HOW TO INTEGRATE AN IPOD INTO CARS THAT CANNOT USE THE MB IPOD KIT: THE GATEWAY 500 FOR MOST GOOD UNIT, POOR DOCUMENTATION

1. Introduction:

This post is intended for owners of Mercedes models that cannot use the Mercedes iPod adapter. Among those are models that have no Auxiliary input (normally located in the glove compartment), and include for example all W220 S-Classes except the ‘03 model year, and all other models equipped with D2B fiber optics busses. It is not intended for cars having the NTG 3 or later COMAND systems that began coming out in MY ’07.

This post documents installation of the Dension Gateway 500 (GW 500) for MOST bus in my 2005 S500 (U.S. spec). The installation is shown from removing the COMAND unit, including the wood fascia; locating and running the three copper cables from the console to the GW 500 location; locating the GW 500 device; and connecting it properly to the fiber optic ring. This was a difficult first-time project. I accept no liability for damage to your car or to your GW 500 if you attempt it. In addition, I do not repeat the steps of the Dension supplied Instruction or User Guides, but supplement them. You will have to use the installation guide and user guide. In addition, I am familiar with my own ’05 W220 because I have done this installation; I am not familiar with other models in detail, and cannot always answer specific questions about them. I hope there is sufficient detail below to carry over to other models.

I located the iPod, USB, and AUX connections and the CDC/GW500 mode selector switch in the console, and the GW 500 unit behind the ashtray in the COMAND console space. The cables (copper and fiber optic) supplied require an installation in the passenger compartment; they are long enough if you locate the input cables in the glove compartment, but are also (barely) long enough for a console installation in an S-Class. They truly need to be at least 6 inches longer.

The GW 500 is designed to allow an iPod to replace the CD Changer (CDC) on the fiber optic bus, but allow switching back to the CDC if desired. Therefore, unlike some systems, it does not require giving up the CDC.

Differences in the MOST and D2B Versions: On COMAND-equipped cars having MOST fiber optics, the GW 500 will display menus as well as song title and artist, playlist name, and play time on the COMAND display; and track information (not song titles) on the instrument cluster multifunction display. Audio XX head units will display only track number. In addition, steering wheel buttons control the unit to the same extent they do the CDC. However, the MOST installation is somewhat complex if your car has a trunk-mounted CDC.

The D2B version is now called the Gateway LITE for D2B, and will NOT display song title and artist, playlist name, etc. on COMAND or on the Audio XX head units; this is a head unit limitation, not a GW 500 limitation. However, an option is provided to control the playlist, song, album, or artist selection using the iPod controls, which can remain active. Steering wheel buttons control volume and scrolling. The D2B installation is FAR simpler than the MOST installation described below, because no changes are needed in the trunk.
Some Other iPod Integration Options:

1. The Mercedes kit; this uses the analog Aux jack, and is not available for models that do not have an AUX input. Song titles are displayed on the multifunction display, but not on COMAND or the Audio XX head units. Not available for D2B equipped cars. Full steering wheel button control is available. You keep your CDC.

2. iTronics devices marketed by InCarTronics and mObridge devices also use the car’s fiber optics to provide audio. These are for MOST bus equipped cars only, and are easier to install than the GW 500. Some units also have Bluetooth phone function. These units require you to give up your CDC. They are controlled by the steering wheel buttons. They are slightly more expensive than the GW 500 without the phone function, and are around $1000 with it. They are a good option for iPod integration while adding a Bluetooth capability if the car lacks any phone installation.

3. FM rebroadcasters and simple 3.5mm stereo connectors to the AUX jack are not true integration. Only sound is controlled by the steering wheel, the AUX input must be selected each time one wishes to listen; sound is not as good as a fiber optic input, and is especially bad (and subject to interference) with the FM rebroadcast devices.

I have no experience installing or using the options in 1-3 above and cannot advise regarding them.

That said, here’s the installation of the Gateway 500.

2. **REMOVE THE COMAND UNIT**

The COMAND unit is removed by placing the car in “Drive” (set the parking brake); pulling the ashtray out; removing two screws behind the wood fascia with a #20 Star driver; then fully removing the ashtray (disconnecting the cigarette lighter connector at the back).
With the ash tray and screws removed, the air conditioning controls slide right out; I reached under it and gently pulled it from behind. Only two clips hold it after removing the screws. See second photo.

