

I finished installing my new head unit. It took a bit longer than I expected as I ran into a couple of unanticipated challenges. I am documenting my experience here in hopes that it will help someone.

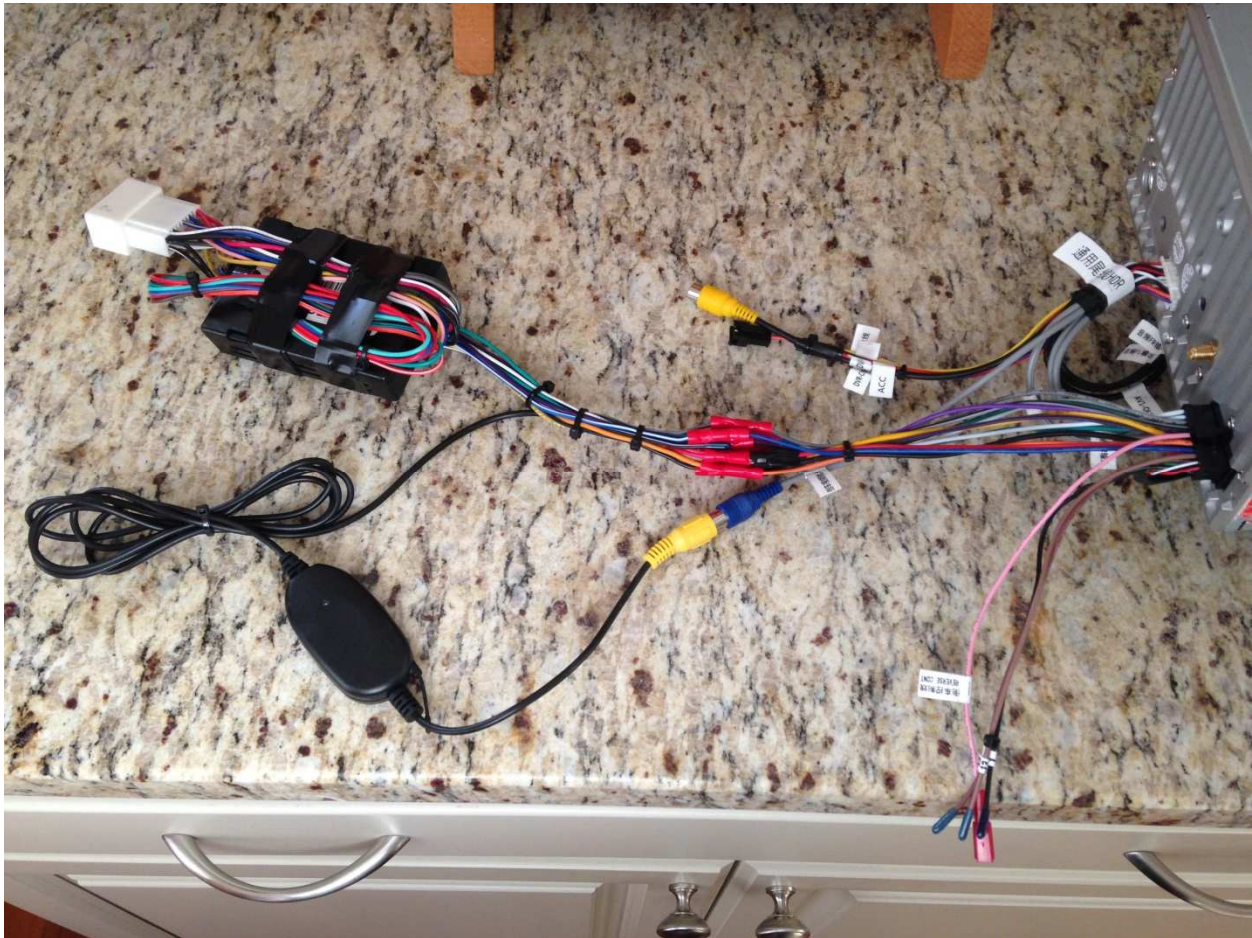
My project was to replace my OEM head unit in my 2001 LS430 (non-Nav, non-ML) with a modern unit that had features like Bluetooth, GPS, iPod interface and DVD. I am not a music aficionado so I was not overly concerned about sound quality; my OEM amp and speakers were working fine for me so I retained them. This means that I needed to install an interface unit to allow my new head unit to work with my OEM amp. Here are the parts I purchased and the cost (most of it purchased on eBay):

