

# **r.LiNK Video-inserter RL5-UCON65**

**Compatible with  
Fiat 500, 500L, 500X  
Jeep Renegade  
Alpha Romeo Giulietta vehicles  
with Uconnect 6,5 inch monitors (VP3 + VP4)**



Beispiel

**Video-inserter with 1 video inputs and 1 rear-view camera input**

## **Product features**

- **Video-inserter for factory infotainment systems**
- **1 CVBS video-input for after-market devices (e.g. DVD-Player, DVB-T tuner)**
- **1 CVBS rear-view camera video-input**
- **Automatic switching to rear-view camera input on engagement of reverse gear**
- **Video-in-motion in drive mode (ONLY for connected video-sources)**
- **Video-inputs NTSC / PAL compatible**

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## Legal Information

By law, watching moving pictures while driving is prohibited, the driver must not be distracted. We do not accept any liability for material damage or personal injury resulting, directly or indirectly, from installation or operation of this product. This product should only be used while standing or to display fixed menus or rear-view-camera video when the vehicle is moving, for example the MP3 menu for DVD upgrades.

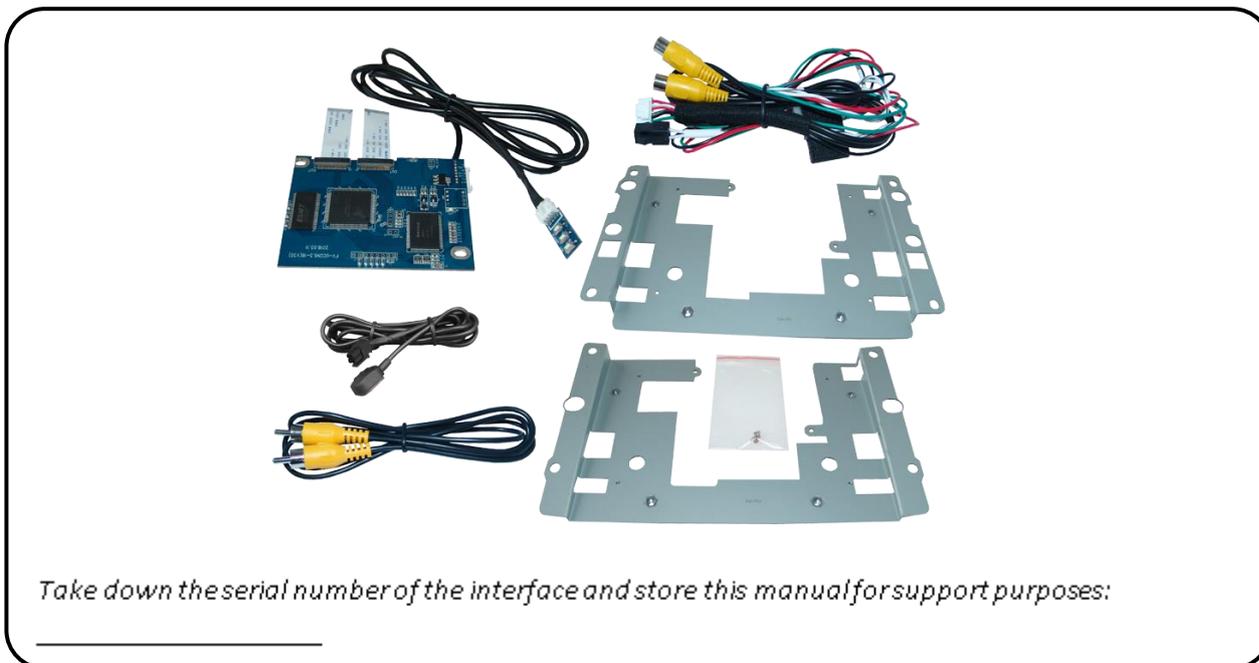
Changes/updates of the vehicle's software can cause malfunctions of the interface. We offer free software-updates for our interfaces for one year after purchase. To receive a free update, the interface must be sent in at own cost. Labour cost for and other expenses involved with the software-updates will not be refunded.

## 1. Prior to installation

Read the manual prior to installation.

Technical knowledge is necessary for installation. The place of installation must be free of moisture and away from heat sources.

### 1.1. Delivery contents



### 1.2. Checking the compatibility of vehicle and accessories

#### Requirements

Brand	Compatible vehicles	Compatible systems
Fiat	500, 500L, 500X	Uconnect Infotainment with 6,5inch monitor VP3 and VP4 with all in one head unit
Jeep	Renegade since model year 2015	
Alfa Romeo	Giulietta since model year 2016	

