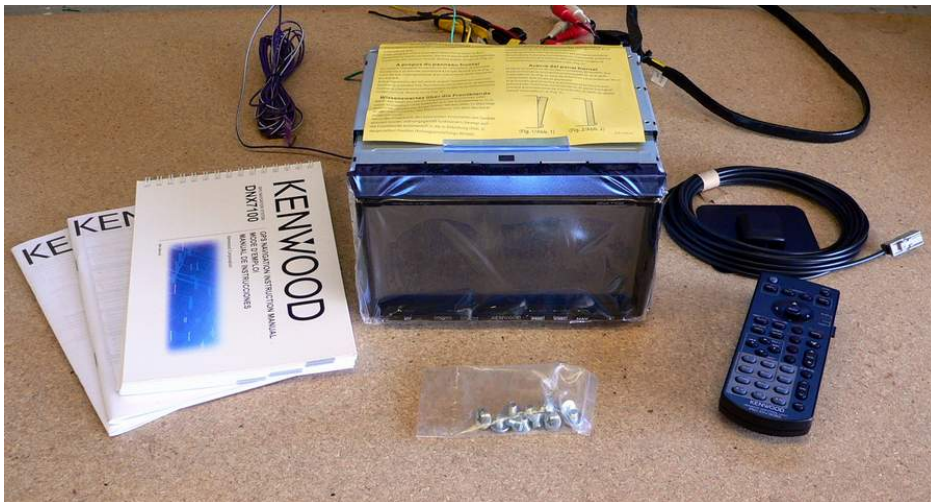


Here is part 3 of my tutorial for the conversion of my Shaker 1000 to the Kenwood DNX7100 Navigation / Head Unit. With the 7100, my new system will include the Kenwood I-pod Adapter (P.I.E. KNW/USB-AV), Sirius Satellite Radio Adapter (SIR-KEN1), USB 2.0 Desktop 4 Port Mini Hub, Lorex Waterproof Color Camera (SG4933R), and (4) replacement Pioneer TS-A6871R 6" by 8" 3-way Speakers. The factory subwoofers will stay for now, along with the factory amps. I'm using the Metra Wiring Harness (70-5521) to connect the head unit wiring harness to the factory wiring harness and the Metra Dash Mount Kit (99-5807) to mount the head unit to the dash.

I want to try my hand here at doing a "TacoBill" write up...so here it goes....

Part 3, installing the Kenwood DNX7100 Navigation / Head Unit, Kenwood I-pod Adapter (P.I.E. KNW/USB-AV), Sirius Satellite Radio Adapter (SIR-KEN1), and USB 2.0 Desktop 4 Port Mini Hub.

Here's the Kenwood DNX7100 Navigation / Head Unit and accessories that come with it.



Here's the Kenwood I-pod Adapter (P.I.E. KNW/USB-AV).



Here's the Sirius Satellite Radio Adapter (SIR-KEN1) and accessories.



Here's the USB 2.0 Desktop 4 Port Mini Hub.



My plans are to install the 4 Port Mini Hub, along with the docking connector for my I-Pod, inside the armrest glove box. I removed the access panel inside the armrest glove box and cut a slot in the cover for the wires to pass thru.



I attached the 4 Port Mini Hub to the access panel with PT1100 tape. This tape is awesome and holds very well.



I routed my I-Pod wiring harness so the connectors I needed would be inside the armrest glove box and the other connectors would be heading towards the head unit.



Installed the access panel back in the armrest glove box and connected the I-Pod to make sure it would lay flat without any binding.



Now I have full access to the USB feature of the head unit and multiple slots if needed. My I-pod is easily accessible, but hidden as well.

Next up....wiring the Metra Wiring Harness to the head unit wiring harness.
Here's the Metra Wiring Harness and instructions.