After removing the ashtray and A/C controls, you may place the shift lever in Park. The wood fascia for the ashtray and A/C controls come out with the units, and do not have to be separately removed. All of the wood fascia are sturdy; they are mounted to a metal or heavy plastic backing, and the only special care needed is not to scratch them. I did not disconnect the A/C unit from its harness, but let it hang to the right of the console.

Next, insert a small screwdriver or knife (covered with tape if you wish) at a lower corner of the upper wood fascia, above the COMAND unit, and pry it outward. The fascia is held in only by sturdy plastic clips and will pull out easily. In the photo below, the clips for the A/C controls and the removed upper fascia (resting atop the A/C control unit) are visible.
Removing the A/C controls and upper fascia reveal the four Star screws (#20 driver) at the corners of the COMAND unit that hold it in. At this point I went on to installing the iPod, USB, and AUX input/GW 500 selector switch in the console, and routing the wires to the now-open space below the COMAND unit.

However, for purposes of illustration, the last photo shows the back of the removed COMAND 2.0. The MOST version has only five connections: Two fiber optic leads (orange), a +12 volt wire (red/yellow), a brown wire (ground), and a blue/black wire (I believe the dimmer control for lighting the buttons on the front of the unit). That’s all there is for the MOST unit. We’ll get back to the connections made here, later.
3. Install connections in console - 1

I wanted all of the input connections and the mode selector switch in the console. These may be placed in the glove compartment far more easily – all, or in any combination. However, I elected to do it the hard way, for future convenience. The first photo shows my upper console compartments (phone and storage), open. The false floor is held in place by three Star screws (#10 driver), two of which are under rubber covers.

![Screw Locations](image)

I removed the false floor to reveal the MHI phone wiring and Tele-Aid button connector, and disconnected Tele-Aid buttons by prying the side with the small retention clip. The MHI wiring slips out of a slot in the bottom of the false floor (on the back), and need not be disconnected.

![Disconnection](image)

I drilled a hole in the back wall of the false floor using a ½ inch drill bit, and then had to enlarge it to allow the USB connector and 9-pin iPod connectors to pass. I ground the two side flanges
off of the AUX/mode selector, and used the two small screws that hold the back panel onto the switch to affix it to the back wall of the false floor as well, as shown in the center photo below. I also cut a notch below the mode selector to allow its wiring to pass. Inside the tiny hole in the Aux/mode selector in the center photo is the reset button.

I also drilled a ½ inch hole in the back wall of the lower part of the console, and enlarged it to allow the connectors to pass. The hole is just below the curve of the black wires. This hole lines up with the similar hole in the false floor. Careful when drilling, so as not to hit your console exterior! 4th photo below.
Below the holes, by the hinge, is a small rectangular tab, which snaps out (5th photo). It is large enough to allow each connector to pass, and be fed to the console floor. I fed the connectors through the two holes drilled, and through the hole for the removed tab. I could not thread the wires through the hinge itself because the space is already occupied by other wiring.

In the 5th photo, the hole exposed by removing the tab is shown with a tan wire passing through it. I started to use this wire as a “fish” but found the connectors would drop straight down to the console floor easily enough (with a little coaxing). I had also removed the console light fixture as a potential aid to fishing the connectors, but this turned out to be unnecessary.

4. Console Connections 2

Access to the console floor is by removal of the back panel, below the rear A/C vents. Pry it from the upper corners until it pops out slightly; then lift it up. Pull the bundled wires and connectors for the MHI and Tele-Aid buttons out slightly to gain clearance to retrieve the GW 500 connector cables, which can be see at the left side of the console in the first photo below.
Before feeding the connector wires forward, I reinstalled the false floor into the console, and mounted the USB connector clip where I wanted it, to be sure not to pull the wires too far forward, and to ensure enough slack to open and close the console.

One may be tempted not to drill the holes as I illustrated, but to feed the wires over the lip on the back of the console and then into the hinge hole. Doing this will push the console lid forward when closed, making it difficult to open. Don’t ask me how I know this. Drill the holes. My console setup is shown below.
By repositioning the driver’s seat several times, you can tuck the connector wires under the left side of the console until you reach the front part of the console. Pull the carpeting out as shown in the third photo below, and feed the connectors into the space behind the (removed) ashtray, under the COMAND unit.