#### Limitations

##### Video only

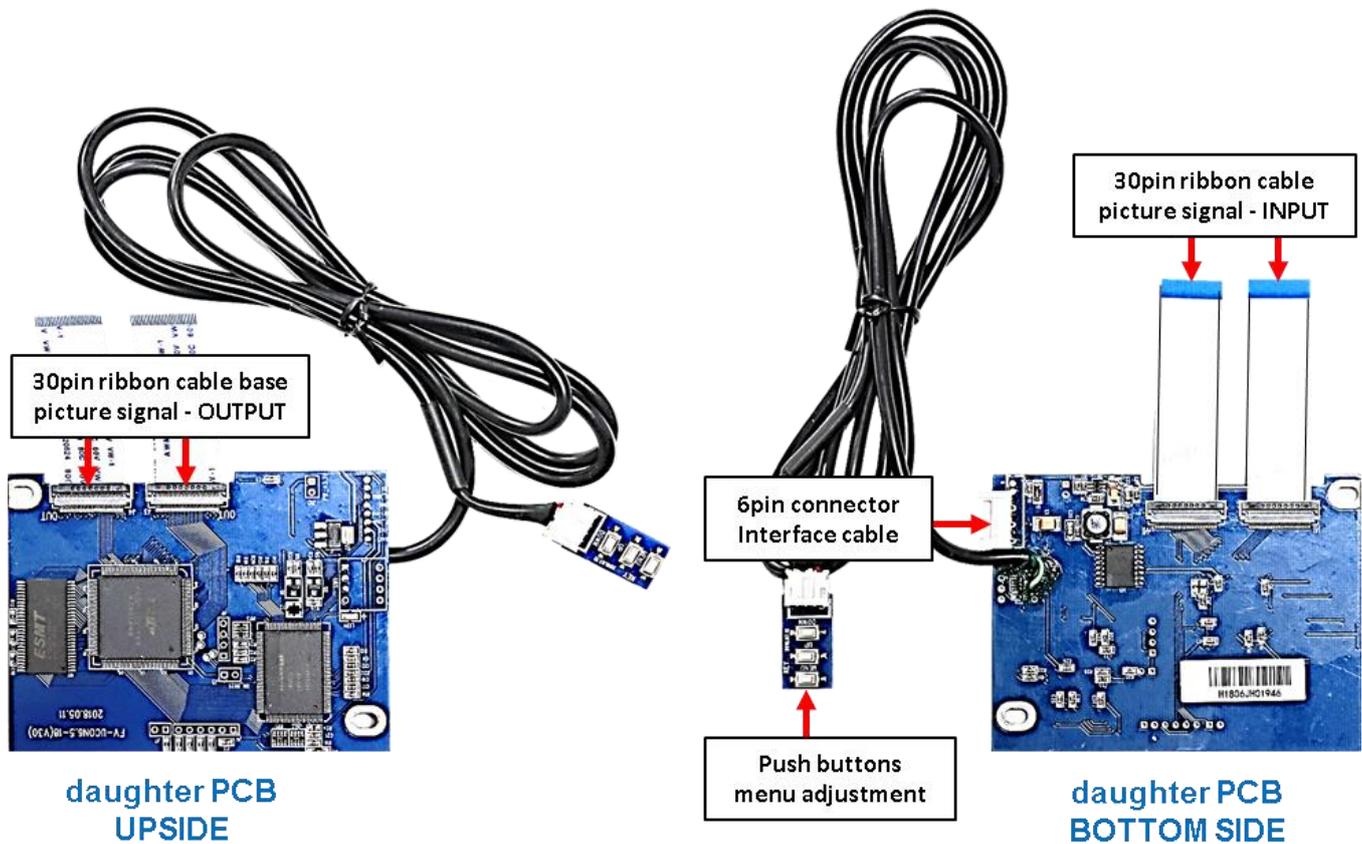
The interface inserts ONLY video signals into the infotainment. For audio insertion factory-audio-AUX-input or a FM-modulator is required.

##### Factory rear-view camera

Automatic switch to factory rear-view camera only while reverse gear is engaged. To delay the switch reset, additional electronics is required.

### 1.3. Connectors – Video interface (daughter PCB)

The video-interface (daughter PCB) converts the video signals of connected after-market sources in a factory monitor compatible picture signal which is inserted in the factory monitor, by using separate trigger options.



