I purchased is here:
PAC LPGL-2
 - i. https://www.amazon.com/PAC-LPGL-2-2-Channel-Isolator-Converter/dp/B00DHUA5RI/ref=sr_1_11?gclid=CjwKCAjwtajrBRBVEiwA8w2Q8G3CE0VI7A_7MeyhrZ62vN5rEmH9CtjONFj2Ix1Nj44aBjFv6GwluhoCRT4QAvD_BwE&hvadid=241909091736&hvdev=c&hvlocphy=9033604&hvnetw=g&hvpos=1t1&hvqmt=e&hvrnd=14909293415094303430&hvtargid=aud-646675773986%3Akwd-5426136937&hydadcr=24660_10400767&keywords=pac+ground+loop&qid=1567295138&s=gateway&sr=8-11

That's it. Feel free to email me if you have any questions

trbofly@yahoo.com