

Introduction

I started this project when my wife and I decided to get iPhones. I had been considering installing the integrated telephone equipment and Bluetooth puck in both cars for some time but had never acted.

I carefully read the [posts](#) by Skylaw on [Benzworld.org](#) and started to make a list of what I needed for both cars, a 2002 C-230 Sport Coupe and a 2003 SLK 320. I printed the [Mercedes Phone Bulletins](#) from Paul Dick's website (thanks so much!!). After carefully reading not only the ones for my cars, but also looking over the instructions for other cars, I started thinking this was a doable project.

I made some choices in doing this project that caused it to cost more than it could have. Although my intended use for the system is to use a Bluetooth connection which would not make use of the cars' integrated bumper antenna, I chose to install the system as if I were going to use a v60 phone, and close to how it would have been installed if I had gotten it when I purchased the cars. This meant that I was purchasing a Dual Band Linear Compensator and Antenna switch that I probably would not need otherwise.

I took my parts list and started hunting. What I found is that you can purchase the Portable Support Electronics Equipment (PSE), the Voice Control Module (VCM) and other equipment you need on eBay easily. However, finding the brackets you need and a small item like the Dual Band Antenna Switch or the Push-To-Talk lever is more difficult. I ended up purchasing both VCMs from eBay. I also purchased a Mercedes v60 phone. I did not intend to use the phone long term, however I wanted to use it my initial install.

I purchased the Completer Kit for both vehicles from my Mercedes Dealership. This got me the mounting brackets for the C-Coupe and the bracket for mounting the phone cradle for the SLK, along with the cable between the PSE and Linear Compensator along with other assorted hardware. The kit for the SLK came with the Antenna switch, the kit for the C-Coupe did not. This caused me some problems later, as I watched eBay looking for a switch and none came available before I was ready to install. It also turned out that you could no longer order just the switch from Mercedes. I solved this by purchasing the cheapest completer kit I could that came with the switch.

I located two v60 cradle kits in dealer stock and purchased those. Although slightly more expensive than using eBay it got me all the pieces I needed, and the instruction manuals for the phone to go in the cars.

I purchased each of the other items separately as I could find them. I found that I could purchase new PSEs from Mercedes for not much more than they were selling on eBay for and get the most current version. I did this mainly for the convenience of obtaining two at once. I ended up with part number Q6820971 (which supersedes Q6820886, which replaced Q6820845 and Q6820754). From what I was told the Q6820971 is a fairly recent release and should be available from Mercedes for some time. I found that the

mounting bracket for the VCM was not available outside of the kit for either car and that the PTT lever for the SLK was not available. However, I found that the PTT lever for the C-Coupe worked on the SLK and looked appropriate.

Here you can see the pile of boxes I ended up with:



Installation of v60 Cradle

C-230 Coupe

The v60 Cradle kit includes the Telephone manual for the car, the cradle holder, the cradle itself and the two screws needed to fasten the cradle to the cradle holder.



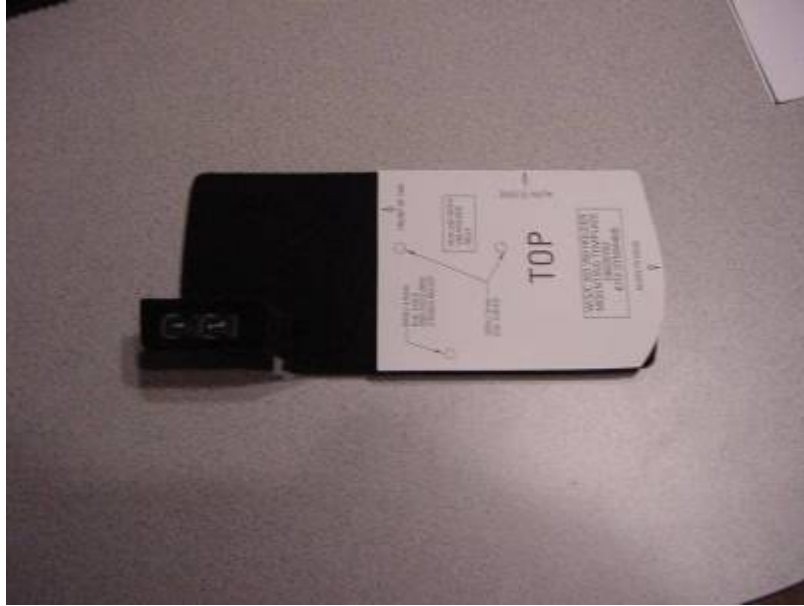
The telephone cradle installs in the upper part of the center console. The false floor for is loosened by removing the three small screws found on the underside of the upper compartment.