## 2. Installation

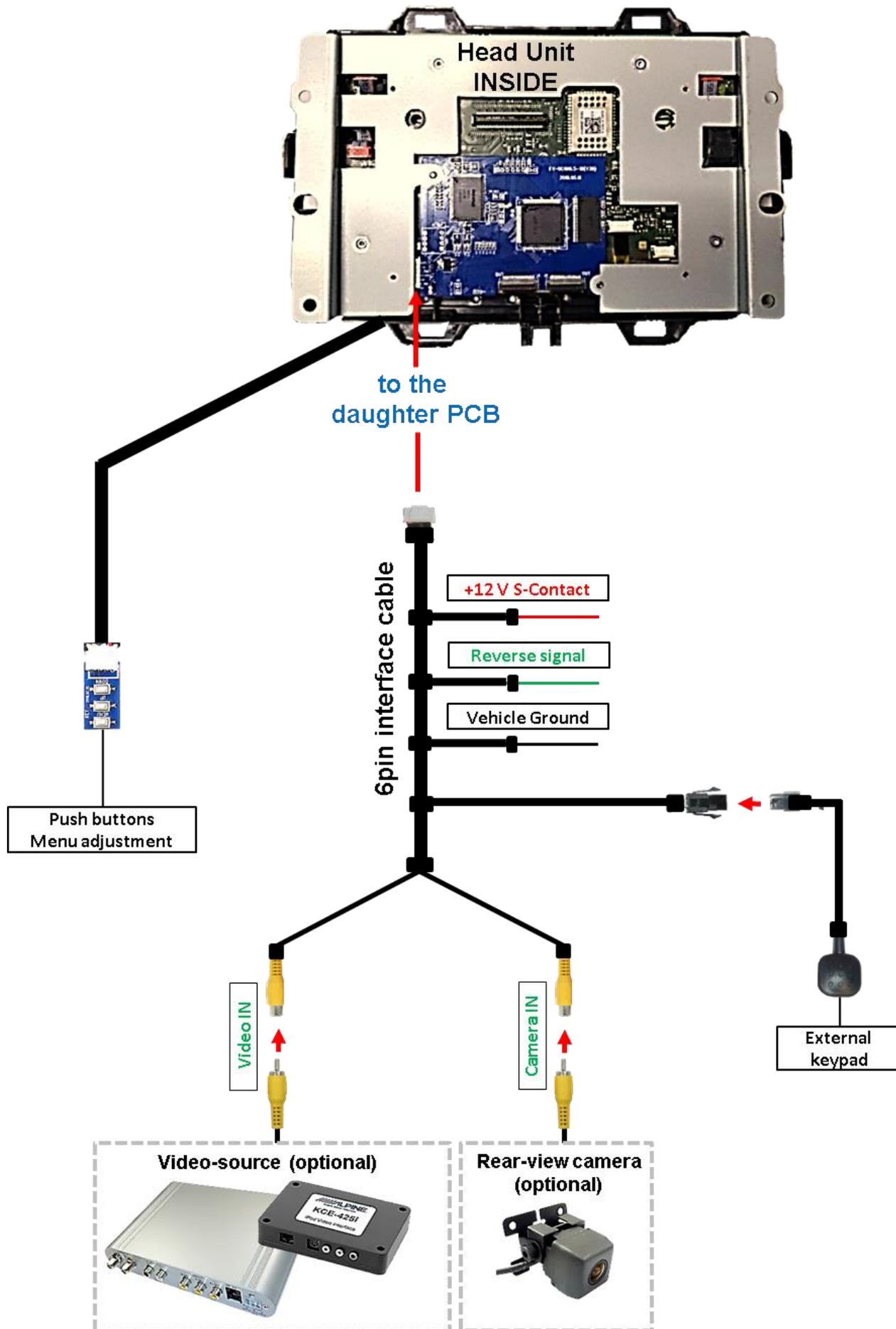
**Switch off ignition and disconnect the vehicle's battery! The interface needs a permanent 12V source. If according to factory rules disconnecting the battery is to be avoided, it is usually sufficient to put the vehicle to "Sleep-Mode". In case it does not succeed, disconnect the battery with a resistor lead.**

**If power source is not taken directly from the battery, the connection has to be checked for being start-up proven and permanent.**

### 2.1. Place of installation

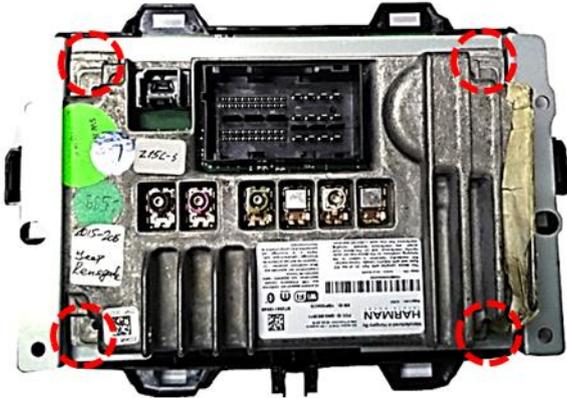
Both daughter PCB shall be installed and connected inside the head unit's housing by using one of the delivered exchange metal plates.

2.2. Connection Scheme



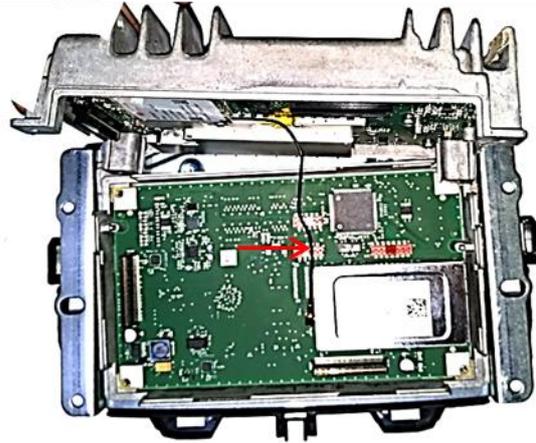
### 2.3. Installation – daughter PCB

Remove the factory head unit and carry out the following mounting-steps.



1

Turn out the 4 screws at the rear-side of the head unit.