The photo above shows the carpeting pulled back at the front of the console, just ahead of the driver’s seat. The dark space at the left of my hand is an alternate spot to place the GW 500 box, if you wish – it will cause a very slight bulge, but is easier than working in the console space. Of course, I did it the hard way. The connectors are fed through a small space just above my thumb (which could be used to feed the power and fiber optic leads out, if you place the unit outside the console, under the carpet).

Once the fiber optic and power connections are made, the connectors will be inserted into the GW 500 unit as shown in the fourth photo below. Because the connector wires from the console are short, I could not place the GW 500 unit high in the area behind the COMAND unit, where there is plenty of space. Instead I put it atop the airbag control unit (with the orange label), slid it into a space that is just above and behind the airbag control, and affixed it with industrial-strength Velcro (barely visible toward the back of the airbag unit). Care MUST be taken to avoid crushing or overly bending the fiber optic leads plugged into the left side of the GW 500 unit when positioning it here - but there is just enough space to make it work. From left to right, the USB input is just under the orange fiber optic lead; then the 9-pin iPod input; an unused and disabled 9-pin socket; and the AUX/mode selector input just beneath the orange fiber optic cable on the right.
The fiber optic connections to the GW 500 unit are in fact simple, but the illustrations in the manual are poor. What they (and the text) fail to tell you is that a protective cover (with holes, no less) that looks like a connector but will not fit any of the connectors supplied, is installed in the fiber optic socket of the GW 500 box. This protector must be removed before any fiber connections can be made to the box. Once that is done, the rest of the connections become fairly easy to follow. You use a 2-piece socket - a larger part fits into the GW 500 box, and a fiber optic plug then fits into that.
5. Complete the Connections - and a very frustrating installation manual

Before hooking up the connectors from the console, one should make the fiber optic and power connections to the GW 500, because the short length of wires from the console leaves little to work with. Now for the really fun part. First, remove the COMAND unit as discussed above. After removing the four screws (#20 Star driver), it just slides out, do not kink the orange fiber optic leads – doing so can ruin them.

One must be very careful to connect the fiber optic leads in accordance with the direction of light travel; arrows are molded into the ends of the connectors showing the direction. Because I have a CD changer in the trunk, I connected my GW 500 to the COMAND unit’s light output path – but folks with CDCs in the passenger compartment will want to connect it to the CD Changer. Where you choose to connect it is very important, but more on that later. What follows discusses my installation.

On the back of the COMAND unit there is a single large connector with both the power wires and the fiber optic leads. Remove the connector by pushing down on a spring release at the top center of the connector as shown in the first photo below.

Once the large connector is out, release the tab on the left side of it to release the smaller fiber optic connector, shown in the second photo below. Note the arrows at the end of the connector.
On the side of the connector with the arrows are two slits; after removing the small blue retaining plug, insert a fine blade or screwdriver tip, twist slightly to spread it, and gently pull the fiber optic lead out - see third photo, below. For my installation, I disconnected the output lead from the COMAND unit in order to insert the GW 500 ahead of the CD changer in the fiber optic loop. Then placing fiber optic leads into the connectors, push in gently until hearing a slight "snap" then replace the blue retaining plug.

The last thing to do is to tap into unswitched 12v power and ground wires – either those going to the COMAND unit, or by adding a fuse holder on the dashboard panel and tapping into ground.
To do the latter, run the power wires to the front fuse panel and use one of the unused fuse slots and also connect to the ground point in the kick panel (there is a 10 mm bolt with ground wires terminating there). (Thanks to Rob13572468 for that information). The supplied power wires are long enough to do this. Then, position the GW 500 so that there is clearance for the ashtray, gently place the fiber optic leads so they are not bent tightly or kinked (photo, lower right in section #3 above), and button everything back up.

### 6. Connections In The Trunk (Cars with trunk-mounted CDCs only)

Here is one place things get complicated. The fiber optic diagrams showing connection of the GW 500 directly to the CD changer in the installation guide are probably OK (though the text tells you very little) if you have a CDC in the passenger compartment (probably in the glove compartment). In that setup, breaking the fiber optic loop at the CDC places the GW 500 immediately before the CDC in the fiber optic loop. However, this diagram is practical only for CD changers mounted in the passenger compartment.