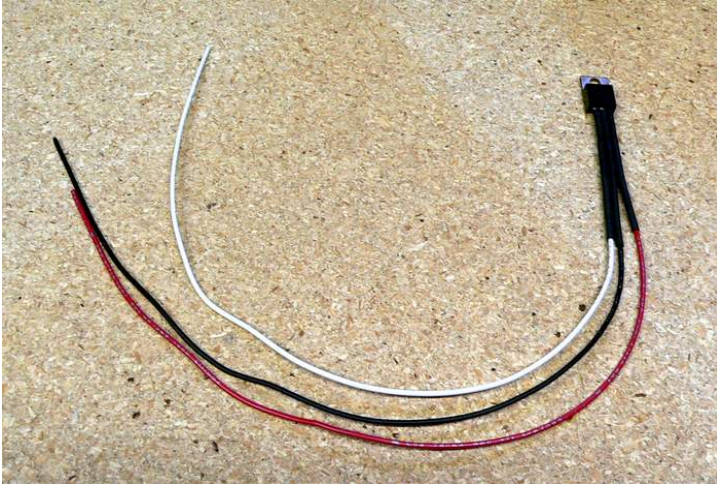
The eight wires on top are for the (4) 6" by 8" speakers in the car. They match up to eight corresponding colored wires on the head unit wiring harness. Make sure to note the black stripe on each set of colored wires and connect them to the same wire color with the same black stripe. This keeps the positive and negative of the speakers correct.

The orange wire is the illumination wire and is not connected to the head unit wiring harness, just tape off the end. There is an orange wire on the head unit wiring harness marked ILL. And this will be wired directly to a line source that goes from 0V to 12V when the head light switch is turned on. The illumination wire dims the head unit when you turn on your headlights. Without it, the head unit is too bright at night. Ford uses a CAN-bus system for the car's electrical system and the orange wire that we taped off doesn't work as needed for the ILL wire of the head unit wiring harness, thus the need for a direct line source. The red, yellow, and black wire match up to corresponding colored wire on the head unit wiring harness.

Yellow is constant power, red is switched power, and black is ground. The red and yellow wires can be connected as is. The black (ground) wire will have a couple other ground wires connected to it.

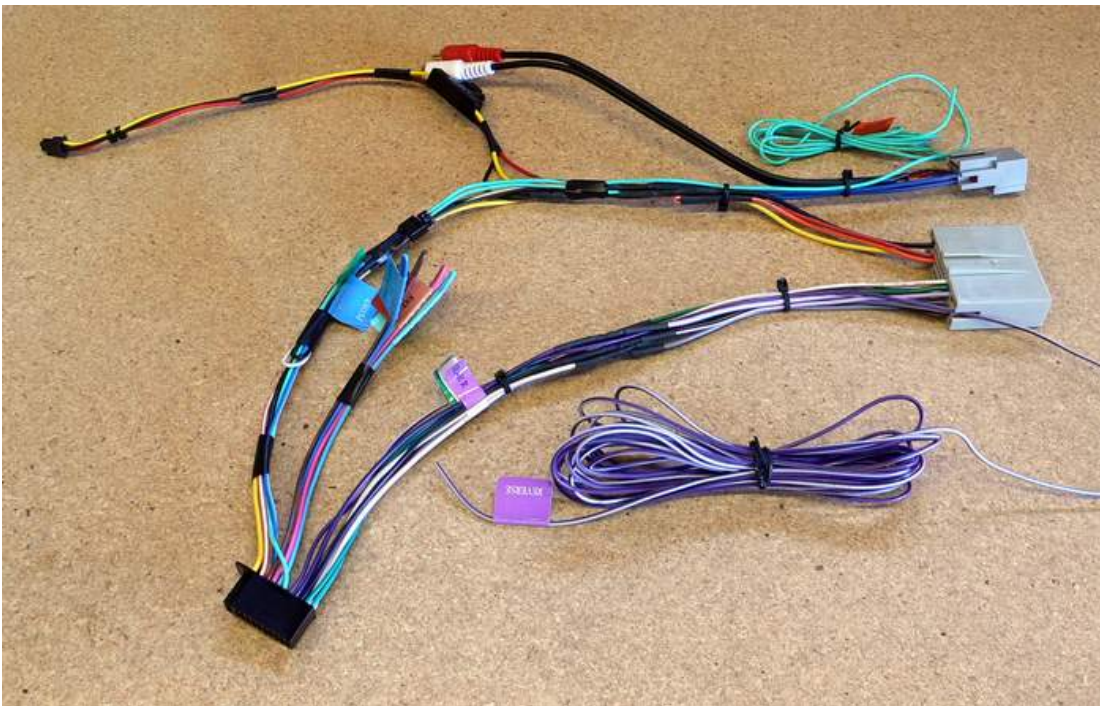
The bottom connector in the picture is for the subwoofers and the power leads to turn on the factory amps. The two male RCA plugs for the subwoofers connect directly to the two female RCA plugs on the head unit and the two blue wires feed the power to turn on the amps. There's a corresponding blue power lead wire for the amps from the head unit wiring harness, which supplies 12V to the amps when the head unit turns on, but the factory amps. only require 5V, so the 5V voltage regulator in the picture will be wired in-

