Tesla Model S

Active Sound Installation Guide

V0.1

April 2020

Supplied Parts

Single Generator Kits

Quantity	Description	Notes
1	Milltek Sport Active Sound Module	Metal Cased Module
1	Milltek Sport Active Sound EV Gateway	Smaller Plastic Case Module
1	Wiring Loom for Single Generator Installation	
1	Blue Posi-Tap Wiring Connector	
2	Red Posi-Tap Wiring Connectors	
1	Sound Generator (MSSGFK04)	4 x M8 x 16mm Bolts and Washers
1	Main RH Mounting Bracket (MSSGFK25)	
1	Secondary RH Mounting Bracket (MSSGFK26)	
1	Outlet Connecting Pipe (MSSGFK29)	
1	Tailpipe Finisher Plate (MSSGFK30)	
10	Cable / Zip Ties	

Dual Generator Kits

Quantity	Description	Notes
1	Milltek Sport Active Sound Module	Metal Cased Module
1	Milltek Sport Active Sound EV Gateway	Smaller Plastic Case Module
1	Wiring Loom for Dual Generator Installation	
1	Blue Posi-Tap Wiring Connector	
2	Red Posi-Tap Wiring Connectors	
2	Sound Generator (MSSGFK04)	8 x M8 x 16mm Bolts and Washers
1	Main RH Mounting Bracket (MSSGFK25)	
1	Secondary RH Mounting Bracket (MSSGFK26)	
1	Main LH Mounting Bracket (MSSGFK27)	
1	Secondary LH Mounting Bracket (MSSGFK28)	
1	Mounting Bracket Support (MSSGFK13)	
2	Outlet Connecting Pipe (MSSGFK29)	
2	Tailpipe Finisher Plate (MSSGFK30)	
10	Cable / Zip Ties	

- ## Installation of the Sound Generator Hardware and Connecting the Wiring Loom

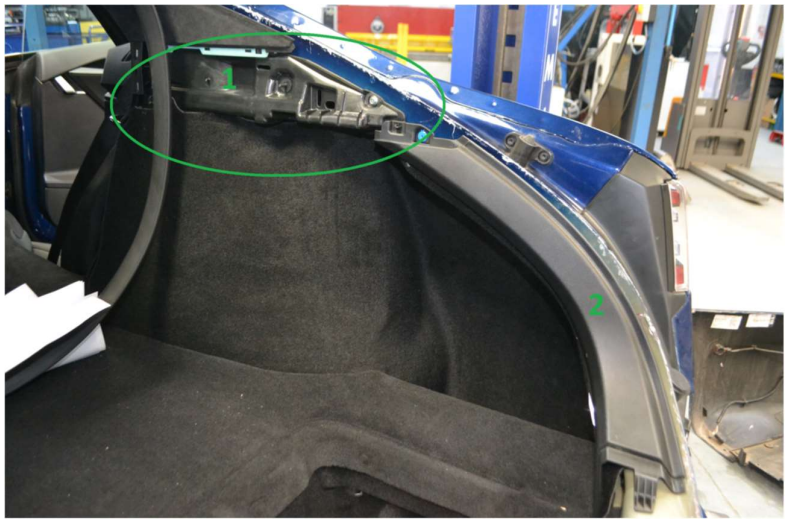
This process requires access to the underside of the vehicle, if this is completed without access to a vehicle lift or ramp please ensure the car is secure on axle stands, never work under a vehicle purely on jacks, if working on a 4 post vehicle lift then it helps to have the rear wheels lifted to gain easier access to the retaining plastic rivets and torx screw holding the bumper in place.