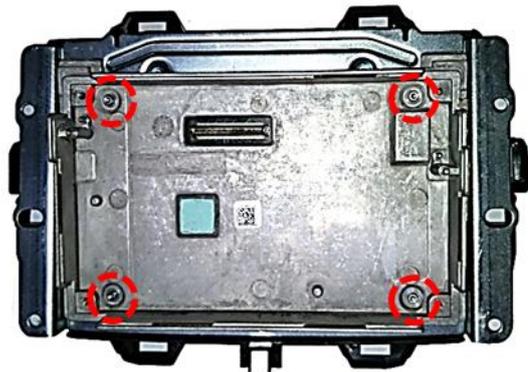
2

Carefully, remove the back metal cover and disconnect the small wire at the main PCB board to completely separate both parts.



3

Remove the back cover together with the main PCB as shown above.



4

Turn out the 4 screws from behind the screen and remove the metal frame.



5

Turn out the 4 screws of the original metal plate to replace it with the provided plate.

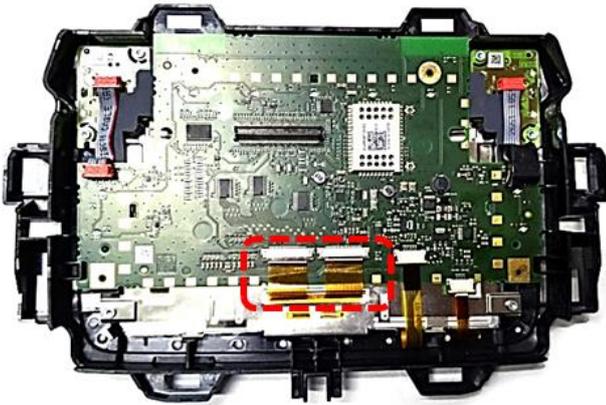


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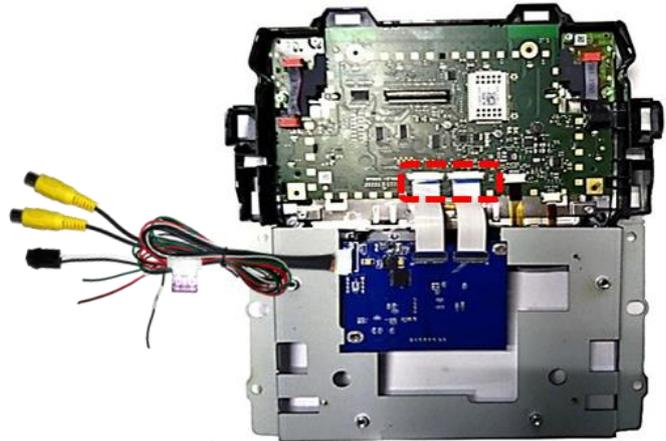
Take special care to choose the according metal plate. One supports the VP3 system and the other one is for VP4 systems.

**VP4 Frame suitable for:** Fiat 500X (334), 500L (330), Jeep Renegade, Alpha Romeo Giulietta

**VP3 Frame suitable for:** Fiat 500 (312)



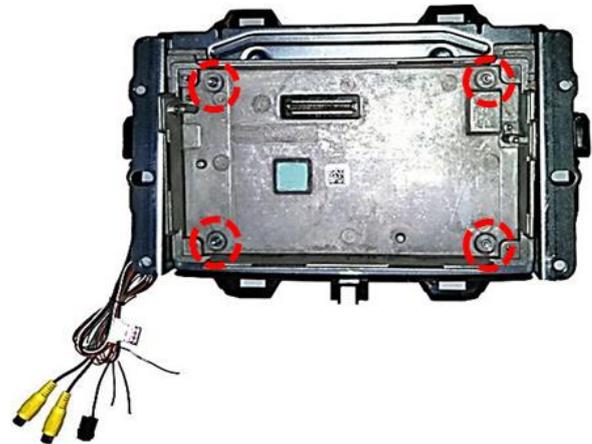
**7** Carefully, clip out and disconnect both 30pin ribbon cables at the mainboards ribbon cable base.



**8** Connect and clip in both preconnected 30pin ribbon cables "IN" of the daughter PCB at the previously become free ribbon cable bases of the mainboard.



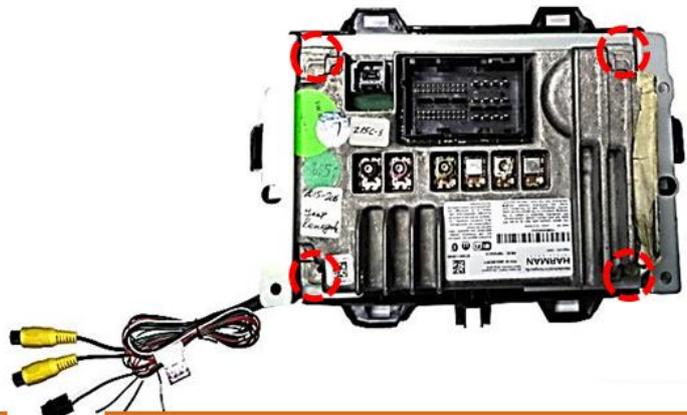
**9** Connect and clip in both 30pin ribbon cables of the monitor to the daughter PCB's ribbon cable bases "OUT" and screw the metal frame in place.



