

2004 CLK320 Aftermarket Sound System Project

What I started with:



What I ended up with:



Goals:

- Replace outdated MB head unit with double DIN CD/Bluetooth/iPod/SiriusXM/Navigation Unit.
- Maintain steering wheel button controls.
- Maintain “stock” look as much as possible.
- Make installation potentially reversible - minimum damage to vehicle.
- Keep sound as good if not better than original equipment.

Items:

PAC SWI-CAN

PAC SWI-RC (both needed to keep steering wheel stereo controls)

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PIONEER AVIC X920BT head unit (older model but easy to bypass movement use restrictions)

PIONEER GEX-P920XM XM tuner

KENWOOD KAC859 5 channel amplifier

American International MB-K100C mounting kit
(Metra 99-8710) - fascia works well. Harnesses not so much.

RCA stereo cables 15 feet x 3

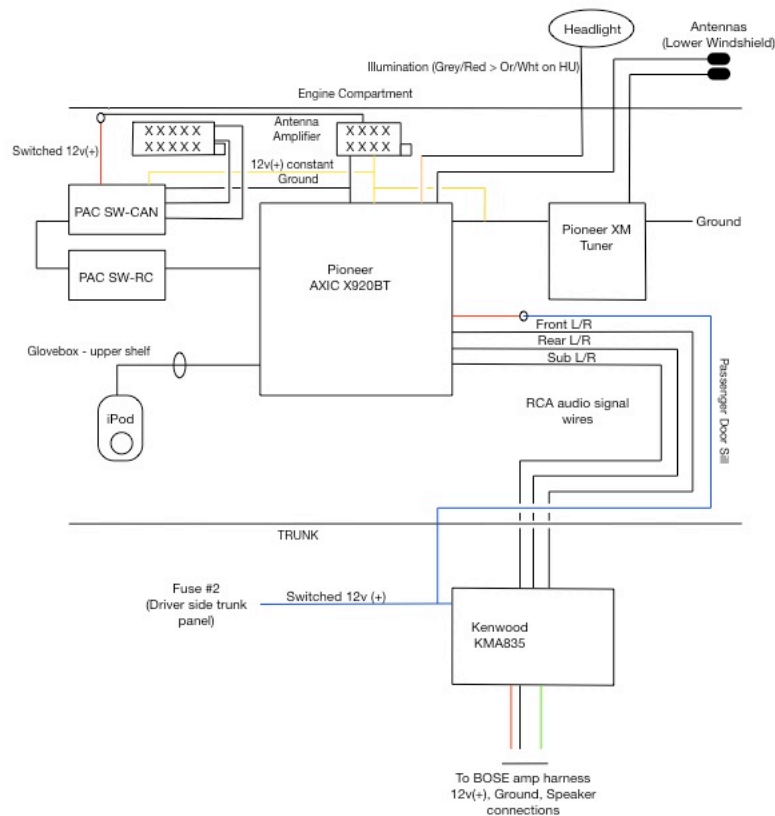
Assortment of wires

Assortment of T-Taps (or soldered connectors), tie wraps

Standard installer tools including assortment of Torx drivers, VOM meter helpful.

Note: I kept ORIGINAL Bose speakers front central dash, door speakers (front tweeter and full range front and back), rear deck subwoofer driver side.

Overview:



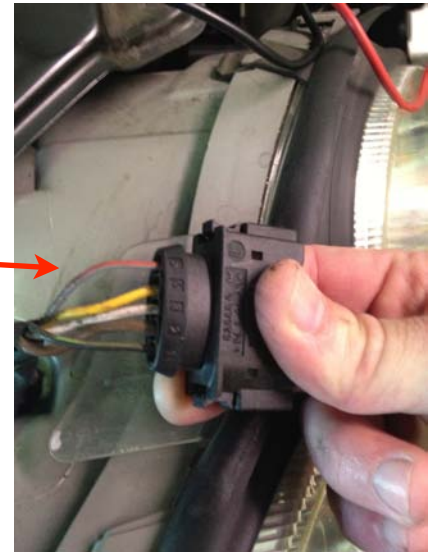
Wiring:

Under the Hood:

Illumination Sensor Wire - access passenger headlight rear housing under hood. Remove five wire connector from back of headlight. Tap wire #5 (Gray/Red) and run wire to passenger compartment behind glovebox to head unit "Orange/White" wire. Route with XM and Navigation Antennas described below.

Speed Sensor - COULD NOT IDENTIFY. Would connect to "Pink" wire on head unit if identified. (Navigation works fine without it for my set up but would have liked to connect).