1. Open the rear trunk and remove the lower trim panel.

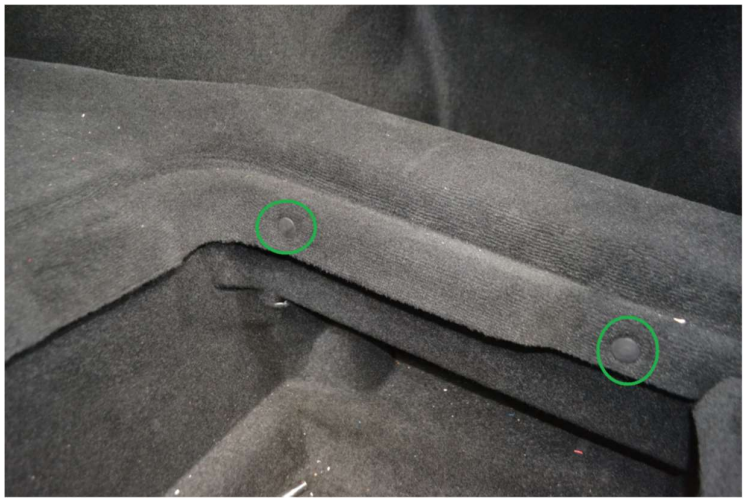


2. loosen the rubber seal on either side of the trunk area and remove the lower carpeted trunk cover – **NOTE The rubber sealing strip has white glue/sealant under it so we recommend coving the interior trims and fabrics where possible.**

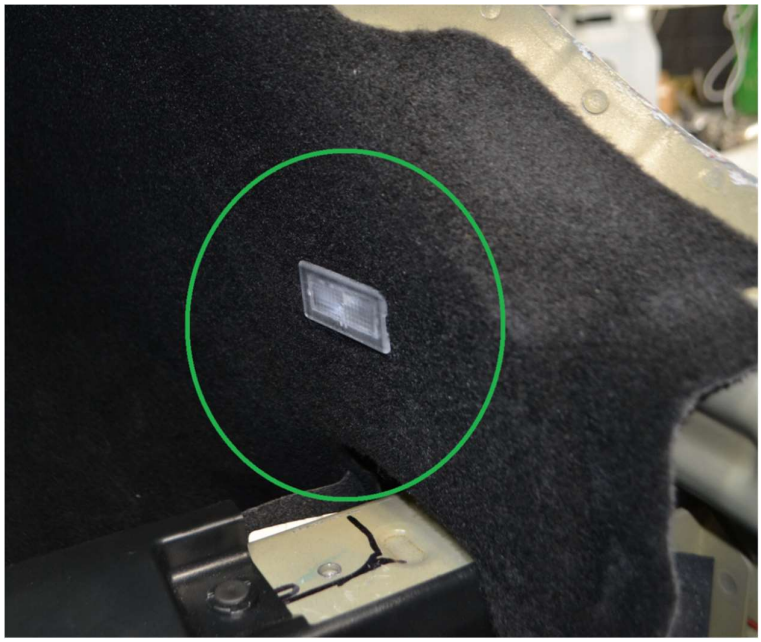
3. Now on the right-hand side of the trunk remove the trim show marked with “1” then “2”, if installing a Twin/Dual generator kit repeat for the left-hand side of the trunk



4. Now remove the main trunk floor carpet cover, this is held in place with Velcro and plastic rivets as shown below on either side



5. Pull back the side carpet covers taking care to disconnect the interior trunk lights, repeat for both sides of the trunk



6. Now from the inside of the trunk carefully peal back the silver pads covering the bumper retaining nuts on either side and



7. Remove the nuts from either side of the bumper



8. Now from each of the rear wheel arches remove the plastic rivets securing the arch liners to the rear bumper and pull the liners back so you can access and remove the torx screw holding the corner of the bumper in place.



9. Next remove the middle section of the rear under tray



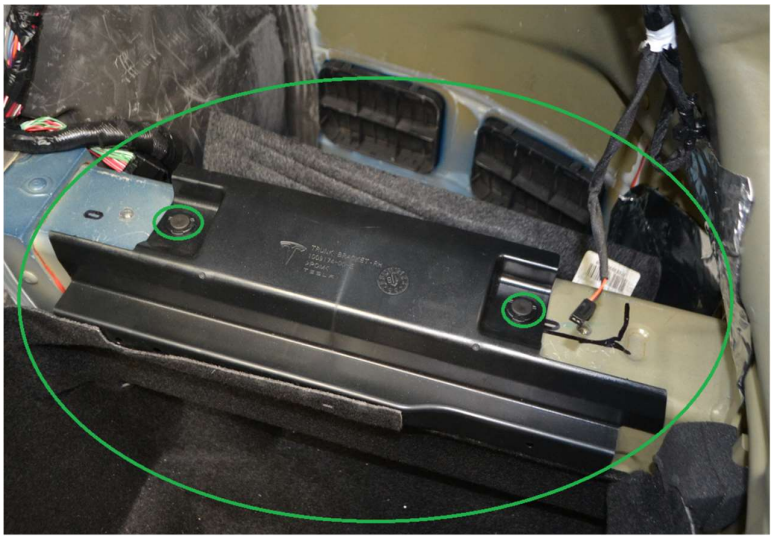
10. Now remove the remaining plastic rivets holding the wheel arch liners to the bumper (from the back of each rear wheel and undertray, these run inside the wheel arch and to the back of the under tray and the three bumper retaining nuts from inside the car (access holes are covered by silver foil)