**10** Mount back the original head unit's metal frame and fix it by using the four screws. During all steps, pay attention for the interface cable's clean outleading!



**11** The video RCA can be routed through the gap at the top left corner of the system.



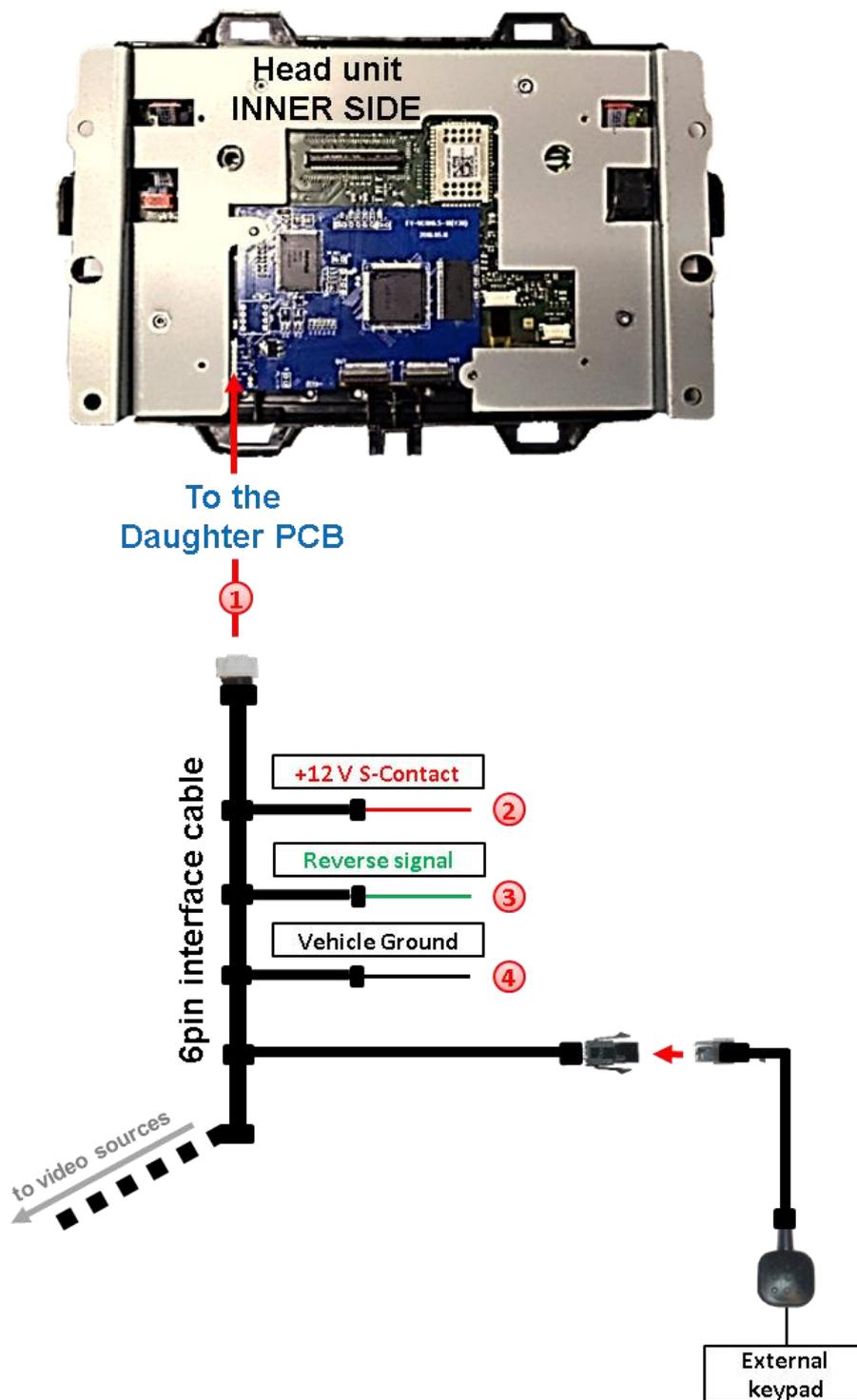
**12** Mount back the head unit's original back cover and fix it by using the four screws. Again take care to keep the interface cable in place.

### 2.3.1. Warning notes, concerning the installation of ribbon cables

1) The contacting ends of ribbon cables always have to be installed in a straight and precise 180° position to the connector. Each deviation from a perfect contact position will cause faulty contact and even danger of short circuit

2) The ribbon cable's contacting side always has to correspond to the contacting side of the connector, concerning the mounting position.