However, the diagrams don't work for a trunk-mounted CDC. Unfortunately, for a trunk-mounted CDC, the only place to put the GW 500 is attached to the COMAND unit, either with the light coming out of the COMAND, or going into it. This does not allow placement of the GW 500 in the fiber optic ring immediately before the CDC. Placing the GW 500 on the output side of the COMAND unit inserts the GW 500 before the CDC, but not adjacent to it. Placing it on the input side places the GW 500 after the GW 500. Neither setup will work for a MOST installation.

The GW 500 must be installed **immediately ahead of and adjacent to the CD Changer in the fiber optic loop.** I swapped the fiber optic connections between the Voice Control System and the CD Changer in the trunk. This had the effect of placing the GW 500 directly after the COMAND unit and immediately before the CDC, in the loop. I’ll address the changes in the trunk further below.

The following steps are unnecessary if you have a CD changer mounted in the passenger compartment. They are also likely unnecessary if you have a D2B version of the Gateway 500, since the D2B bus uses a different wake-up system.

I used the phone bulletin for my car on Paul Dick’s great site - [http://home.earthlink.net/~phdwebsite/phone_bulletins.htm](http://home.earthlink.net/~phdwebsite/phone_bulletins.htm) - to determine the steps for accessing the equipment to make the necessary changes in the trunk. The color photos of the console in the ’05 S-Class bulletin are also clearer than those above. Because the placement of equipment is different not only among models of Benzes, they are also sometimes different from year to year. Please consult the bulletin for your car.

Before you start, eject the Nav DVD; when you remove its fiber optic connector later in the process, it will try to eject the disc and could damage it.

In addition, do not disconnect the battery when doing this work. Just turn off the COMAND unit and ignition.
Making the changes to the fiber optic connections in the trunk requires 1) opening the trunk (OK, enough jokes), 2) removing the left side trunk liner, 3) removing the upper electronics rack containing the MHI module, Nav unit, and CD changer; 4) removing the lower electronics rack containing the Voice Control System (VCS) module and the Bose amplifier; 5) switching the fiber optic connections between the CDC and there VCS, and 6) putting it back together. Wish it were that simple – it’s not.

The trunk liner is held in by one plastic retainer on the upper side behind the left corner of the rear window, and by the screw holding the left front cargo net attachment point in place on the floor. Remove these (pull the cap on the upper retainer – when it comes out, then pry the retainer out), remove the taillight access door, then pull the liner out from the bottom and from the rear. Be sure you note how it is in, so you know how to put it back.

You will see the upper electronics rack with its components as shown in the picture below. It is held in place by four 10mm (as I recall; they may be 8 mm) bolts and one flanged nut, as shown. Remove them. Note how tabs on the feet of the upper rack fit into slots on the lower rack near each front bolt on the floor of the trunk – you’ll need to put it back that way. Then gently pull the rack out so you can access the nuts & bolts folding the antenna switch in place. Remove the antenna switch so you can take the rack all the way out. Be careful of the fiber optic cables, especially those going to the MHI unit.
Then remove the two flanged nuts from the lower rack, and pull it out, being careful of the fiber optics again. The VCS module is on the back of the rack. See the photo below.

At this point I assume that you at least know or have learned how to deal with fiber optic connectors from installing the GW 500 in the console. Remove three fiber optic connectors: from the CDC, the Nav unit, and the VCS (third photo below). You must remove the connector from the Nav unit because the F/O leads are not long enough to permit the reconnection without doing so. You do not change any copper wire connections. Again, you should have ejected your nav DVD before this point, because the nav unit will try to eject it when you disconnect its F/O lead.
To remove the F/O leads, you first remove the larger socket, then take out the small connector as done with the COMAND unit. You are only changing the small F/O connectors, not the entire socket. Now, connect the CDC F/O lead to the VCS, and the VCS lead to the CDC. Do not reconnect the nav F/O lead at this time.

Next, place the lower equipment rack back into place, and re-secure it with its two flanged nuts. Be very careful not to pinch copper wire or fiber optic cables, and be mindful of where the fiber optic cables will have to run when the upper rack is put back.