between the head unit wiring harness and the Metra wiring harness. Without the regulator, the subwoofers will pop when the head unit is turned on. So let's wire the regulator first. Here's the voltage regulator with three wires soldered and shrink wrapped to the three legs off the regulator.



From left to right, when the regulator is in this position, the white wire is the collector (in) and goes to the single blue wire on the head unit wiring harness for the amps. The red wire is the emitter (out) and goes to the two blue wires on the Metra wiring harness. Yes, both wires are connected to the single wire. The black wire is ground and goes to the black ground wire connection between the two harnesses.

Here's the finished wiring between the two harnesses.



The purple / white wire bundle is the reverse wire and is wired directly to a yellow / white wire in the trunk that goes from 0V to 12V when the car is shifted into reverse. The green wire bundle is an extension of the orange ILL wire from the head unit harness and is wired to the blue / yellow wire of the hazard button OEM wiring connector which goes from 0V to 12V when the headlights are turned on. The green wire bundle was originally marked parking brake ground wire and was to be grounded to the emergency brake switch ground so when the emergency brake is engaged, the DVD player and navigational controls would be functional. Basically they want you to pull over and engage the emergency brake before you adjust the navigation or watch a DVD. To bypass this so the DVD player and navigational controls are fully functional at all times, this green wire is simply grounded to the black wire between the harnesses. The excess wire was clipped off and attached to the orange ILL wire for additional length. Everything in the left side of the picture plugs into the head unit and the two grey connectors plug into the factory wiring harness inside the car.

Next up, the disassembly of the Shaker 1000 Head Unit from the car.

Remove the shift knob from the shifter.



Remove the shifter boot from the center counsel. Pry from any corner and it pops off.



Center counsel with shift knob and shifter boot removed.



Remove the two screws in the center glove box.



Lift up and pull back the center counsel cover. It's held in place with OEM spring clips. Carefully slide the cover over the emergency brake handle and remove.



Remove the side panels on either side of the center stack. They are held in place by OEM spring clips.



Remove the (6) 7mm machine screws that hold the outside panel around the head unit.



There are three OEM plug connectors that unplug from the top three set of controls on the back of the outside panel. There are also two OEM plug connectors that unplug from the bottom set of controls for the fan / temp, and vent selection. The three plugs on top, and the fan / temp plug are pretty straightforward. Locate the release tab on each plug, push it in and pull the plug from the connector. The plug to the vent selection is a little tricky to release and should be noted. Here's a picture of that plug. Note the release tab directly above the word TYCO. This is pressed in and then the grey lock can be released and rotated so the plug will separate from the socket behind the back of the panel. It'll be more obvious when you see the plug connected behind the panel.