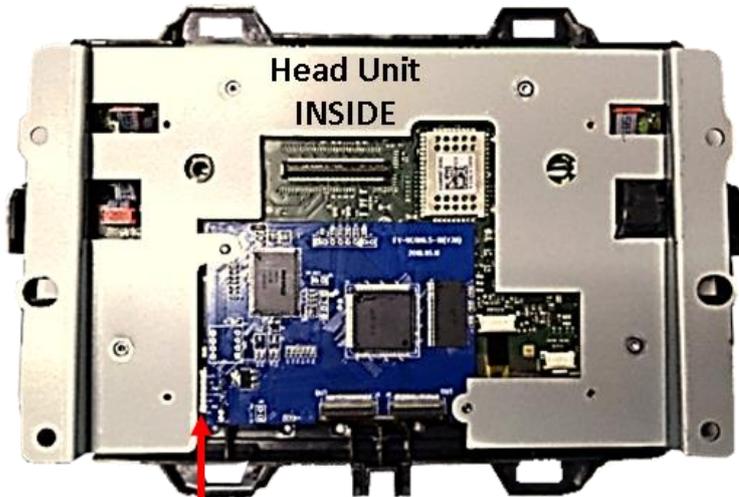
2.4. Connection – 6pin interface cable



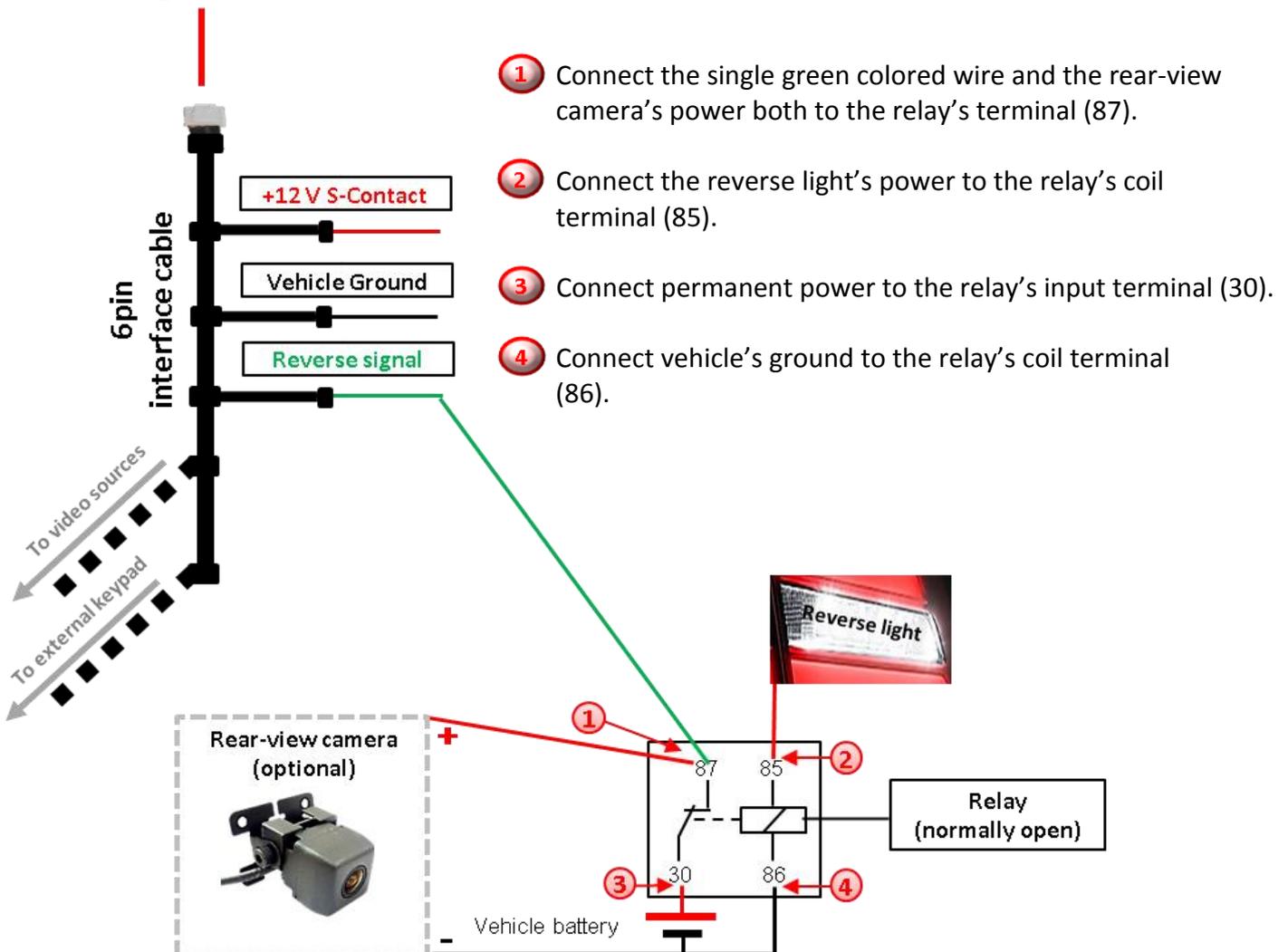
- ① Connect the 6pin interface cable's 6pin connector to the 6pin connector of the daughter PCB 1.
- ② Connect the 6pin interface cable's single red colored wire to **S-Contact terminal 86s +12V** (e.g. glove compartment illumination).
- ③ Connect the 6pin interface cable's single green colored wire to **+12V reverse signal** (see following chapter).
- ④ Connect the 6pin interface cable's black wire to vehicle Ground.