Then, move the upper rack back toward its position far enough to reattach the antenna switch above the MHI unit. Plug the nav unit fiber optic lead back into the nav unit at this time; then slide the upper rack back into place, and re-secure it. At this point I suggest testing the installation with the startup procedure below (section #9) before reinstalling the trunk liner.

I hope this documentation and that to follow will help someone. For those who like diagrams, the before-and after MOST fiber optic rings for my '05 W220 are below. Check the phone bulletins on Paul's site for your car - they are not all configured the same. The change in position of the VCS (Voice Control System) and CDC (CD Changer) in the diagrams is effected by swapping the fiber optic connections between the two. However, I believe that despite the switch, the MOST master controller still sees the CDC as component 4 and the VCS as component 2 on the STAR diagnostics menu, because no STAR diagnostics reprogramming is necessary for the installation. I just didn't change it in the diagram.

After the changes, all of the items on the ring - VCS, nav, radio, telephone, etc. worked as before, except that now the GW 500 would replace the CDC in the ring when desired.
7. Version 3 Hardware Revision

My installation information thus far was written for Gateway 500 hardware Versions 1 and 2, which have only one Fiber Optic (F/O) input into the Gateway 500 itself. The Version 3 hardware now shipping has two - one labeled "Car" and the other labeled "CDC." For Mercedes, the Version 3 installation manual instructs one to connect the CDC to the CDC connector on the box, and the rest of the fiber optic ring to the one labeled "Car." I want to thank Rob13572468 for his assistance in confirming the approach that follows, and also BenzWorld contributor Golfnut, who was the unwitting (and likely reluctant) tester.

The problem: With the CDC mounted in the trunk, there is no way to use the existing fiber optics to connect (only) the CDC directly to the GW 500 "CDC" input, and the rest of the ring to the "Car" input. One might do so easily enough with a glove box mounted CDC, but not trunk mounted. The purpose of the two inputs on Version 3 hardware was to allow on-the-fly switching between the CDC and the Gateway 500, which can't be done with earlier hardware (the fiber optics bus must be shut down and re-initialized to make that change with earlier models).

The solution: For trunk-mounted CDCs, make the changes in the trunk F/O connections between the VCM and the CDC, as discussed for Version 1 and 2 hardware. Then, install the GW 500 in accordance with the Installation Type 1 instructions (for "vehicles supporting multiple CD changers and equipped with a CD changer; Audi A4/A5/A6/A8/Q7" etc.) In this installation, the Mercedes fiber optic ring is kept intact, and is connected only to the "Car" F/O connector. In essence, despite what the installation manual says, one installs a version 3 GW 500 just as the earlier versions, ignoring the "CDC" connector. Ignore the manual's "Type 2a" Instructions.

Hardware Version 3 DIP settings for the Mercedes trunk-mounted CDC installation would be DIP switches 1 through 5 down, and switch 6 up. This setting is shown in the installation guide for Mercedes cars having no CDC. With those settings and the preceding information, the version 3 hardware installation will work just fine. The Version 2 hardware had 4 DIP switches, and all were positioned down for installation. Version 3 hardware has 6 DIP switches, and in the 2-connector installation, all are positioned down for Mercedes. If that switch positioning does not work, try the Audi switch positioning. Obviously, it would be best to confirm that the DIP switch position works, before final mounting of the GW 500 and re-installation of the head unit.

Do not forget: If one does not re-initialize the fiber optic bus after making changes (turn COMAND or H/U power off, turn ignition off for at least 2 minutes, then turn all back on) changes may not register. Re-initialize the bus to see any changes made in switch positions.
8. Trunk mounted CDC and Sirius

If you have an MB Sirius installation as well as a trunk mounted CD changer, the fiber optics connections in the trunk must be made a bit differently.

**For Sirius equipped units**, you still connect the Gateway 500 to the output side of the HU/COMAND; but you swap the fiber optic connections between the satellite radio module and the CD changer. You do not change the copper wire connectors. By making the changes in the trunk, you are effectively swapping the position of the satellite radio and the CDC on the ring, as shown in the diagrams below. The swap positions the Gateway 500 just ahead of the CDC in the fiber optic ring.

This approach will work for the Version 1, 2 or Version 3 Gateway 500 hardware. To avoid the effort and expense of running an extra fiber optic harness from the trunk to the passenger compartment, Version 3 hardware should be installed as recommended at section #7 above. The only compromise to be made is loss of the ability to change from the iPod to the CDC and back "on the fly."

