

HOW TO INSTALL AN ANDROID RADIO in RENAULT ZOE 2012-2019 („ph1“)

Version: 16. January 2022

FOREWORD

This manual was created to the best of my knowledge.

While this is a manageably simple modification. However, this should only be done by someone with sufficient knowledge and/or accompanied by such a person!

"Half knowledge" and errors excepted. Use at your own peril and risk!
Mistakes happen. Even if careful work was done by creating this manual, errors can never be ruled out!

This guide is free for anyone to use it.

Commercial or commercial like use, sale in any form, or similar use without my express consent, and plagiarism is prohibited and will result in legal consequences!

Changes and corrections to the instructions are possible due to new findings.

Please always check up the current version in my EVWIKI at <http://a68k.de/evwiki/> -> Zoe.

These instructions refer to the Renault Zoe model "phase1" (2012 - 2019) and the Android radio I purchased and may vary depending on model.

Videos of this conversion on my YouTube channel: http://youtube.com/c/a68k_de should be watched before the conversion in order for better understand the processes and connections described here.

It should also be borne in mind that each Android radio could be connected differently.
This information is therefore only to be regarded as the basis for a conversion.

If you are unsure, please feel free to contact me:

- a) Twizy-Forum User „Binkino“
- b) Going Electric Forum User „Binkino“
- c) contact form on my EV-Wiki site <http://a68k.de/evwiki/>

CONTENTS:

Page 2	Removal of the previous components, preparations in the vehicle
Page 3	Modification at the vehicle
Page 4	The assignments / connections of the plugs
Page 5	Wiring harness schematic
Page 6	More setup tips
Page 7	Preconditioning / time and temperature display
Page 8	Parts used in my conversion:
Page 9	Final circuit and wiring diagram

NOTE - For better understanding:

- „R-Link slot“ means the place in the dashboard, where the R-Link was installed. The hole on the dashboard, where all your wiring is coming out.
- The „awake positive“ is the +12 Volts, that are available, as the car is „awake“. Not the battery plus, not an „ignition / ACC plus“.
- Parkingbrake = emergency brake = handbrake

REMOVE THE RADIO:

As shown in the videos, the glove compartment must be removed in order to then remove the actual radio. The radio is held in place by two Torx head screws. The left screw is a bit more difficult to loosen, so a Torx bit that is as short as possible is recommended. Pull the radio out downwards and unclip the plugs on the back. There is a 32-pin plug (communication, audio, CAN bus) on the radio that is no longer required. A thicker 12-pin connector for the speaker and power supply of the radio, which must be extended into the R-Link slot, as well as the radio and GSM antenna connectors (yellow = GSM, white = radio)

REMOVE THE R-LINK:

To remove the R-Link screen, the front panel must be removed. To do this, first pull hard on the side at the bottom, then unclip at the top. But don't tug on it too hard, as the climate control and the R-Link control are still connected! Unclip these connectors and put the cover safely by side.

The R-Link monitor is attached to the rear half of the shell with four Torx screws, two on each side. Unscrew them and put them also safely by side. The monitor is now held on the side by plastic tabs in the frame, lift these slightly to release the monitor.

Pull out the monitor and unclip all connectors:

Here you will find a 24-pin plug (power supply, communication, audio), the GPS antenna (blue round plug) and two of three USB plug connections (brown = TCU, black = USB in storage compartment)

Put the R-Link Monitor put them also safely by side.

REMOVE THE REAR PANEL:

The rear bezel is held in place by five Torx head screws. Unscrew them and keep them safe for later use.

PREPARATIONS IN THE VEHICLE:

As shown in the 3rd video, an extension must be set up for the speaker and power connection. Connect this with the 12-pin connector and, together with the two aerial cables, get them out of the glove compartment area up into the R-Link slot and pull them out to the front.

It is currently the easiest way to use two ISO adapters (see page 4)

Antenna plug white = radio

Antenna connector yellow / brown = GSM

Antenna plug Blue = GPS

NOTE: The Zoe GSM antenna is apparently only capable of LTE in metropolitan areas.
I recommend using the supplied antenna for this!

Seite 3 Modification at the vehicle

As shown in the video, three signals have to be picked up from the vehicle:

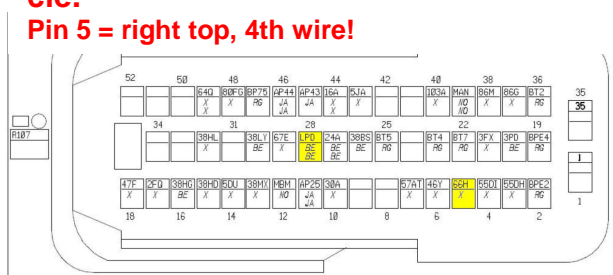
- Parking light
- Reversing light
- Handbrake

The handbrake signal can be found in the center console below the handbrake handle, the two light signals on the left side below the fuse box on connector R107.