<u>Item</u>	<u>Cost</u>
Metra 95-8160G Installation Dash Kit 2001-2006 Lexus LS430 Vehicles Double DIN	19.94
Metra Axxess TYTO-01 Toyota Turn-on Interface	50.77
Car Stereo/Radio to Lexus Factory Antenna Adapter/Plug LX10	6.95
12-ft Antenna Extension Cable	6.30
8-ft Antenna Extension Cable	6.95
TOTAL	90.91

The first thing I did was to wire the TYTO-01 interface to the new head unit. This was very simple and the instructions were straightforward – match up like wires on the head unit with the TYTO-01 harness. My head unit came with cut wires that were ready to be connected to the TYTO-01. I used crimp connectors instead of soldering; I know that soldering is better for sound quality but I was looking for speed. The head unit needs to have an output to turn on the OEM amp or you will not get any sound. If your head unit does not have an “amp turn-on” output you can use the “antenna power” output – this is what my head unit has.

I did not perform this next step until I encountered an issue later in the installation but I am putting it here because this is where it belongs. It turns out that the TYTO-01 interface has an issue with its wiring connections being loose. I found this out at the end of the installation when I turned on the unit and got intermittent sound. When I wiggled the wires the unit sound would go on and off; this seemed to indicate that there was a loose wire and/or connection. I noticed that the contents of the TYTO-01 moved around when it was jiggled so I thought that maybe this was the issue. I contacted Metra support via e-mail and explained my situation; I was impressed that they responded in a couple of hours. They suggested that I secure the TYTO-01’s connectors with zip ties and then tape the wires to the side of the TYTO-01 to ensure that the connections are tight and the wires cannot move (see the three pictures below). Given how quickly the response came, I am betting that this has been a problem with this adapter. Nonetheless, I followed the instructions, reinstalled the radio and tested it. So far, the issue has gone away so I assume that this fix works.





Next I mounted the unit into the dash kit. This is where I encountered my first challenge. I did not pay attention to the dimensions of the head unit and the opening in the dash kit when I purchased them. My head unit is 178mm wide and 102mm tall; the Metra dash kit opening is 173mm wide and 98mm tall! This meant that I had to cut and file the opening so that my unit would fit. I took my time doing this and it came out OK. I did make a small crack in the trim; it is not too noticeable but I hope to fix it with some plastic filler and paint if I can find paint that matches the grey trim. I don't know if there is another dash kit for my car that has a larger opening or if I should have purchased a smaller head unit.

The next thing was to remove the OEM head unit. This was very simple as there were a total of 5 screws that needed to be removed. The Metra dash kit included the instructions for removing the unit:



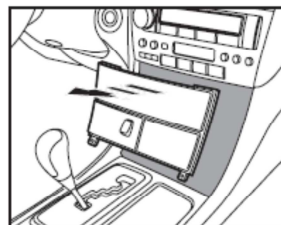
Dash Disassembly

1. Remove the heated seat switch panel. (Figure A)
2. Remove the three screws below the tray assembly. Unclip and remove tray assembly. (Figure B)
3. Remove two 10mm bolts securing the factory radio. (Figure C)