Here's the Metra Dash Kit with the side brackets attached. The middle bar gets clipped out for the double din size head unit. The kit comes with small machine screws to mount the side brackets to the Kenwood head unit.



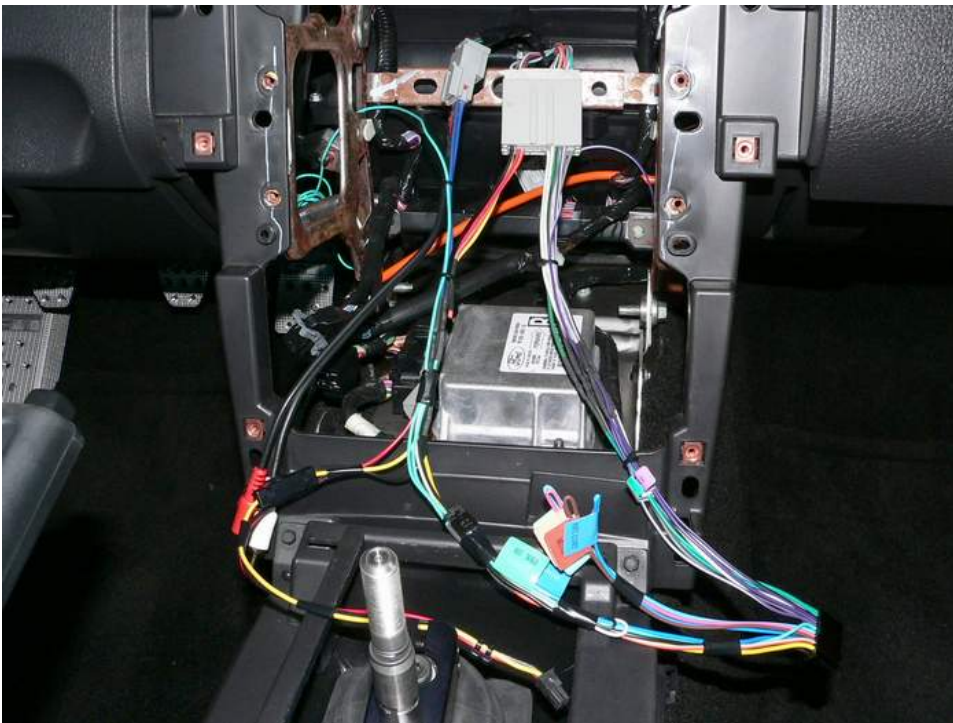
Here's a preview of the head unit with the dash kit. Looks OEM and fits well.



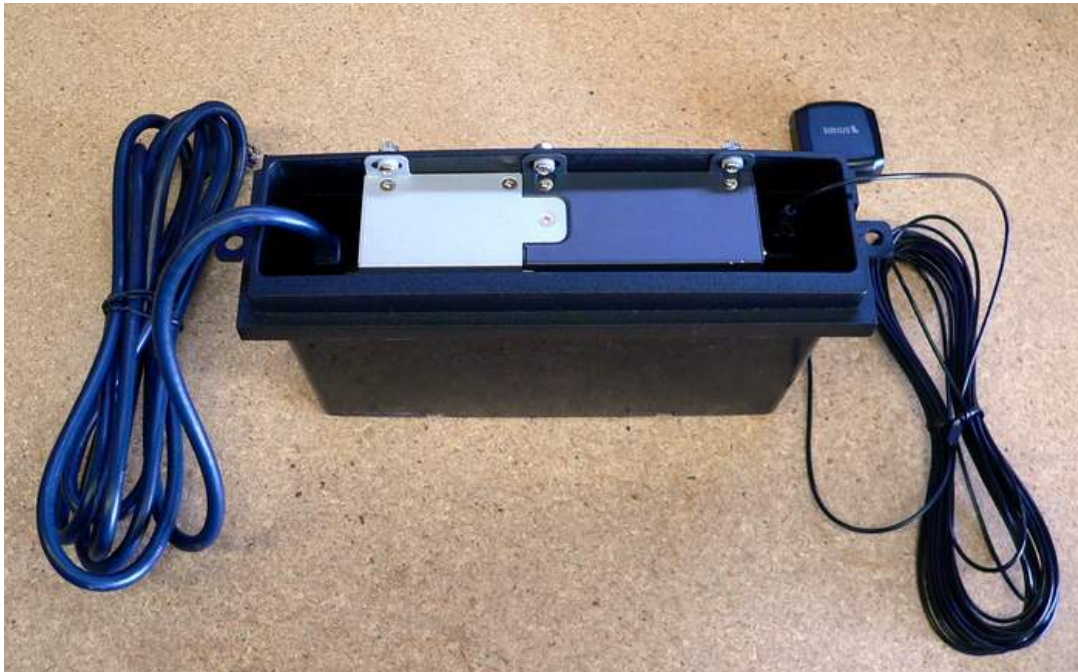
Here's a preview of the head unit, dash kit, and outside panel together. The Kenwood head unit is shipped with the screen in that position, once it's powered up it moves to the flat position.... just an fyi