The false floor then lifts out and the Tele-Aide (if equipped) buttons and the RJ-45 jack can be removed. The RJ-45 jack slides into two clips to hold it in place. On my car it had a piece of black cloth tape wrapped around the clip as an additional measure. The small connector for the Tele-Aide buttons is a tight fit, but with some pressure it slid out.



The template made locating the holes for the v60 bracket easy. Do not drill the hole labeled “strain relief” as it appears to not be used. The two holes for the bracket and the two holes on the left side of the false floor which allow cables access to the underside of the floor need to be drilled. The directions call for 5.0 mm holes for the bracket and 4.5 mm holes for the other.



This is the Template for the v60, with a scale next to it, so it can be resized if anyone needs it.



The bracket fastens with two Star screws, which use a T-20 driver. Make sure you have this handy.

The cords loop beneath the false floor at the rear hole following the markings on the floor. The strain relief point clips over a plastic post on the underside and is marked. The connector cord comes back to the upper side through the front hole and then connects to the RJ-45 plug. This is not shown clearly in the Phone Bulletin, but it appeared to be the only way for it to work.

Once the bracket is installed and the cords routed, place the false floor back in the car, routing the cords from the car also as shown. There are clip to hold each end of the antenna connection to the false floor after you have connected the ends. Remember the antenna wire makes a loop back to the connector.



Replace the false floor and tighten the three screws that hold it in place. If you have not already, you can install the telephone cradle, cradle insert and the clip which holds the phone in the cradle.



SLK

Again, I used a v60 Cradle Kit instead of gathering each part individually. This was both convenient and gave me the MB Telephone manual for the car.

This is all the cradle kit and the cradle holder bracket from the SLK Completer Kit (on the right). The bracket holds the cradle holder off the floor and allows the RJ-45 jack and antenna cable to be connected below it.



On the SLK, there is a raised bracket that will hold the phone cradle. You have to remove the Tele-Aide buttons (if they are present) and slide the bracket to the rear.





You can then peel the felt carpet up from the front of the console, starting at the corner under the Tele-Aide bracket. This is **STRONG** glue so I ended up peeling a corner and then using pliers to pull the carpet. Work your way toward the left side of the car and after the mid-way point you will find a plastic square that can be pried open. I slit the felt on each side of the square and stuck it all back down, with the square pulled up. Under the square you will find the RJ-45 jack and the antenna cable for the cradle. The foam protecting the RJ-45 jack left all kinds of sticky residue on the jack which I cleaned with rubbing alcohol.



Attached the phone cradle to the top of the bracket, slide the RJ-45 jack into the hole in the side of the bracket and connect the antenna cable. The strain relief for the cradle cord mounts to the screw hole next to the RJ-45 bracket. I found picture pointing the strain relief both ways, so just pick a direction you like. The front of the bracket has a tab that slides into a slit in the carpet. I had to cut the carpet over the slit then slide it in. The second screw attaches to the rear of the cradle.



Installation of Equipment

C-Coupe

In order to get all the mounting brackets I used the C-Coupe Completer Kit which had the mounting bracket for the PSE, Linear Compensator and Antenna Switch. The kit also had the templates for both the StarTac and v60 Phone cradle mounting, but did not have an Antenna Switch included.



I started with letting the seats down, removing the rear cargo area cover and the floor covering the spare tire.



Then remove the plastic “moisture barrier” that protects the electronics. This requires removing the two anchors with a T-40 drive. I also peeled the white sticker up so I could restick it later. Under this you will find the Tele-Aide unit (if your car was equipped with Tele-Aide). I believe that the vehicles that were not so equipped do not have the large grey equipment bracket attached.