## 2.5. After-market rear-view camera:

To switch the interface's rear-view camera input, an external switching signal from the reverse gear light is required. As the reverse gear light signal contains electronic interference, a traditional open relay (e.g AC-RW-1230 with wiring AC-RS5) or filter (e.g. AC-PNF-RVC) is required. Below schema shows the use of a relay (normally open).



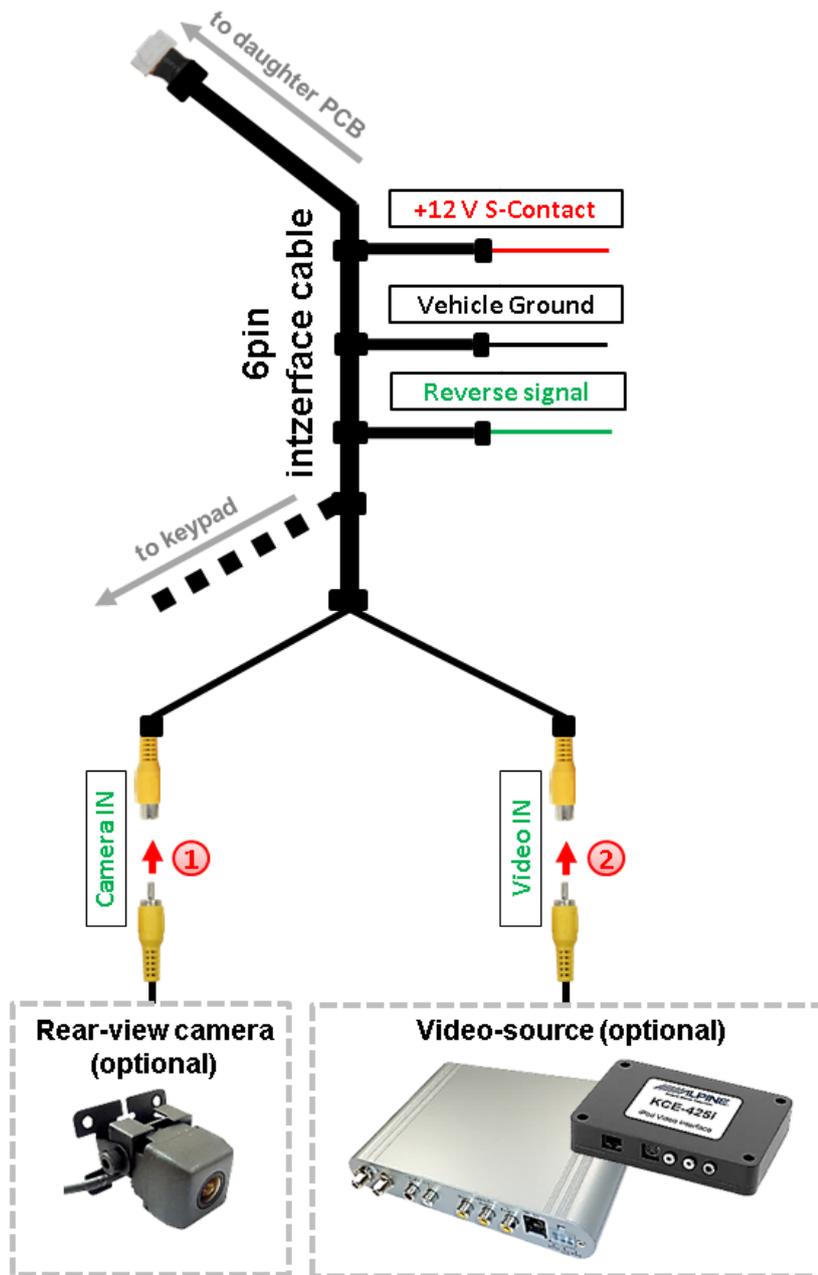
to the daughter PCB



2.6. Connection – video input

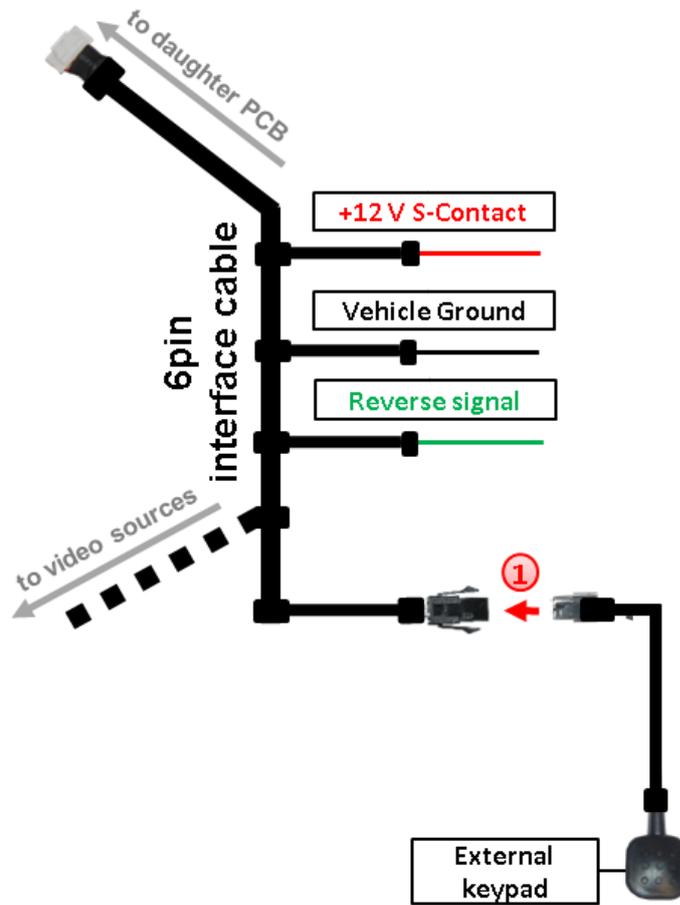
It is possible to connect one after-market video source and one after-market rear-view camera to the video-interface.