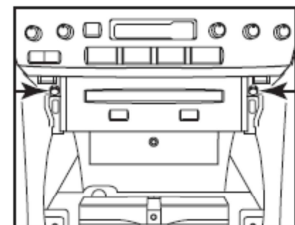
Continue to kit assembly



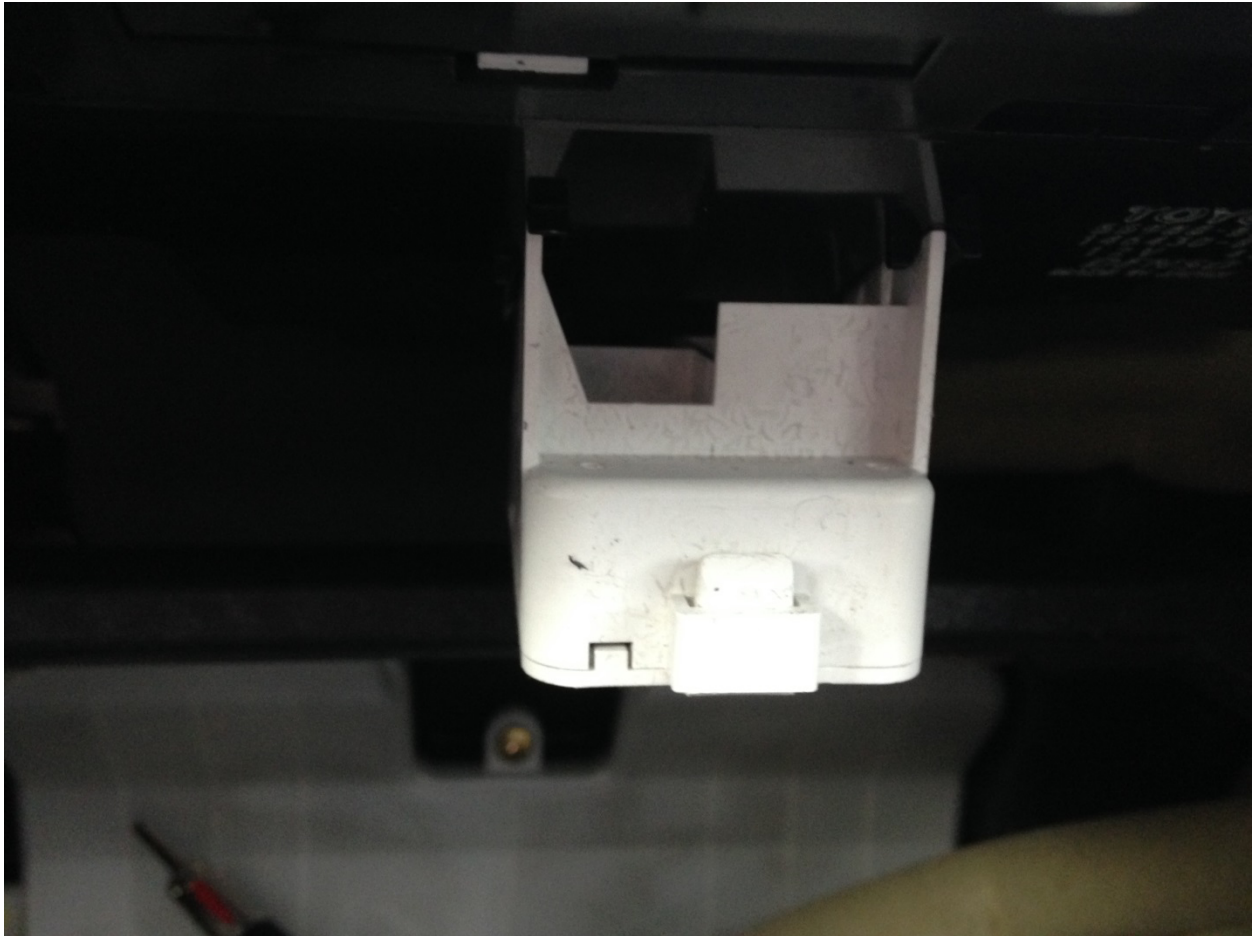
(Figure A)



(Figure B)

