

Tesla Roadster GPS Firmware Update Notes

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Overview

This document covers the Garmin GPS upgrade procedure using a cable I have assembled for UK Roadster owners to share. Many thanks to Steve Casner (slcasner) for providing detailed instructions on the Tesla Roadster Club forum.

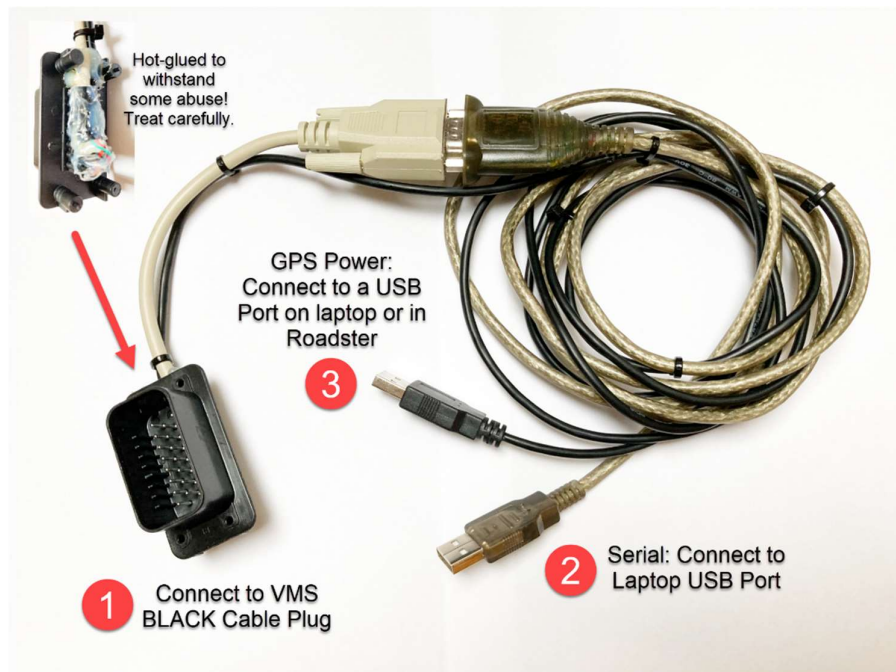
Please do not attempt to do this upgrade if you are not comfortable with delving into your car to pull cables out; updating software; or configuring serial ports. Any upgrade is attempted at your own risk.

I have successfully upgraded my 2011 Roadster 2.5. I cannot guarantee the procedure is the same for earlier variants.

Cable

The cable is based on an ATEN USB-Serial adapter I had in my workshop. As I did not fancy removing a moulded connector (done that too many times in the past!), I have taken a different (less hardy) approach than Steve, using a 9-way D socket together with an additional USB cable for power.

I have not put it all in an enclosure. Instead everything is hot-glued on the main plug. It should be rugged enough if you treat it gently!



Connecting to the GPS

This is the fun part. The aluminium VMS is situated up behind the glove compartment. You can get to it lying in the passenger footwell and reaching up!

There are two cable harnesses attached to the VMS. You want the one with the BLACK PLUG on the left-hand side. It's a bit fiddly to remove because of other cables in front of it.

Once removed, this plug should be connected to the cable assembly. It can only mate one way.

Note: It is probably a good idea to switch Auxillary Power (AP) off via the Roadster Maintenance menu before disconnecting the VMS plug. I took a risk and did not do this (not wishing to possibly lose the settings on my Pioneer audio system), but on reconnection I was presented with the infamous 'Powertrain Error' message! After a minor panic, I cycled the ignition switch and all was fine...

Powering the GPS

Connect the black USB plug to any port that can provide power: laptop, in car socket, cigarette socket adapter, etc. I am unsure what is affected by AP inhibit.

Update Procedure

Follow these steps before you get to the car:

1. Connect the grey USB plug (serial converter) to your laptop. If running Windows 10 it should pickup that it's an ATEN product and load the appropriate driver (ATEN Serial Bridge).
2. Open up Device Manager (type it in the Search Box) and then select 'Ports (COM & LPT)'. If the driver has loaded, you will see the ATEN device listed. Make a note of the COM Port # (e.g. COM3). Now open the device and select 'Port Settings'. Change the speed (Bits per Second) to 4800.
3. I have provided the copies of the latest Garmin firmware and config utility. Run 'GPS18xPC_LVC_440.exe' and let it extract into the default directory 'C:\Garmin'. This is the firmware upgrade.

When in the car:

1. Connect up the GPS, GPS power, and the serial converter.
2. Run the Garmin configuration utility 'SNSRXCFG_330.exe' and select 'GPS18xPC/LVC'.
3. It will now open the main window with oversized text such that you cannot view it all. You could fix this by running it in XP compatibility mode but there is really no need.

4. Select 'Comm' and then 'Setup'. Pick the correct COM Port #. Choose 'Manual' for the Baud Rate and use '4800'.
5. Now select 'Comm' followed by 'Connect'. If all is well it should be talking to the GPS. If not, check everything over (including the cable).
6. Now hit 'F12' to upgrade. It will ask you for the location of the region file '07961000xxx.rgn' which is in 'C:\garmin\GPS18xPC_LVC'.
7. Next it will ask you for the location of the updater which is 'updater.exe' in the same folder.
8. At this point (in my experience), it just sits there doing nothing instead of updating. If this occurs, simply run 'updater.exe' manually at this point and it will upgrade (leave the config utility running). You should see a message about deletion of the previous (3.x) firmware version.
9. To verify the upgrade repeat steps #4 to #8. When update is run it should state that version 4.40 is already installed.
10. For completeness, hit 'Disconnect' under the 'Comm' menu (if not already greyed out).

That's it!

Reconnect the VMS, get the power back on and hopefully you will be greeted with the correct date and time.

Good luck...