11. Starting on the left-hand side (as you are looking at the vehicle) slowly unclip the bumper cover to gain access to the rear parking sensor connector housing to enable this to be disconnected



12. Now the bumper cover and under tray can be fully removed from the vehicle, place this on a soft surface and ensure it cannot fall and cause damage to the cover.

13. Back in the trunk remove the plastic covers that go over the rear chassis rails



14. Now remove the two plastic vents in the side of the rear quarter panels



15. Refit the carpet on the side of trunk, and using the sound generator outlet plate mark the position of the hole required in the carpet for the outlet pipe to pass through using a marker pen

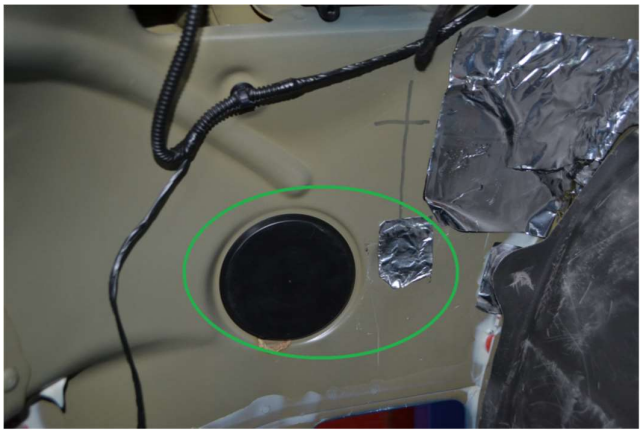


16. Remove the carpet from the car and with a sharp knife cut the marked hole out of the carpet

17. Repeat for the left-hand side of the car if installing the twin/dual sound generator

18. If installing the Single sound generator kit skip to step 27

19. On the left-hand side of the trunk remove the black plastic cover and silver foil shown below



20. Insert the supplied small mounting plate in the space behind the smaller hole that was covered with the silver foil and hold in place with the long side pointing upwards



21. Now bolt the larger left-hand side mounting support bracket in place loosely under the sound generator is mounted then can be tighten



22. Now drop into place the main Sound Generator bracket, on the left there are no bolt holes available on the chassis so use the supplied tape to secure the lower part of the bracket to the chassis rail.

23. Now bolt the Sound Generator to the support and main brackets using the supplied bolts, the Sound generator outlet will be pointing downward through the hole in the main bracket



24. Now place the supplied clamp onto the slotted end of the 90’ outlet pipe and using the vent hole slide this onto the sound generator outlet and tighten the clamp by hand to hold the outlet pipe in place for now.



25. Now fit the outlet plate cover to the vent hole using the supplied tape



26. Now secure the clamp in place with a small ratchet and a 13mm socket using the second vent hole for access and refit the second black plastic vent cover

27. Now on the right-hand side of the trunk first fit the mounting bracket support and bolt this to the inside of the rear quarter panel



28. Now fit the main support bracket and secure using the bolt holes into the chassis rail



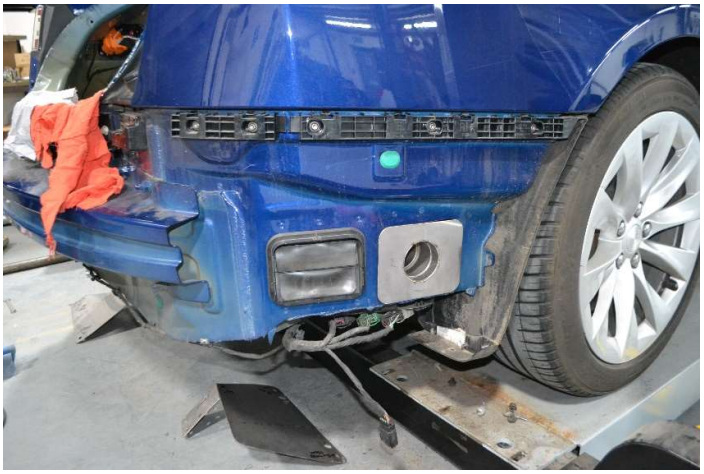
29. Next fit the sound generator to the bracket with the 4 supplied bolts.