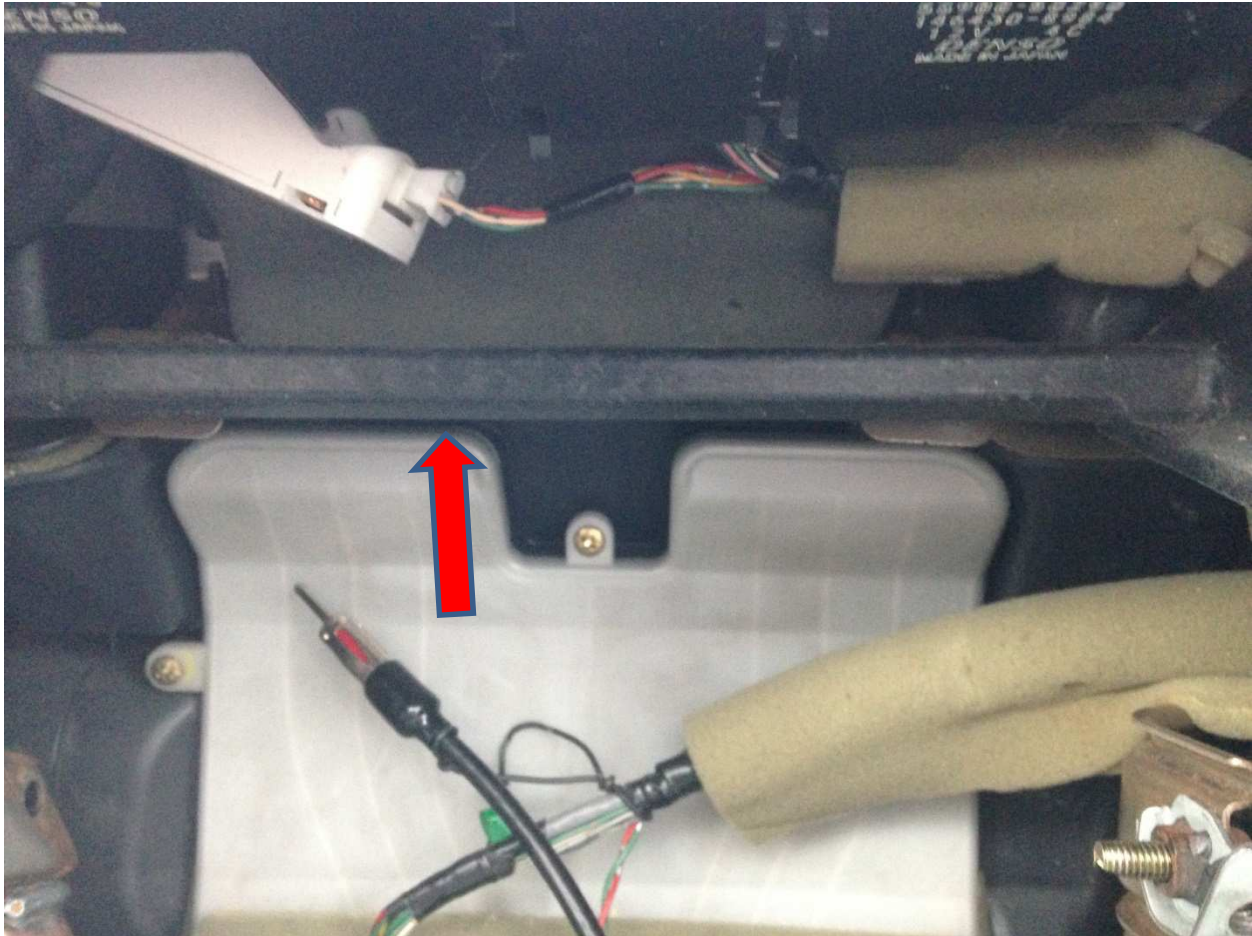


(Figure C)



After removing the OEM unit I encountered two more challenges. First, there was a white box mounted on the top of the console opening behind the OEM unit which turned out to be the magnetic field sensor (see picture above). This sensor is what the compass uses to determine direction. I had to reposition the sensor because my new head unit needed that space. I was able to remove it from the top of the opening by squeezing on its mounting legs and sliding them out of the mounting slots. Be sure to reposition the sensor in the same orientation it was in when it was originally mounted! When I first repositioned the sensor I did not mount it in its original orientation; this caused the compass to give wrong directions!

The next challenge was a plastic brace that is located at the top of the console opening (see picture below; red arrow pointing to brace). The brace is a part of the molding that the head unit mounts into. The brace is not an issue with the OEM unit because the top of the OEM unit does not extend very far into the top of the opening. However, the top of my new head unit extends much farther into the opening so the brace was interfering. The only solution I saw was to cut out the brace so I did it with a little hand saw. Before I cut the brace I questioned folks on the forum about this and no one said they had an issue with this brace when they installed their unit. I assume this means that the top of their units must not be as deep as mine so I probably should have purchased a better-fitting unit. Not only could I have avoided cutting the brace, I probably would not have had to reposition the magnetic field sensor.



