

W204 SLA\TSA RETROFIT

The purpose of this document is to define in one document how to retrofit Speed limit Assist \ Traffic Sign Assist to a Pre-Facelift W204. This document is based around my experience and has been compiled through information found on this forum and external sources, where appropriate I will reference other members please be sure to give them your thanks and rep.

This may not be procedurally correct and may or may not work on your car, if you destroy and control units or install the items incorrectly causing problems you accept full responsibility. However, this should be completely safe, the theory is this should be applicable for multiple Mercedes models and generations.

I will cover all parts needed, control units, coding and camera calibration. You must be capable of using Xentry, Vediamo and or DTS Monaco as well as performing firmware updates on control units, I will not cover how to update firmware or how to change variant coding in DTS\Vediamo, if you do not know how do any of this, then this guide is not for you.

Parts required:

Multifunction camera, may require firmware update

If you already have a camera that supports Lane Assist then you should be good to go, however, if you only have the basic camera for Headlight control then you **WILL** require a new camera.

The following parts numbers all work correctly, this list is with thanks to "Gurgle" please give him the rep and thanks as appropriate in this link.

<https://mhhauto.com/Thread-W212-Speed-Limit-Assist-Retrofit>

A0009050138

A0009050238

A0009050438

A0009050538

A0009051700

A0009057302

A0009057402

A0009058200

A0009059600

A0019051600

A0019051900

Full colour cluster (if fitting TSA) may require a firmware update

If retrofitting a used cluster, you must make it Virgin to allow Xentry to perform the initial startup otherwise it will just show ----- for your mileage. There are plenty of threads how to do this and the method is outside the scope of this guide.

Additionally, if you want TSA to function correctly and display all supported road signs and not just speed limits you potentially need to update your cluster firmware. The cluster requires multiple CFF's for the update, please ensure you know how to flash multiple CFF files using Vediamo or DTS.

Comand NTG4 – NTG45 – NTG47 May require firmware updates

I believe it is possible to enable SLA without Comand through some kind of hardware, I guess a CAN Filter, however, I have no knowledge of how this is done.

Windscreen if you do not already have a camera

When I initially installed SLA\TSA I did not have the windscreen with the camera fitting, however, I was still able to retrofit the system and have it fully working by sticking the camera to the window, this is not recommended, in my case it was purely to prove it can be retrofitted before purchasing the new windscreen, this was the most expensive part.

Camera cover

Part Number: A207821637

Wiring loom if you do not already have a camera

The part number for the wiring loom I needed was **A2044405510** this will work for all W204's, however, you will need to check EPC for your model if its not a W204.

Calibration sheet

Please download from here and give "Dublover" thanks and rep for cleaning up this sheet and posting for all members, this sheet is also embedded in this document on the last page.

<https://mhhauto.com/Thread-calibration-board-for-Mercedes-Lane-Assist-ILS-Night-View-etc?page=2>

Firmware

I would recommend updating all control units involved with SLA\TSA to ensure compatibility, I found issues with out of date firmware causing issues with communication between modules and limiting functionality.

Be sure to update the following control units

MPC212	-	Multifunction camera
IC_204	-	Instrument cluster
CGW	-	Central gateway
SAM-F	-	Signal acquisition module front
HU_45	-	Comand

Xentry software

Vediamo or DTS Monaco software

Method:

DISCONNECT YOUR BATTERY YOU WILL BE WIRING INTO THE SAM

First please remove the windscreen pillar cover, panel under the steering column where the OBD port exists and the right or left door sill cover, right if your car is RHD left if LHD.

The first item you need to install is the appropriate wiring loom, you will need to run the wiring loom from rear view mirror down to the CAN distribution point and then into the front SAM.

Please leave approx. 20-30cm of wiring free by the rear-view mirror, then depending if your car is RHD you will follow the right-hand pillar down to the dash if LHD then follow the left pillar down to the dash.



Feed the wiring behind the dash following the existing wiring and pull it down into the drivers footwell, cable tie the new wiring to the existing loom in the window pillar, be very careful of the curtain airbag.

Once the wiring is into the footwell lift the carpet to gain access to the existing floor wiring, you will see a number of black plastic covers that can be opened by pressing the clips to reveal the actual wiring and the CAN distribution port.