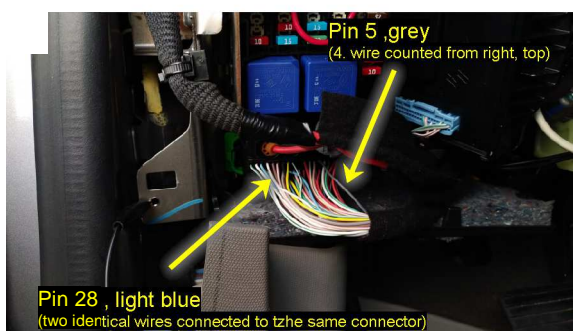
The handbrake signal is connected with a flat plug tap and routed up to the R-Link slot. The light signals must be tapped off at plug R107.

This Representation is upside down, compared to the connector in the vehicle.

Pin 5 = right top, 4th wire!



Pin 5 = reverse light
Pin 28 = parking light



To ensure that the correct wires are used, the signals must be tested with a measuring device or test lamp (see video)

In the connection to the Android radio, blocking diodes have to be inserted in series in the wires to the radio. Simple "universal diodes" (1N4148) are completely sufficient for this, any other equally functioning diode (rectifier diodes, etc.) also fulfill the purpose.

Parking light	-----	>	-----	„ILL“ at Radio
Reverse light	-----	>	-----	„Reverse“ at Radio
Parking brake	-----	<	-----	„Parkbrake“ at Radio

(This is mentioned later as "extra wiring"!)

Diodes have an anode and a cathode.

In series, the anode lets through a positive voltage, but not a negative voltage.

In series, the cathode lets through a negative voltage, but not a positive voltage.

Anode --- > | --- Kathode (The component has a printed ring on this side)

In the course of the modification, it was found that the radio was feeding undefined voltages back into the vehicle system on the three lines, resulting in malfunctions. It is therefore advisable to use the diodes in the lines in any case. Due to the diodes, the radio can no longer feed the parking light, reversing light or handbrake signal into the car.

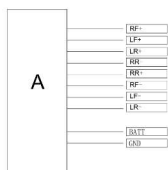
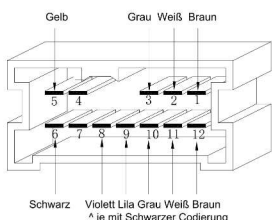
Note that the handbrake signal is connected to ground (minus/negative) and the diode must therefore be used in the opposite direction to the light lines (see above).

Depending on the Android radio model used, the connections shown here may differ or be labeled differently.

Loudspeaker connection (can easy be extended 1:1 with ISO-DIN adapters!)

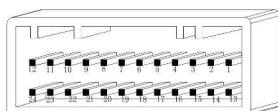


12 Pin Stecker, Lautsprecher und Spannungsversorgung



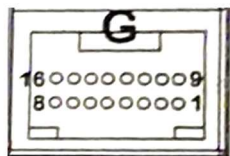
- yellow = battery always hot -> yellow to Radio
-> yellow to Can-Decoder
- black = negative / chassis ground -> Radio
-> Can-Decoder
-> Pin 7 24 pin conenctor
-> Pin 19 24 pin conenctor

24 Pin Stecker Stecker anstelle R-Link



- Pin 1 = CAN High -> Can Decoder
- Pin 2 = CAN Low -> Can Decoder
- Pin 6 = + 12 Volt ACC -> 1 pin connector to Radio
- Pin 7 = negative / chassis ground (if used, black)
- Pin 18 = Rear view camera signal -> RCA connector, inner wire
- Pin 19 = R.v. camera negative / chassis ground , black -> Radio
- Pin 20 = Rear view camera +12 Volt -> signal reverse light
- Pin 21 = Rear view camera signal shielding -> RCA connector shielding of the wire

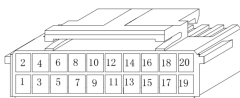
Connector to Android Radio



Pin 5,6,7,8,13,14,15,16 = loudspeaker = unchanged to the 12 pin connector

- Pin 1 = negative black
- Pin 2 = Schaltplus red 1 pin connector to the 24 pin connector (see extra wiring)
- Pin 3 = Rückfahrlicht brown
- Pin 4 = -
- Pin 9 = + 12 battery yellow
- Pin 10 = ILL (parking light) orange (see extra wiring)
- Pin 11 = -
- Pin 12 = Ant./Amp. blue (i.e. amplifier or other equipment. Front camera?)