XM and Navigation Antennas - could not readily mount to dash and keep concealed well. You may have better luck. Decided to mount on lowest point of outside passenger side windshield. This requires passing wires from passenger compartment to under hood then to windshield. I loosened glove box to access air flow motor located behind. Remove cabin filter housing above battery on passenger side of engine compartment. I used a Dremel tool to create two holes; one in the plastic panel below the cabin filter intake lip (above battery) on the engine compartment side. The other hole was created in the lateral wall inside the air box near the circulating fan. The wires pass from under the hood, through the hole below the air intake into the air box. From there they route through the second hole into the passenger compartment behind glovebox. From there route the antenna wires to the XM tuner to tuner and head unit. I mounted my XM Tuner in space under glovebox (tight fit). Secure the wires well to avoid possibility of air box wires dislodging and being sucked into fan blades. I used silicone sealant to repair holes around wires. Antennas secured by double stick tape to lower-most windshield.

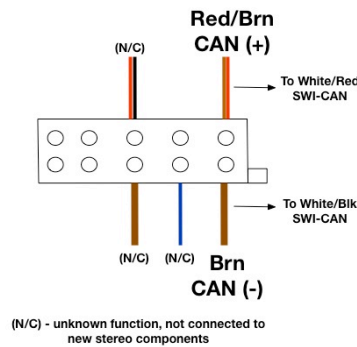


Passenger Compartment:

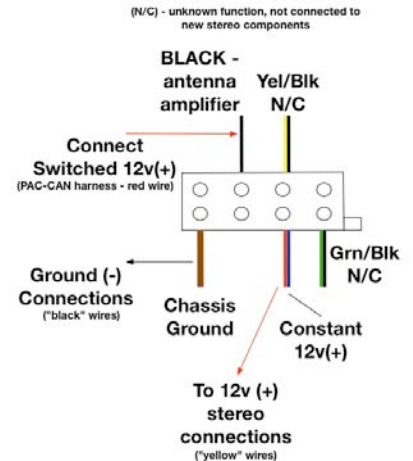
Tapping Original Harness - The original head unit has an upper (10 pin) and lower (8 pin) harness. See below for pinout (wires projecting away from you). Upper harness connects to SWI-CAN for steering wheel button functions. Lower harness has constant power, ground and black wire that supplies power to antenna amplifier.



"Upper" Harness from 2004 CLK320 Bose Head Unit Model CM 1330 (A 203 820 25 86) and wire assignments



"Lower" Harness from 2004 CLK320 Bose Head Unit Model CM 1330 (A 203 820 25 86) and wire assignments



RCA audio cables and **power signal wire** run from front dash, under glove box, behind passenger kick panel, along running board, under rear passenger seat (could not figure out how to remove rear passenger side panel), behind seat back, under thick plastic trunk floor panel (held by two large "D" rings), up passenger trunk bulkhead and then to amplifier mounted upside-down on upper metal panel of trunk (passenger side next to subwoofer port).

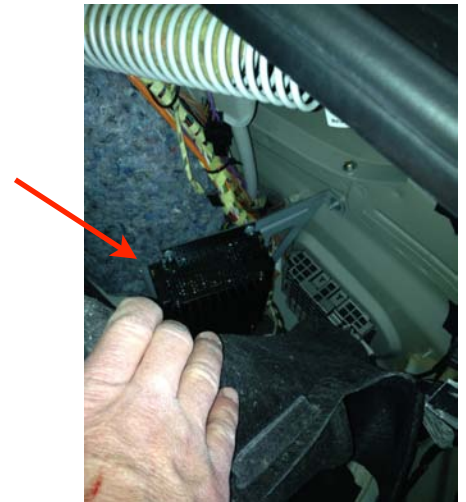
AM/FM Antenna - need adaptor for MB antenna connector to new head unit. **IMPORTANT** - connect switched power (I used red wire from SWI-CAN harness) to original MB BLACK wire from eight pin "Lower" harness to power antenna amplifier or reception will be poor; especially AM.



iPod Connector - route to upper level of glove box (or wherever you choose). Recommend removing CD changer from glovebox - single screw and disconnect wires. Wires pass easily from upper shelf to back of head unit area.

Trunk Wiring:

Bose Amplifier Harness - passenger side behind wheel well, remove passenger side trunk liner, locate Bose amp and disconnect large harness from bottom (requires amp removal). Below is mapping of wire harness colors to components. I tapped these wires for connecting power and speakers to my 5-channel amp. Wrap and secure free harness end. Route speaker and power wires to convenient connect point for your amp. Orange fiber optic wires are defunct now and can be left connected to old BOSE amp or disconnected and secured.