30. Now place the supplied clamp onto the slotted end of the 90’ outlet pipe and using the vent hole slide this onto the sound generator outlet and tighten the clamp by hand to hold the outlet pipe in place for now.

31. Now fit the outlet plate cover to the vent hole using the supplied tape

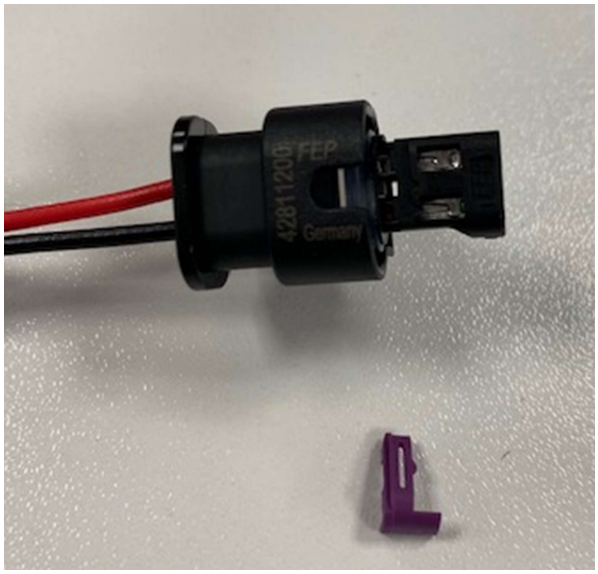


32. Now secure the clamp in place with a small ratchet and a 13mm socket using the second vent hole for access and refit the second black plastic vent cover



33. Before continuing any further ensure the car is powered off by selecting the **"Power Off" option from the menu under "Safety and Security"**

34. Now working on the right hand side of the trunk, connect the Sound Generators to the loom, if cables are loose and not in the black connectors, slide the purple locking piece from the connector and insert the silver pins and gently into the connector (NOTE – Red goes to PIN 2 and Black to Pin 1) and then refit the purple locking tab