The VCM mounts to the left side of the equipment bracket. Because I did not have the proper bracket to hold the VCM in place I had to fabricate a bracket. I used 1 inch wide brass strips which I bent to fit and riveted together. You can see the bracket I made before I painted it black.



The VCM should have an orange fiber pair coming from the right side of the car and ending near the mounting point. This fiber pair was simply in place and looped back to connect with itself. The cable for the VCM should also be close to the VCM mounting point. The cable was coming from the left side of the car.

I mounted the VCM in place, but did not worry with the fiber ring at this point.

I removed the trim paneling over the right wheel well and across the rear of the trunk/hatch to gain access to the area over the right wheel where the PSE and other equipment would mount.



I had to remove the Bose subwoofer in order to reach the fiber cables which had been dropped behind it.



The C-Coupe can require the installation of two relays and some fuses, depending on the options in your car. My car required installation of one Relay and a two fuses.

The rear fuse box required the installation of one relay and one fuse. You can see the fuse box before I installed the relay the with the relay partially plugged in (sticking out) and then the fuse before (yellow one 4th slot from the bottom) and after installing here.



My car had the fuse installed already in the fuse panel at the end of the dash inside the driver's door. Notice the folded yellow paper above the fuses. This is the fuse diagram for the car. The fuse I needed was the one in the light pinkish holder 3rd from the bottom on the right side.



In the fusebox under the hood, on the left side, near the hood hinges there was a relay that was already installed in my car, and a fuse I had to add. You can see the relay near my finger in the picture and the fuse went in the empty slot near where the wires entered.



I attached the PSE to the mounting brackets according to the instructions in the phone bulletins. Make sure you use screws no longer than they specify to mount the PSE. I was able to obtain every screw they specified from ACE Hardware.



Determining Fiber Ring

On my vehicle, with Tele-Aide installed and the Bose system, there was a complete fiber loop run to the rear of the vehicle, but looped back on itself. There was also the Return fiber labeled Tel-Out and the single loop for the VCM that was not connected to the car's fiber loop. There was also an additional fiber looped back on itself that did not appear to be connected to the car's loop (when I opened the connector on this loop the car continued to recognize the CD player). The Phone Bulletin required reconfiguring the fiber loop at the Telephone, VCM and the head unit. Before working with the Fiber ring you should read the bulletin on [Fiber Optic Configuration and Version Coding](#) on Paul's site. Be sure to read the one for your year car. This made me more confident in my ability to reconfigure the fiber ring, especially when I decided to make experiment.

It appeared that one of the loops left the CD changer and looped at the rear and returned to the head unit. I checked each loop by opening it and then checking to see if the Head Unit recognized the CD player. I decided to assume the return fiber I found to be active would return directly to the Head Unit, since this was what the ring should do. I then used the fiber I determined to be coming from the front of the car labeled SBS out, that was active to go to the VCM input fiber. I connected the output from the VCM fiber to the Tel Input. Instead of using the return Tel Fiber installed in the car and reconfiguring at the Head Unit, I decided to try using the existing (working) return fiber I had found. This fiber would not reach the Tel unit itself. Instead I went to my dealer and purchased a Y-harness that I was told they used for connecting the CD changer, but was actually labeled for VCM in/out and TEL in/out. I opened the connectors and removed one foot long fiber cable, connected that to the Tel out connector and then used the fiber to fiber connector I got with the Y-harness to connect to the existing return fiber. When I powered this configuration, it recognized both the VCM and the Telephone, so I continued with the install. Make your own choices about trying shortcuts such as this.

Finishing Install

Once I was happy with the fiber ring, I mounted the Telephone equipment on the mounting bracket above the Subwoofer. This looks and sounds much easier than it is. It is a tight space and everything seems to fit just one way, with one bolt almost impossible to reach. Don't forget to hook up the antenna cables according to the Bulletin before you tighten everything down or you have to do it twice. There is also a small 4-pin connector that they do not mention anywhere in the Bulletin, but is bundled with the cabling for the phone equipment. This plugs into the side of the antenna switch.



I then installed the Push-To-Talk Lever. This required removing the plastic plug that was in the hole the lever went in, sliding the lever in, pushing slightly and then rotating the lever down. The lever should pull and push. When you pull on the lever there will be a beep from the Voice Control System. You can find a copy of the [Operation Manual for the Voice Recognition System](#) on Paul's site, although I ordered one from eBay.