You will connect the green and yellow/green wires to CAN distribution port X30/30, you cant actually get this wrong the plug wont fit into the wrong port.

Lift the carpet by the front of the driver seat and you will see the ground point where the brown wire will bolt onto.



Neatly pack the wires into the floor with the main wiring and close the covers you will now be left with a red/black wire, feed this through to the front SAM.

Open the bonnet and remove the SAM cover with the two clips, if you look towards the back of the SAM you can see a piece of foam that sits between the SAM and passenger compartment. You can remove this from under the steering wheel in the passenger compartment to allow the wiring to be fed through to the SAM.



You need to connect this wire to connector 21 pin 8 this is the yellow connector underneath the SAM. It will then be fused by fuse f13 7.5a



To access the underside of the SAM there are 4 screws one in each corner, please note there are plastic turrets around the screws, I removed these to get access to the torx screw then realised they are there to STOP screws falling into the SAM, please DO NOT remove these turrets and use long reach Torx bits.



Assemble everything in the reverse order and ensure all wiring is safely tied away.

Install the Camera and connect to the new loom, reconnect your battery and now you are ready for the updates and coding.

These next steps may or may not be in the correct order, this worked for me.

First, I would recommend updating all the control units involved, please, please make sure you back up the variant coding before proceeding. Especially the CGW and SAM, they will lose their coding and manually trying to correct this will be difficult.

When I updated my CGW and SAM units I recoded them with online SCN coding.

I also recommend updating the CGW and SAM due to them using the same software release numbers this seemed too coincidental to me, I also updated the rear SAM to match.

Once updated the following variant coding worked for me

HU_45

VCD_HU_Parameter

Speed Limit Information = OFF (this caught me out)

MPC Speed Limit Display = ON

Map Horizon Data = BASIC

Map Horizon Interface = SLA

Hard Reset the control unit

SAM-F

No coding required in my case, I mentioned this to make sure the firmware versions get updated with the CGW

CGW

VCD_02_global_variant_coding

Speed Limit Assistant = AVAILABLE

VCD_05_verbaute_Steuergeraete_Soll_Chassis

MPC = AVAILABLE

Hard Reset the control unit

IC_204

VCD_05_Variantenkodierung

Strassenschilderkennung (TSA Version) = TSA or SLA accordingly

VCD_06_Menueaktivierung

Speed Limit Warnassistent (Menu Speed Limit Assist Messages) = Vorhanden

VCD_07_Menue_Werkseinstellungen

Speed Limit Assistant (Speed Limit Assist_FactDef) = ON_WARN

VCD_Aktuelle_Menueeinstellungen

Speed Limit Assistant (Speed Limit Assist) = ON_WARN

Hard Reset the control unit.

MPC_212

VCD_Fahrzeugdaten

Baureihe = BR204 in my case, match your car

Hard reset the control unit.