Connector to Can-Decoder



- Pin 1 + 12 battery yellow -> all yellow wires together
- Pin 2 negative black -> all black wires connected together
- Pin 3 Can Low green -> Pin 2 at 24 pin R-Link connector
- Pin 4 Can High green/black -> Pin 1 at 24 pin R-Link connector
- Pin 5 +12V ACC red -> Radio and 1 pin. connector
- Pin 6 ILL / park.light orange -> (see extra wiring)
- Pin 7 Reverse light brown -> (see extra wiring)
- Pin 8 „Parking“ pink -> parking brake, (see extra wiring)
- Pin 9
- Pin 10
- Pin 11
- Pin 12 Reverse camera orange -> (not used, don't work)
- Pin 13
- Pin 14 Can, Radio , white -> small white 8 pin. connector to Radio
- Pin 15 Can, Radio , white/black -> small white 8 pin. connector to Radio
- Pin 16 +12V switched red -> (not used, don't work)
- Pin 17
- Pin 18
- Pin 19
- Pin 20

Seite 5 Wiring harness wiring diagram

When adapting the present radio wiring harness, proceed as follows:

If available, the gray cube-shaped plug connection is not required and can be unclipped from the plug to the CAN decoder (see video), as this is not used.

Cut the brown wire at the CAN decoder and connect the brown wire (to the radio) with the positive 12V wire for the rear-view camera from the vehicle's wiring harness and connect a blocking diode in series.

The orange wire at the CAN decoder has to be connected to the vehicle parking light, a blocking diode is to be connected in series here.

The handbrake signal is picked up at the handbrake with a blocking diode connected in series to the pink wire "Handbrake" or "Parkbrake".

Can High and Low is picked up from pins 1 and 2 at the 24-pin R-Link connector and wired to the Can-Decoder.

The video signal from the car's reversing camera can also be tapped off at the R-Link plug and connected to the radio using a RCA plug.

If you also want to see the reverse camera image on the radio screen while driving forwards, the reversing camera must be wired to the "awake positive" or the antennas/amplifiers 12 volt radio output (blue wire). It is not known what consequences a continuous operation of the reverse camera can have. The „360“ app shows this video image.

If a front camera is installed, the cinch CVBS video input on the breakout cable must be used. The image can then be displayed on the screen using the "AV1" app.

The Pin 6 of the 24 pin "R-Link" connector carries a permanent positive 12 volts, like the wire of the 12 pin radio speaker connector. This must be changed in the fuse box, for example, otherwise the radio is always on. For this purpose, a adaptor bridge can be made to the left contact of slot 26 with a fuse thief on slot 29 and the 15 ampere fuse of slot 29 and slot 26. As a result, the 24-pin "R-Link" connector is now supplied with 12 volts when the vehicle is "awake". (see my video on this!)

Wiring Description:

The supplied wiring harness must be modified as follows:

As shown in the video, the 24 pin "R-Link" plug of the radio wiring harness must be mechanically modified by removing the coding lugs.

All of the strands in the 24 pin plug must be unclipped, as can be seen in the video.

The unclipped strands are re-inserted on the 24-pin connector as described in the plan.

The brown wire on the plug to the CAN decoder must be cut and isolated on the decoder.

This line is connected to the tap in the vehicle via a blocking diode.

The pink "PARKING" line is connected to the handbrake switch via a blocking diode.

The single connector with the red wire is connected between the radio and the R-Link connector. The plug from the Can Decoder is not used!

"Extra wiring"

As already described on page 3, the three signals picked up must be brought to the radio via diodes.

Parking light pick-up	----- > -----	"ILL" on the radio
Reversing light pick-up	----- > -----	"Reverse" on the radio + rear-view camera supply
Pickup handbrake	----- < -----	"Handbrake" on the radio

Due to the variety of Android radios, I cannot go very deep into the subject here. The instructions supplied are mostly to be rated as average and only provide sparse information, especially on vehicle-specific equipment.

In my case I had to select the Can type "117" for Zoe in the car settings.

The steering wheel operation was recognized and the control works.

Depending on the radio, there may be different executions of commands, such as the "call button" on the steering wheel. In my case Google's voice recognition opens here. To what extent call control is possible, I have not yet tested at this point in time.

In the settings there is usually also a setting menu to change the assignment of the function of the keys.

Overall, the steering wheel control for volume, source selection, ... behaves quite similarly to the R-Link, although you often have to be patient if the control reacts with a delay.

The small raised button between the volume rockers only acts as a mute button. In my case, calls cannot be started / ended via this without changing the configuration mentioned.

All apps can usually be installed in the Android radio, as they can also be installed on the Android phone. Which can also be one of the main reasons, for example, if you want to use the EV charge navigation apps on the large display without further restrictions and depending on the variable grace on the part of Google.

If you have installed an OVMS in Zoe, you can also use the app and also call up the WebUI of the OVMS via the WiFi connection.

Apps for controlling "Smarthome" and much more, conveniently from the vehicle.