Next, I needed to get the antenna connection to the new head unit. As you are probably aware, the car's tuner is in the passenger side of the trunk and the antenna is there as well. This means that I had to figure out how to run an antenna extension cable from the front console to the trunk. After getting some information from members in the forum, I found out that I could run the cable from the front console over towards the glove box, through a channel on the floor next to the passenger seats that are covered by the scuff plates, up the side of the back seat and into the trunk through one of the holes next to the subwoofer on the rear deck. This sounds ominous but it really was not too bad. I had to remove the scuff plates to expose the floor channel and remove the back seat to get to the rear deck. A great tip is to attach the cable to a straightened coat hanger covered with electrical tape to help fish the cable through tight spots. Here are the posts I used to accomplish this:

03 LS430 Amp bypass, Stereo Install w/Pics

<http://www.clubexus.com/forums/ls-3rd-gen-2001-2006/809419-03-ls430-amp-bypass-stereo-install-w-pics.html>

How to remove rear seats

<http://www.clubexus.com/forums/ls-3rd-gen-2001-2006/445122-how-to-remove-rear-seats-01-03-ul.html>

I used these posts to get the cable to the top of the back seat. Once there, I routed the cable through the subwoofer. I loosened the rear deck to expose the subwoofer and find a hole into the trunk. I fished the coat hanger through one of the holes next to the subwoofer and pulled it into the trunk once

it came through. This is the post I followed to loosen the rear deck. I did not completely remove it as the post instructs; I loosened it enough to fish through the cable into the trunk:

Subwoofer removal/install back seat removal what I learned...pics

<http://www.clubexus.com/forums/ls-3rd-gen-2001-2006/803995-subwoofer-removal-install-back-seat-removal-what-i-learned-pics.html>

Once the cable was in the trunk, I loosened the insulation in the top of the trunk just enough to guide the antenna over to the passenger side of the trunk. I pulled out a couple of the plastic fasteners on the passenger side of the trunk which loosened the insulation enough to maneuver the cable over to the tuner. Once there, I removed the antenna connection from the tuner, installed the LX10 adapter and connected the antenna cable to it. I needed about 20 feet of cable to make the trip; I initially purchased a 17-ft cable which was too short! I added a 12-ft cable so it was much longer than it needed to be. Eventually I got rid of the 17-ft cable and replaced it with an 8-ft cable to shorten the length.

The next thing was to find a place to mount the GPS antenna. Ideally the GPS antenna would be out in the open to maximize reception. However, that means that I would have to find a path from inside the console to the outer part of the car but I did not want the GPS antenna exposed. I found a YouTube video where an expert installer said that the GPS antenna could be installed inside the console and still get good reception. I needed to mount the antenna on metal that was attached to the frame of the car; this would make the entire car part of the GPS antenna. The antenna has a magnet in the base which made it simple to mount it. There is a metal brace on the left side of the console opening; I attached the GPS antenna to it (see picture below, red arrow pointing to antenna).



Now that all of the console connections were made, I was ready to connect the new head unit and test it. I connected the TYTO-01 to the car's radio harness and attached the radio and GPS antenna cables to the head unit. I turned on the accessory power and... success! The radio powered up and seemed to function properly. I also got a fairly strong GPS signal so installing the antenna inside the console worked out OK.

Now I was ready to fasten the unit in place. It was here that I encountered my final challenge – there was a 2-3mm gap between the trim's mounting holes and the mounts. After spending a significant amount of time diagnosing the issue, it appears that my new head unit is a little too tall. It is hitting against the ceiling of the console opening which is not allowing the dash kit to sit properly on the mounts. I added a rubber grommet on each side of the mounts to take up the extra space. Given my initial issue with the opening of the dash kit, my suggestion is to make sure that your unit stays within the 173mm x 98mm dimensions and everything will fit perfectly.

Despite the unexpected challenges I faced, I was able to make the adjustments and ended up with a good install:



My only disappointment with the project is that I lost the use of my steering wheel controls. The 2001 LS430 uses a proprietary system for its steering wheel controls and no one makes an adapter that works with it. Given the year of the car (2001), I doubt that anyone is working on an adapter so either I will have to get used to not having my controls or find a way to hack them to make them work.