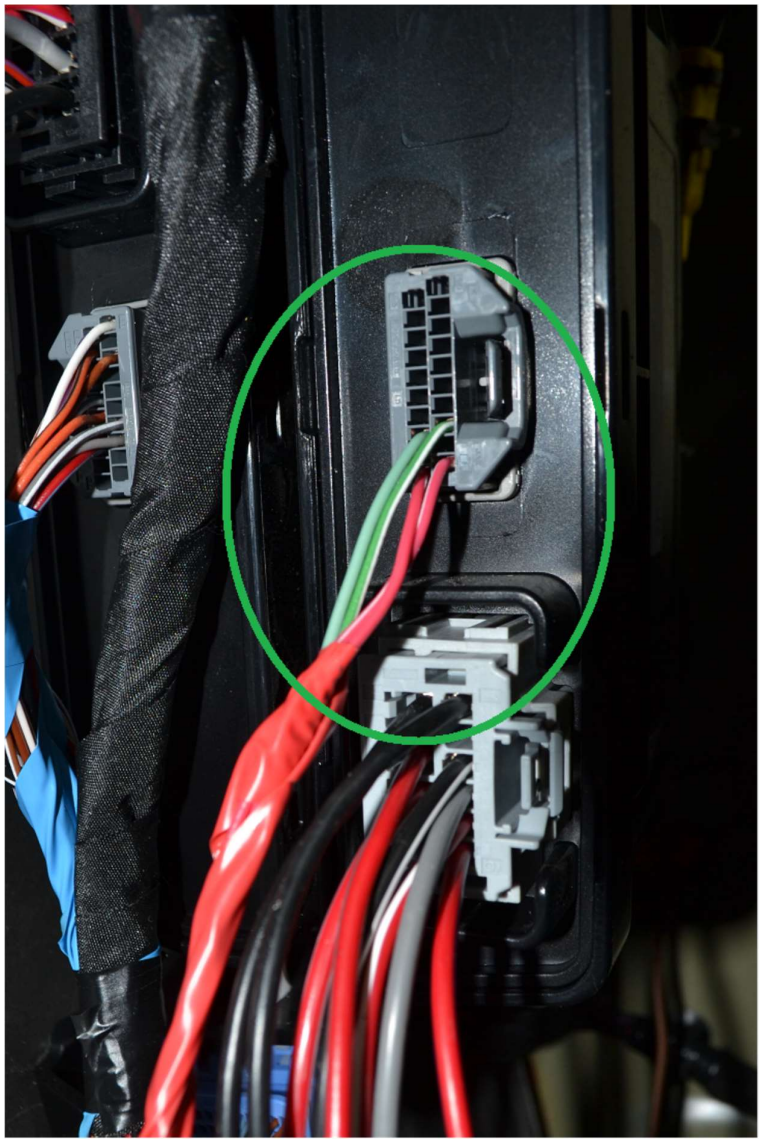


35. Connect to the plug on the Sound Generator(s) ensure they click in place and secure the cable with the supplied cable / zip ties, repeat for the left-hand sound generator as well, running the cable around the back of the vehicle along side the existing cables.

36. Now locate a suitable earth point and connect the brown wire with round ring connector to the vehicle's chassis



37. Using the Red Posi Lock connector locate the following pin on loom on the right hand-side of the vehicle.



Green with White Tracer = CANBUS High – Connect the Orange with Black Tracer Wire on the loom

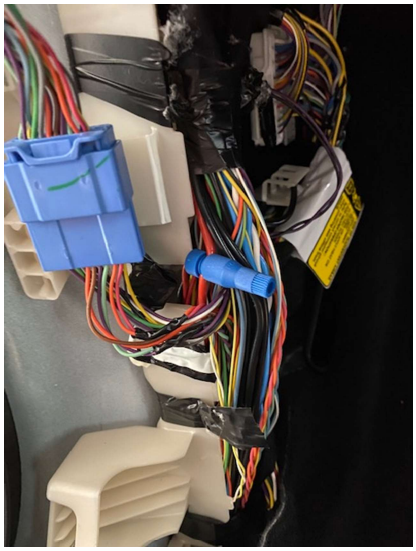
Solid Green = CANBUS Low – Connect the Orange with Brown Tracer Wire on the Loom

Note – Alternative colours are sometimes used for the CAN BUS wiring for the Active Sound kit as outlined below: -

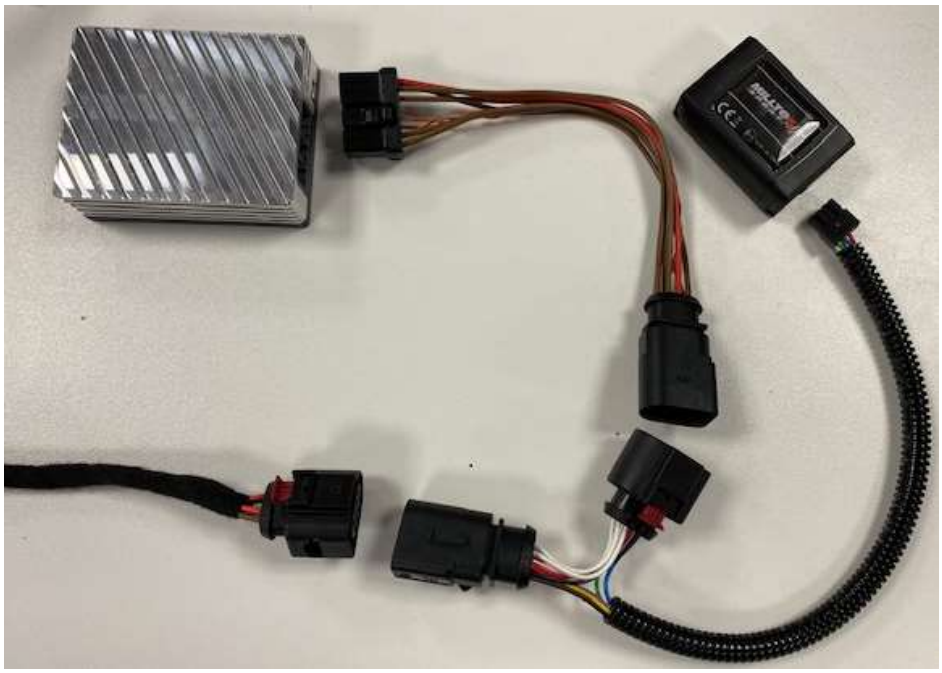
Blue with Red Tracer = CAN BUS High Green with White Tracer