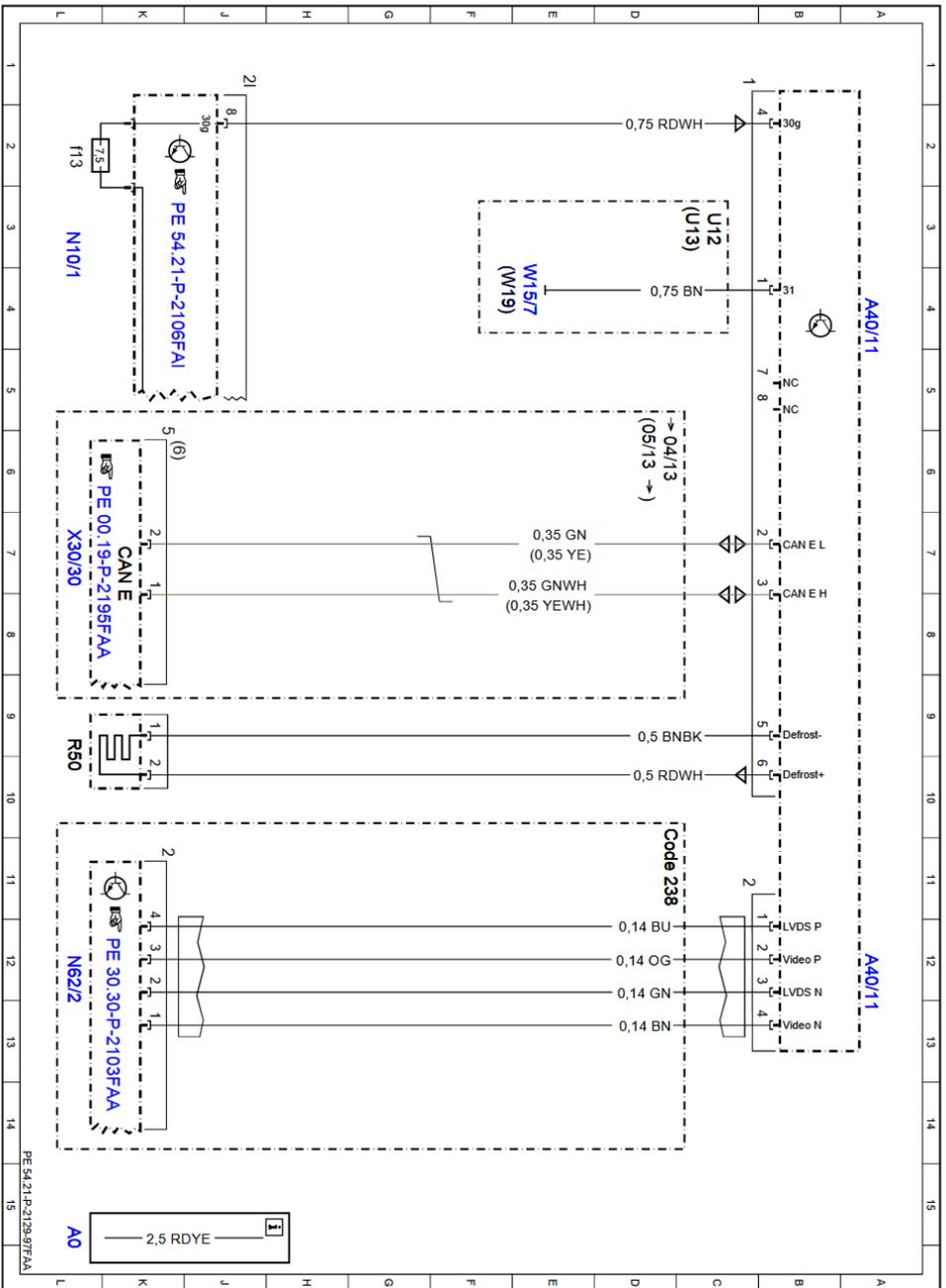
Finally, you will need to calibrate the camera.

To do this print the calibration sheet onto A4, DO NOT resize or print to fit etc. this sheet needs to be mounted exactly 50.2 inches from the ground measured to the central cross, place it onto a hard backing of the same size and connect to a post, then place the post in the centre of the car touching the bumper, it is critical the car and calibration sheet are exactly level.

Then use Xentry to access the camera and go to Adaptations, perform the "teach In" to calibrate the camera, this will then walk you through the calibration, you do not need an online account to do this.

If everything has gone well you will now have SLA or TSA in your cluster and on the Map in Comand.

I had a lot of difficulty getting the limits to display on the Comand unit, this ended up being down to the CGW and SAMF firmware.



© Daimler AG, 9/19/19, L/11/18, p054.21-P-2129-97FAA, Wiring diagram for multifunction camera
 MODEL 204 as of model year 2012 with CODE 238 (Active lane keeping Assist) with CODE 476 (Automatic lane recognition) with CODE 913 (Speed Limit Assist) with CODE 608 (Adaptive Main Beam Assist) Control unit A40/11

Document number : ps54_21-p-2129-97faa
Document title : Wiring diagram for multifunction camera

Code :	Designation :	Position :
A0	Color code key	15L
A40/11	Multifunction camera	4A
A40/11	Multifunction camera	12A
CAN E	Chassis CAN	7K
Code 238	Active Lane Keeping Assist	10D
N10/1	Front SAM control unit with fuse and relay module	3L
N10/1ff13	Fuse 13	2L
N62/2	Video and radar sensor system control unit	12L
R50	Auxiliary heater heating element	9L
U12	Valid for left-hand drive vehicles	3C
U13	Valid for right-hand drive vehicles	3C
W15/7	Right front footwell ground point	4E
W19	Right front seat crossmember ground point	4F
X30/30	Vehicle floor chassis CAN voltage distributor electrical connector	7L