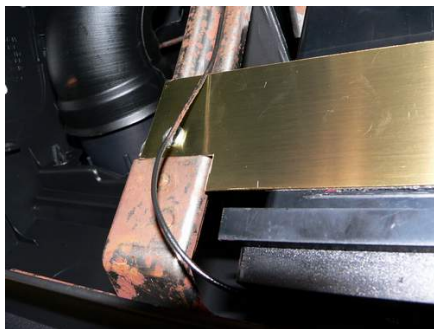
The assembled wiring harness is plugged into the factory plugs and the wire bundles routed behind the opening.



I struggled with finding a suitable place to mount the Sirius Satellite Radio Adapter (SIR-KEN1). I noted the cable that connects the satellite unit to the head unit was fairly heavy, so I decided to find a spot somewhat close to the head unit, so I wouldn't have to route this heavy cable too far. I removed the glove box from inside the car and spotted a suitable space above the glove box for the satellite unit. Now I needed some way to mount it and keep it secure. The Metra Dash Kit comes with a single din unit, as well as the double din unit that is used for the install of the new head unit. I cut off the excess frame and used the 'box' portion that would sit below a single din unit, to hold the satellite adapter. The adapter fits real tight, but I still decided to add some small machine screws w/ nuts to hold it in place.



Holding this assembly up under the glove box, I noted some factory holes in the framework above the glove box. I measured the distance between the holes and cut a bracket out of some copper sheet metal I had on hand. I attached the bracket to the single din unit 'box' with PT1100 double-sided tape and bolted the whole assembly under the dash, above the glove box. It's a tight spot to get a good picture, but here's a shot of each end of the bracket attached to the metal frame above the glove box.



The black wire in the left picture is the satellite antenna wire and the heavy blue wire in the right picture is the cable that connects the satellite adapter to the head unit. Since the glove box is right next to the center stack in the car, the heavy blue wire route is short and easy to the back of the Kenwood head unit. Additional note: The Kenwood head unit powers the satellite radio adapter thru this blue cable. It's a nice feature since other head units I looked at didn't supply the power thru the connecting cable and required additional wiring for power and ground to their satellite adapter as well as other accessories available for their particular head unit. Compared to other head units, the Kenwood DNX7100 required a lot less wiring, and wire routing, for everything to be functional.

The last wiring to complete, before plugging the head unit into its harness and installing it into the dash, is the routing of the navigation antenna, routing of the satellite radio antenna, routing of the A/V cable to the rear view camera, and routing of the purple / white reverse wire bundle to the proper reverse wire in the trunk. All four of these are routed to the back of the car and can be taped together as you go.

I removed the passenger side sill cover, passenger side kick panel, back seat, and passenger side back seat quarter trim panel to access the factory wiring route to the back of the car. All the panels are held on by OEM spring clips and come off pretty easy. The sill plate does have some two-way tape on it and I replaced the tape with PT1100 when I reinstalled it.