Red Solid Wire = CAN BUS Low Solid Green

38. Now connect the 12v Red cable to a suitable 12v Switch Live feed, this can vary depending on the age of the vehicle, but is normally found in the main loom near the CAN BUS wires and will be thick Red with White or Grey Tracer, connect using the supplied Blue POSI-Lock connector, **always test with a 12v circuit tester or Multimeter first!**



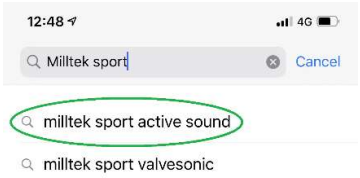
39. Next Connect the modules to the loom as shown below

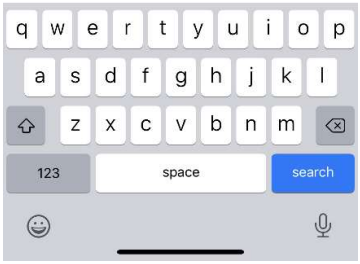


40. The system is now ready to be tested, it is highly recommend you test before fully re-installing the trim panels etc, however to prevent any errors you should loosely re-install the rear bumper and connect the parking sensor cables back together to prevent any errors or fault codes being stored.

- **Setting up the App and Testing the Active Sound System**

1. On your Smart Phone visit the Apple App Store or Google Play Store and search for “Milltek Sport” and select “Milltek Sport Active Sound”

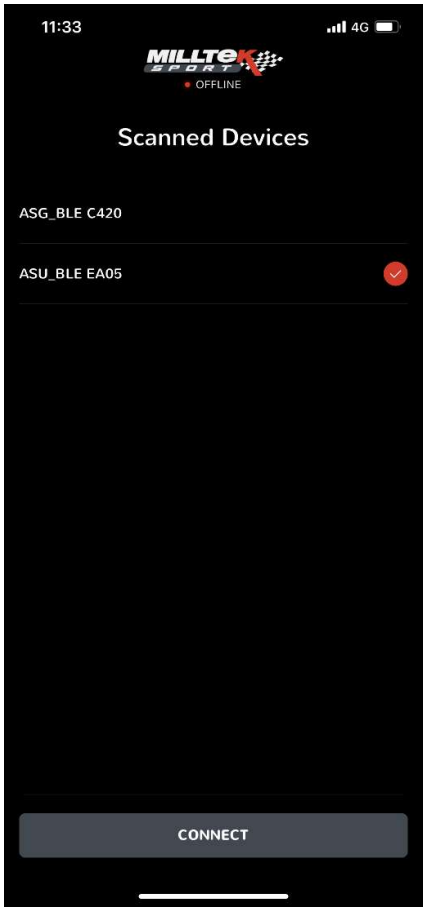




2. Download and install the app (Free of charge), before opening ensure your devices Bluetooth is enabled, if you open the app without Bluetooth enabled it will prompt you, close the app switch Bluetooth on from your devices system menu and restart the application.

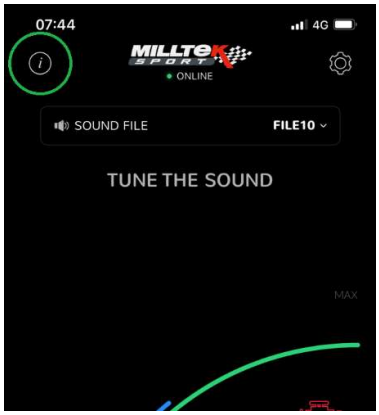
3. Get into the driver’s seat and press the brake pedal to wake/power the car back on, **do not engage “Drive” or attempt to move the vehicle at this time.**