Likewise the well-known CanZE.

Most radios with the OBD2 Bluetooth adapters available today are likely to have pairing issues.

My guess, Google (or the developers) apparently decided at some point that the user only has to connect multimedia devices. The reasons for this are incomprehensible.

With the previously tested 7" Android radio with Android version 7.1, I was able to "pair" all OBD2 adapters.

I had now tested several "dongles". The "Junsun" dongle recommended by the radio seller could be "paired" with the radio, but only delivered undefined data from the Can Bus and was therefore completely unusable.

Still only the "Lescars NX-3014-675" (large design!), which has not been available for a long time and is only available second-hand, was able to connect to the radio and deliver usable data to CanZE.



Feedback on working adapters to supplement is welcome!

See also the CanZE info page: <https://canze.fisch.lu/elm327/>

Most Android radios will show the time, date and outside temperature.

Although my radio shows every change in the ventilation/air conditioning system, it is no longer possible to program the air conditioning.

For this purpose, the configuration of the vehicle can be changed using software.

WARNING: CAREFUL CHANGES TO THE VEHICLE CONFIGURATION CAN CAUSE DAMAGE TO THE VEHICLE! I DO NOT ASSUME ANY LIABILITY FOR THIS!

Using the DDT4ALL software, a connection is established via the OBD2 connection and it can be set in the control unit that the clock, outside temperature and programming of the air conditioning are displayed in the information area of the instrument unit.

Method:

- In DDT4ALL, select Zoe, "Tableau de bord" (TDB) control unit, select "TdB_X10_V1.12"
- In the lower window "Ecran Configuration" in the submenu "Config Generale 01"
- Scroll all the way down in the large window.

To show the time:

- In "Config Generale_montre" select "montre 24 heures" in the right selection
- Click "Expert mode" at the top and click "Montre" to the right of the setting you just changed.

To display the outside temperature:

- Select "Config Generale_Affichage temp exter" in the right selection "sans affichage temperature" and click "Temperature exterior" to the right of the setting you just changed.

To prevent the ads from overlapping:

- Select "Config Generale_NAV" in the right selection "sans NAV (par default)" and click on the right of the just changed setting "NAV".

From now on, pre-entry climate control can be selected and adjusted in the small display, using the buttons on the right-hand steering column switch.

Nice side effect: In some Zoe, the "Driving ECO² value" is shown on the speedometer display after the end of a drive.

**As already mentioned, use and modifications at your own peril and risk.
An incorrect setting CAN paralyze or even damage the vehicle or parts of it!**

Please use my affiliate links. It doesn't cost you any more, but I get a few cents here and there. Nothing is for free, please be so fair. Thank you! Since Amazon acts strangely here, when there are not enough "sales", the links can change. Current links can be found in the most recent document and on my website. The prices are for the current status of the conversion and may vary.

Android Radio from Aliexpress:**AWESAFE PX9S 6 + 128G carplay android auto radio coche con pantalla**

For Renault Clio 4 2012-2016 2 din autoradio GPS Track DAB +

<https://de.aliexpress.com/item/1005003495893052.html>

(bought version: 4GB/64GB/4G-LTE)

No affiliate link available. If you also buy it, write the seller a short "message" that you ordered my conversion and that he would like to show his gratitude to me :D

Adapter from Amazon:**PremiumCord USB adaptor USB A to Mini USB, male to female, M/F, kur-10**

<https://www.amazon.de/gp/product/B07NSMK77X/>

Affiliate Link: <https://amzn.to/3pkajli>

(possible not really needed)

ISO-Renault Loudspeaker adaptor (1x each for the extension!)

<https://www.amazon.de/gp/product/B00U2MBSJS/>

Affiliate Link: <https://amzn.to/3ehU5mI>

<https://www.amazon.de/gp/product/B014CS7XZA/>

Affiliate Link: <https://amzn.to/3mu3An3>

SMA GSM/GPS adaptor:

<https://www.amazon.de/dp/B06XXZ2LTD/>

Affiliate Link: <https://amzn.to/3FmHcnh>

(Contains 2 adaptor = 10,99 Euro)

or (I used)

<https://www.amazon.de/dp/B006QTPY5A/>

Affiliate Link: <https://amzn.to/3H0SqOo>

(1 x = 6,45 Euro)

With the SMA adaptors, consider that only one is required for GPS, as the Zoe's antenna only has limited LTE capability!

Front camera

Car Backup Camera Backup Camera with Excellent Night Vision IP68 Waterproof, Rear View Camera Wide Angle Lens Loop Recording for Cars Trucks Vans RVs 12V

<https://www.amazon.de/dp/B07WPYJMSQ> Affiliate Link: <https://amzn.to/3FOVEVi>

(€ 17,99)

Schalt- und Verdrahtungsplan

Circuit and wiring diagram