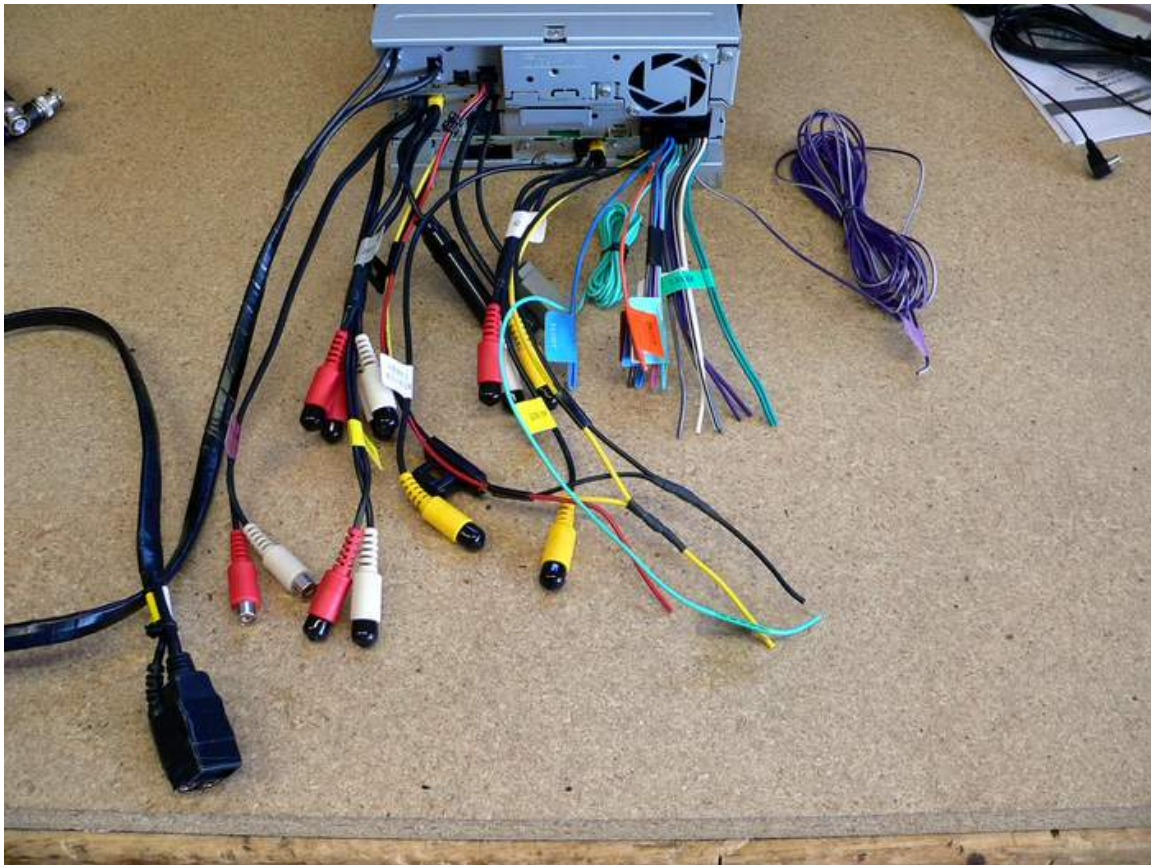
The satellite radio antenna and navigation antenna are routed to the back deck behind the back seat. In the convertible, the deck is covered with a vinyl cover that's part of the convertible top. Under the vinyl cover is the flat sheet metal deck and a good location for the magnetic antennas. I've seen others who own the coupe install their antennas in the same location, under the carpet on the rear deck. Apparently the antennas work fine thru the vinyl or carpet and can 'see' the satellite signals fine.