4. Open the application and it will go to the Device selection screen, if all connections have been made successfully the app will show two available devices: -

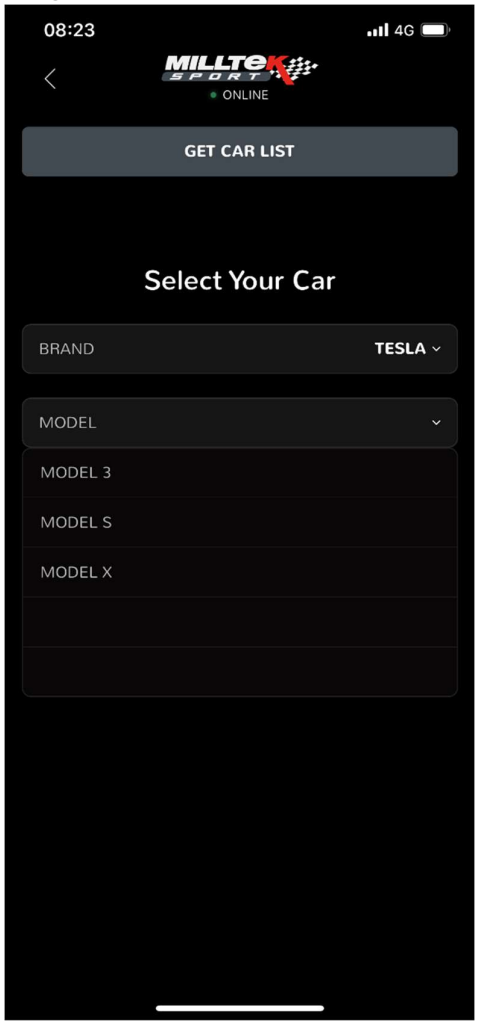


5. Select the device name that starts with “ASU_BLE XXXX” and click on Connect. When Prompted enter the default passcode of “0000”.

6. Now press the “I” icon at the top left of the app screen



7. Then select “Download Manager” and click on “Get Car List”



8. Now select the Make “Tesla”, then the Model “Model S” and click on download, the control module will be updated with the latest settings for your vehicle, once complete you will get a message confirming.

9. Now return to the App’s main where you can configure the settings. To test ensure the Volume is set to at least 50% by clicking on the Green bar and sliding this higher.

10. Now gain ensuring the car is in **“PARK”!** press the throttle pedal and the Sound generators should respond to your throttle input.

11. For a copy of the full operation manual of the Milltek Sport Active Sound App please email info@millteksport.com to request a PDF copy

- **Completing the Installation**

Once the system has been successfully tested, the remaining trim panels can be re-installed in the reverse order of the removal.

It is important to check cables are secure and free from being trapped when the trim is re-fitted, the main loom and modules in the left-hand side rear of the trunk should also be secured with the supplied zip/cable ties.

Once the rear bumper is refitted into place on the top clips only, before the under tray is fixed into place with the plastic rivets and bolts.

- ## Troubleshooting

- **Unable to Connect to the module to test?**

    - Check the 12v power cable and using a multi-meter confirm you have 12v DC on the red wire going to the loom powering the Milltek Sport Active Sound Control modules

    - Check the 10amp Fuse on the loom

    - Check the connections for the loom and module are correct as shown in step 36

- **Module is found in the app but cannot connect?**

    - Check you are entering the correct passcode of 0000

    - Power off the car and unplug the modules for 10 mins and try again

- **Module is found by the App, you can enter the passcode but does not respond to the throttle input?**

    - With only the large Metal module connected to the loom, Check the CANBUS connections and ensure these haven't been switched over, this can be confirmed by the "CAN OK" message within the app select the "Diagnostics" option by pressing the "Cog" icon on the main App screen, if it shows "CAN FAILED" then there is an issue with the wiring connection to the vehicle

- **Module is found by the App, you can enter the passcode but does not make any sound?**

    - Check the connection to the Sound Generators and ensure these haven't been damaged or switched over, this can be confirmed by the "Output 1 OK" for Left Hand Generator or "Output 2 Ok" for Right Hand Generator message within the app by selecting the "Diagnostics" option by pressing the "Cog" icon on the main App screen, if it shows "Output X Open / Short" then there is an issue with the wiring connection to the Sound Generator(s)