**However** if you have a Version 3 GW 500 and want to be able to switch from the iPod to the CDC and back without resetting the fiber optics bus you must add a fiber optics harness (which can be a major and expensive proposition if you have a trunk mounted CDC). The procedure set out in this string - with trunk changes and the information in section 7 - avoids the need to do that.
MOST Ring with Satellite radio - Standard 2004 & later

MOST Ring with Satellite radio - Revision 2004 & later

Gateway 500
9. HINTS ON GETTING IT TO WORK THE FIRST TIME

STARTING THE SYSTEM

In the car, be sure your mode selector switch is positioned for GW 500 use; then use the MOST bus reset procedure (turn off COMAND, turn off ignition, remove key, wait approximately 2 minutes, then insert key, turn on ignition, then turn on COMAND) – and you should see your iPod start up and information display on the COMAND (or HU) screen. Replace your trunk liner, and you’re done with the installation. Next – some specific info to get you started with the Dension menus.

SOME TIPS ON THE MENUS

The instructions in the user manual for using the Dension menus are general, and steps will clearly vary depending on what head unit is used. Controls on head units vary – and some of those on COMAND are not exactly intuitive. I hope this will prove helpful getting into some of the first menus you’ll use.

First tip: The user manual gives instructions for setting up the Dension unit for “+paging” in its configuration menu. You get there by rapidly switching the GW 500 mode selector 6 times – 3 up, 3 down – and you will see a list of choices beginning with “No Text” (the default). Use the single down arrow on the COMAND audio controls to get to “+paging.” Now, here’s where the tip comes in: To enter the selection, you must press the “Fast Forward” (>>) key (Where is it on COMAND? I never use it; I don’t see one). Well, it is the “Seek +” key at the bottom of the row of COMAND keys to the left side of the display (see first photo below). Press and hold it for at least 2 seconds for fast forward. That will set the selection in the GW 500 menu, and you will now be able to see song titles on COMAND when you start your music. If you don’t use the
‘Seek+’ key this way, you will get the title of the first song in text, but all following will show only track number. Those of you who knew about "Seek+" held for 2 seconds being Fast Forward can have a laugh at my expense. And yes, "-Seek" is Fast Reverse (<<) and also the "remove selection" command for setup options in the GW 500 menus.

Second tip: You get to the highest level of the Dension menus by selecting “Audio” with the COMAND Audio button; then by selecting “CDC” – then by selecting “CD Mag.” Again, a feature not covered in detail in the user manual because of so many different head units.

Song titles are displayed on COMAND, as shown in the photo below, and track number on the MFD as shown after. In addition, the CDC continues to function when I want it.
The GW 500 works, and the sound quality from the iPod is wonderful (especially since most of my music is stored in high quality formats - not mp3). Only track information and playlist number are displayed on the multifunction (instrument cluster) display. Steering wheel controls work just fine, and in the iPod User Interface mode, all of the iPod functions are available on the iPod (which is why I wanted it in the console, not in the glove compartment; further, the USB input is for music files on thumb drives, and is also the way firmware updates are made, so I wanted it there too). The COMAND CDC controls set normal play, repeat, mix, etc. for the iPod as it does for the CDC.

Contributor floobydust has used his audio test equipment to show that the GW 500 provides better sound quality that the MB kit, because of the way MB limits the audio input. [http://forums.mbworld.org/forums/audio-electronics/234260-oem-ipod-adapter-vs-dash-cd-vs-gateway-500-a.html](http://forums.mbworld.org/forums/audio-electronics/234260-oem-ipod-adapter-vs-dash-cd-vs-gateway-500-a.html)

The current firmware version is 2.22; but if you need to update, you can get it from the Dension support center at [http://support.dension.com/support-c...root=12&id=106](http://support.dension.com/support-c...root=12&id=106). You may also preview the installation and user guides at [http://www.dension.com/download_icelink.htm](http://www.dension.com/download_icelink.htm).