Brown (thick) - negative to amp

Purple/Red (thick) - positive to amp (uninterrupted 12v +)

Purple - sub (+)

Purple/Brown - sub (-)

Gray - dash (center) (+)

Gray/Brown - dash (center) (-)

Green - Driver Front (+)

Green/Brown - Driver Front (-)

Pink - Driver Rear (+)

Pink/Brown - Driver Rear (-)

Orange - Passenger Front (+)

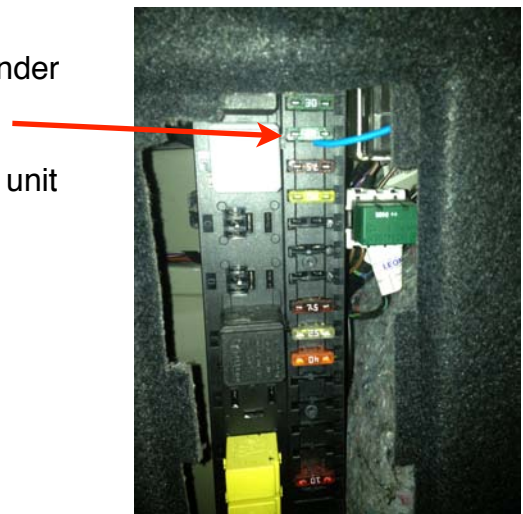
Orange/Brown - Passenger Front (-)

White - Passenger Rear (+)

White/Brown - Passenger Rear (-)

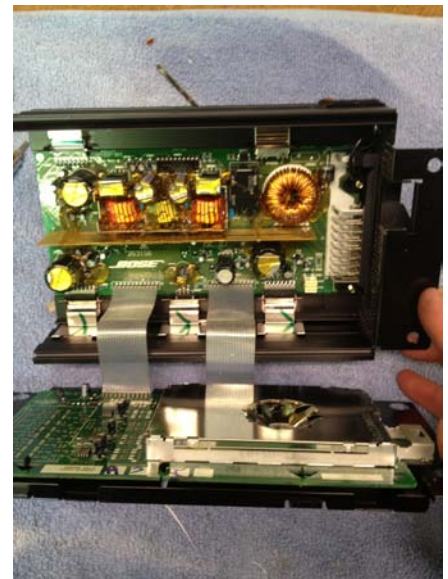


Power Signal Wire - Fuse #2 (*driver* side fuse panel under trunk liner access door) - tap fuse and run wire to amplifier signal wire connector and to front dash (with RCA wires along passenger kick panel) for head unit switched (+) (red wire on HU).



Misc Notes:

- All of the above is MY experience and take what is useful for yourself. I make no representation of accuracy or applicability to your situation.
- I have omitted instructions for general disassembly as they are either self-evident to those handy enough to undertake this project or available elsewhere. The one area I could not get disassembled is the side panel next to the rear passenger seat. The information may be out there or I may have simply not pulled hard enough. I removed the bolt under the “SRS” insert but chickened out when still had to pull with concerning force. I routed the wires from the running board to trunk under the seldom opened seat cushion but this was a compromise.
- Speaker wire polarity was not verified by wire tracing but rather acoustic polarity verification. This involves applying a “click” signal source to individual speakers and having a microphone receiver determine if the polarity is correct or reversed. Turns out solid wires are (+) and striped wires are (-) - at least acoustically. (See www.studiosixdigital.com for tool I used).
- Bose Amp - there have been confusing posts about whether the Bose amp can be used in aftermarket sound systems. At least for my amp (A209 820 02 89) with the orange paired fiber-optic connectors, *I see no possible way to keep this amp for aftermarket sound systems*. The fiber optic technology is incompatible with the typical RCA analog audio cables. I took my Bose amp apart and attempted to trace the signal using an oscilloscope while playing a music source. Bose has liberally applied epoxy to the circuit board which complicated tracing critical signal paths. I am well versed in vintage home stereo repair and I was confounded in my attempts to bypass the fiber optic module and tap into a low level analog audio pathway. Buying a new amp became the more attractive (and viable) option...
- Speaking of amps - I decided to keep the Bose speakers even though they are 2 Ω speakers (dash speaker is about 7 Ω and sub about 1 Ω (!)). This meant I needed a 2 Ω stable amplifier. There are many options out there. Bottom line, whether you install aftermarket speakers or not, you will need to match the amp to your speakers. With a 5-channel amp the odd man out is the dash center speaker. With most amps you can power this speaker across the (+) poles of the left and right front speaker. This effectively makes it a mono speaker and has worked well for me.
- Finally about wiring. I made some convenience choices about how I wired my aftermarket system into the CLK320. I used wire taps rather than soldering. I may convert later but I was doing some experimentation as I went along so being able to



adjust connections served me well. Also taps are less destructive to native wiring harnesses. Downside is soldering is more reliable. Also, I did not run a monster 6 gauge power wire to the amp. I tapped the old Bose amp power wire. Power has been more than adequate for my needs. If you want to really thump, you may need to use bigger power wires. Ditto for speaker wires.

- Amp mounting - I mounted my amp under metal panel in upper liner of trunk behind passenger seat. I threaded 10-24 one inch bolts from under the false speaker cover on the passenger side rear deck through pre-existing hole in the deck at spacings that accommodated my amplifier. I secured the bolts to the deck using fender washers and locknuts. I cut a 3/8inch plywood to size. Speaker carpet sandwiched between board and metal panel helped to prevent rattles. I secured the board to the metal panel using bolts then secured amplifier to board. Location also served to keep amp near speaker/ power harness taps described previously. See below for amp mid-installation.