Much to my pleasure after this it was a simple matter of replacing the trim panels and placing a test call. For the test call I used a TDMA Mercedes v60 that I had obtained cheap. This phone connected to AmericanRoaming.com who sell a prepaid PIN card for using the unregistered cell phone on the network. (This does not work in all areas, it depends on their contracts, etc.) The rates were between 25 cents and a dollar a minute, but it was inexpensive testing considering what else I had spent. I successfully placed a test call some 6 hours after I started on the C-Coupe.



SLK

Installing Equipment

The PSE, Linear Compensator and Voice Control Module in the SLK go in the left rear quarter panel, inside the trunk. Just for information this SLK had Tele-Aide, a CD changer and the Bose Audio.

I removed the trim panel and First Aid Kit on the left side of the trunk and then removed the CD changer.



You have to reconfigure the fiber cables at the CD Changer by moving the line that returns to the front of the car and replacing the TEL IN line in the connector. Make sure you read the bulletin on [Fiber Optic Configuration and Version Coding](#) on Paul's site. Be sure to read the one for your year car.

I then began connecting the Telephone PSE and other equipment on the Left side of the car. I had purchased the SLK Completer Kit, which included a foam mounting for the PSE.



I found that I had to considerably modify the foam to make room for the fiber connections without straining them an to get everything to fit comfortably. It was a tight fit. In these pictures you can see the PSE and the VCM connected. Then, again I did not get the “bracket” for the VCM which in this case was a small metal piece that attached for the upper connector for the VCM. Instead I use 1 inch wide brass (painted black) again to fabricate a strap. I went across the VCM and then a 90 turn to attach where the stock bracket would.



Then I mounted the Linear Compensator and the Antenna Switch, per the Phone Bulletin.



Fiber Configuration

Again, the SLK called for using the return fiber placed for the telephone pre-wire and to reconfigure the fiber ring at the Head Unit. I decided to run a second fiber back to the right side and use the original return fiber. In the current application I ran the fiber across the back of the trunk, but have since ordered a sufficiently long fiber to use for a more “professional” routing of the fiber. You make your own decisions on using this method.

Installing PTT Lever

I then installed the Push-To-Talk Lever. This required removing the plastic plug that was in the hole the lever went in, sliding the lever in, pushing slightly and then rotating the lever down. The lever should pull and push. When you pull on the lever there will be a beep from the Voice Control System. You can find a copy of the [Operation Manual for the Voice Recognition System](#) on Paul’s site, although I ordered one from eBay.



Once the vehicle was reassembled I was able to place a test call using the same Mercedes Phone I used on the C-Coupe for testing.



Bluetooth

After being sure that the phone system worked in both cars, I purchased two of the v60 Bluetooth Pucks and installed them in each car. The Bluetooth paired on the first try in both cars with my and my wife's iPhone along with a Sanyo SPC-8400 from Sprint. The connection loaded the phonebook list to the car and allowed dialing from the phone list as well as voice dialing and answering incoming calls. Overall the system has been a pleasure.



I have noticed that in the SLK there is a fair bit of road noise present and that above about 60 on the highway it can generate complaints from callers. I can still hear them fine, however. With the top down, although I can hear callers the wind noise overrides the capabilities of the system after about 45 mph. I have found that a Bluetooth earpiece starts to get wind noise at about 45 mph and works to about 60 mph, so that is probably still the best solution for top down driving.

Thanks:

Thanks to Skylaw for both his [information](#) on benzworld.org and for encouragement and support during the process. Thanks to Joe in the parts department at [Mercedes-Benz of South Atlanta](#) (800-441-2440) who spent his time locating parts he could not order and of course for matching the online ordering prices. Thanks to the guy who handles phone installs at [Mercedes-Benz of Anaheim](#) who are the ones that told me about the new PSE part number and told me I should have no problems with the install myself – I'm sorry I don't remember your name. I also need to thank my wife, who suffered me taking her car into many pieces and reassembling it while promising "You will like it when I am done," and who also has intentionally not asked for a total on my expenditures.