The lack of adequate documentation is the Achilles' heel of the GW 500. With the unit costing around $500, I felt more like a beta tester, when I should have gotten the gold standard for that cost. Unless you are confident in your abilities, installation is probably best left to a professional who is familiar with fiber optics systems, especially Mercedes systems. However, the results of having the Gateway 500 are worth it. The improvement in sound quality over mp3 DVD and the integration with COMAND and steering wheel controls is great.

10. GATEWAY 500 BLUETOOTH AND VIDEO ADD-ON MODULES

The Gateway 500 Bluetooth BTA 1500 module works only with the MOST versions of the Gateway 500 and not with D2B versions. Dension's original implementation of the BTA 1500 firmware did inadequate testing for MB, and there were problems; that was fixed in a firmware update quite some time ago. Since the firmware fix, several contributors have reported good results with the BTA 1500 Bluetooth module.

I have not seen anyone write in about the video output device (audio/video router) yet. The feature is available for NTG-1 and NTG-2 COMANDs (DVD-based COMANDs from MY 2004 through MY 2007). It allows iPod video input, backup camera, DVD player input and the like to be displayed on the main COMAND screen or on rear screens if you have an integrated rear entertainment system. It is compatible with all video iPods. THE DENSION MANUAL SAYS THE COMAND MUST HAVE THE TV FUNCTION ACTIVATED. Most U.S. COMANDS do not have this feature activated, so it is limited to Euro spec COMANDs.

In the U.S. the GW 500 sells for about $450 to $500; the AV Router for about $260; and the BTA 1500 Bluetooth module for $195. [http://www.discountcarstereo.com/detail.aspx?ID=1350](http://www.discountcarstereo.com/detail.aspx?ID=1350) is one source; Google will get you others. The AV Router and the Bluetooth module both require
the basic GW 500; they are add-ons.

The GW 500 does not require you to give up your CDC, and the iPod, USB and RCA inputs provide a great deal of flexibility for what you connect to it - basically, any audio device with a USB or RCA output connector.

My thanks BenzWorld contributor Rob 13572468 of Mid-City Engineering in Chicago, without whose help the problems described here would not have been worked out.

11. How Long Did Installation Take?

The physical labor doing the installation of my Version 2 GW 500 was about 6 hours spread over 3 days. It took about 4 hours for the passenger compartment installation. However, I had never removed a COMAND unit; did not know exactly where the GW 500 electronics would fit; had never taken apart my center console compartments; and I was pausing to take photos to document the installation. I believe that it would take me about 2 hours or less, now. It would be the same for the Version 3 GW 500.

Once I started making the changes in the trunk, it took about an hour, even with documenting the installation. While I had not been into the electronics bay of my '05, I had often been in the bay of my '00, and it wasn't hard to apply the experience from that. A first-timer could expect to take twice that long, or more. It then took about an hour to set up the unit for display of song titles, and to learn the ins and outs of the menus (and document that as well). I also went through the
firmware upgrade procedure (though it was unnecessary; I just wanted to see what it would do).

For a professional installer with experience with the same type of GW 500 unit being installed, and with Mercedes experience, I would expect the job to take about 3 hours. However, as you can see, working past the wrinkles can take much longer. Dension has resisted creating specific and detailed installation instructions for each kind of car, and it really complicates matters; the instructions are still sketchy, and they have not really considered or addressed the problems created in a trunk-mounted CDC installation. Their answers to me when I have suggested changes were "we write the instructions for a professional installer." Hardly, as we have seen.

12. Use with an iPhone

The following information is current through the GSM (AT&T) version of the iPhone 4, using iOS4.1 or later. It is not included in the Dension manuals. You can plug in your iPhone instead of an iPod. If you have an original equipment MB Bluetooth phone system, you can play music and control the iPhone just as you can an iPod; and when you make or receive a call, the iPhone will respond just as the iPod would – music is paused until the call is ended, and then it will resume (in some models of MBs, music is simply muted, but not paused – just as it is with the CDC in those cars). To date, all MB Bluetooth pucks sold for U.S. specification cars are compatible with the iPhone. Dension sells two cables for connecting older and newer iPods to the Gateway 500; if you have an older installation and a newer iPod or iPhone, you may need to update your cable.

The A2DP (stereo over Bluetooth music playback) profile is not supported in most MB Bluetooth systems; check your owners manuals for your particular model and year. In my experience with non-MB systems, plugging the iPhone in delivers better sound quality than A2DP.