The A/V cable and purple / white reverse wire are routed to the trunk. The A/V cable goes to the rear view camera and connects to the BIN connector from the camera. The purple / white reverse wire is connected to the white / yellow wire in the trunk's wiring. There are two sets of wires on either side of the trunk, running to the tail lights. Inside either group of wires is the yellow / white wire you're after....either side will work.

Check the wire to make sure the wire goes from 0V to 12V when the car is shifted into and out of reverse. I connected the purple / white reverse wire to this yellow / white wire along with the positive power wire from the rear view camera. The ground wire from the camera is connected to a black ground wire in the same group of wires in the trunk. There are a couple black ground wires to choose from. The rear view camera will now power up and automatically display on the head unit when the car is shifted into reverse. When the car is not in reverse, the camera is off and not drawing power.

Here's a picture of the back of the Kenwood DNX7100 head unit with the head unit's wiring harness attached. The factory wiring harness in this picture was attached before it was connected to the Metra wiring harness. You can see the harness in the lower right corner on the back of the head unit. The purple / white and green wire bundles are on either side of the wiring harness. There are also multiple A/V connectors on the back of the head unit for alternate setups of A/V accessories. The head unit can be easily setup with a remote screen for back seat viewing using the A/V out connections. There are A/V in connections for adding an additional camera or video source. There are also RCA connectors for the front and back speakers which are not used since the speakers are direct wired thru the wiring harness. All the unused A/V connectors and RCA speaker connectors are simply tucked behind the head unit when it's installed. It's an fyi to know other options are available with this head unit.

The longer black cable on the left is the three connections for the I-pod. It contains the USB port, along with the video and audio connection for the Kenwood I-pod Adapter (P.I.E. KNW/USB-AV). These are actually three separate wires that I taped together since they all will route to the center counsel of the car and connect to the I-pod adapter that I installed above.



Here are the final install pictures after connecting the head unit's wiring harness to the back of the head unit, tucking all the extra connectors behind the head unit, mounting the head unit to the center stack, reinstalling the outside panel, side panels, center counsel, shifter boot, and shift knob. Note the screen is flat now since the unit has powered up.



The I-pod interface works flawlessly and all the controls are available on the touch screen. The album art is displayed on the left hand side, although it's kind of small. The I-pod is recharged when connected to the docking connector in the armrest glove box.



Overall I'm really pleased with the Kenwood DNX7100 head unit. The sound is superior to the Shaker 1000 and the audio adjustability is endless. I'm still in the learning process with the navigation system, but so far it seems to be working great. The navigation antenna placement worked fine and I get 'hooked up' right away. I haven't been able to

check the Sirius satellite antenna and the signal strength since I need to subscribe to the service yet. Some of the reviews I've read on the 7100 said the system is not very intuitive. I have to disagree at this point and found the menus easy to understand and adjust. I've looked at the manual a bit, but mostly learned my way around the system by playing with it...I know I have a ways to go to master the system, so maybe I'll run into the unintuitive parts later....so far it's been easy to understand. The backup camera works as planned and switches on instantly when the car is shifted into reverse. The picture is great and night visibility is awesome...the low lux rating of the camera is really obvious at nighttime. The ILL wire to the hazard button's blue / yellow wire works as planned and the head unit dims when the light switch is turned on. The navigational controls are functional when the car is in motion, so my front seat passenger can adjust the route or check on points of interest on the fly.....so the bypass is working as planned. I haven't had a chance to check the DVD player for functionality or quality. The screen on the head unit has 7 position settings and can be adjusted for glare.

More comments to follow as I learn more about the Kenwood DNX7100

Sorry in advance for breezing over any part of the install that is unclear or un-photographed. I give a ton of credit to Taco Bill for doing these types of documents like he does; these things take a lot of time to organize and write-up. If any parts of the install are unclear, fire away with your questions and I'll check back and answer them. Hopefully the document will aid those who are on the fence and question weather or not they can install a head unit by themselves....if I can, you can....

hags1