Before final installation of the peripheral devices, we recommend a test-run to detect a incompatibility of vehicle and interface. Due to changes in the production of the vehicle manufacturer there's always a possibility of incompatibility.



- ① Connect the rear-view camera's RCA to the female RCA „Camera IN“ of the 6pin interface cable.
- ② Connect the RCA of the video source to the female RCA „Video IN1“ of the 6pin interface cable.

2.7. Connection - external keypad



- 1 Connect the keypad's female 4pin connector to the male 4pin connector of the 6pin interface cable.

3. Interface operation by external keypad

Use the external keypad to switch to the connected video source. Each press will switch between the factory video and the connected video source.

#### 4. Picture settings



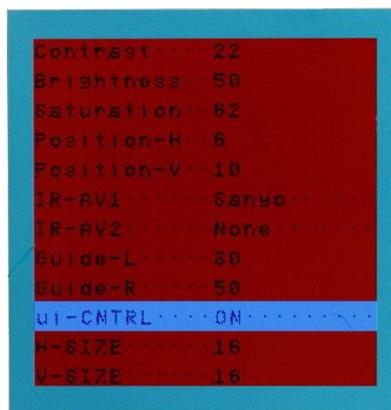
Push buttons  
Menu adjustment

The picture settings are adjustable by the 3 push-buttons of the daughter PCB's menu keypad. Press the 1. button to open the OSD settings menu or to switch to the next menu item. By pressing the other both push buttons the selected value will be changed. To avoid accidental changes during or after the installation, we recommend to disconnect the keypad after the adjustments are done. Adjustments have to be done, while the selected input is visible on the monitor.

**Note:** The OSD menu is only shown when a working video source is connected to the selected video-input of the interface.

The following settings are available:

- Contrast
- Brightness
- Saturation
- Position H (horizontal)
- Position V (vertical)
- IR-AV1/2 (no function)
- Guide L/R (no function)
- UI-CNTRL (no function)
- Size H/V (picture size horizontal/vertical)



**Note:**  
To adjust the reverse picture settings, engage the reverse gear.

## 5. Specifications

BATT/ACC range	7V - 25V
Stand-by power drain	7mA
Power	110mA @12V
Video input	0.7V - 1V
Video input formats	NTSC / PAL
RGB-video amplitude	0.7V with 75 Ohm impedance
Temperature range	-40°C to +85°C
Dimensions PCB	90x 68 x 10 mm (W x H x D)

## 6. FAQ – Trouble shooting, RL5 interface functions

For any troubles which may occur, check the following table for a solution before requesting support from your vendor.

Symptom	Reason	Possible solution
No picture/black picture (factory picture).	Not all connectors have been reconnected to factory head-unit or monitor after installation.	Connect missing connectors.
	The ribbon cables have been damaged	Check the ribbon cables and the connectors, Change if necessary.
	Not all connectors have been reconnected to the head unit and the monitor.	Check the connectors and reconnect all disconnected connections.
	No power on video-interface (daughter PCB)	Make sure that the orange colored wire has been connected to +12 V S-Contact.
No picture/black picture/white picture (inserted picture) but factory picture is OK.	No picture from video source.	Check on other monitor whether video source is OK.
	No video-source connected to the selected interface input.	Make sure that the video source has been connected to the according input.
	Ribbon cable connection has been reversed	Make sure that the ribbon cable connection is done correctly: "MONITOR OUT or TO LCD" to panel and "TO PCB" to mainboard
Inserted picture distorted, flickering or running vertically.	Some interfaces can only handle NTSC input.	Check manual whether there is a limitation to NTSC mentioned. If yes, set source fixed to NTSC output.
Camera input picture flickers.	Camera is being tested under fluorescent light which shines directly into the camera.	Test camera under natural light outside the garage.
Camera input picture black.	Camera power taken directly from reverse gear lamp.	Use relay or electronics to "clean" reverse gear lamp power. Alternatively, if CAN-bus box is compatible with the vehicle, camera power can be taken from green wire of 6pin to 8pin cable.
Camera input picture has distortion.		
Not possible to switch video sources by external keypad. Not possible to switch video sources by external keypad.	Pressed too short.	For video source switching a longer press of about 2.5 seconds is required.
Interface does not switch to camera input when reverse gear is engaged.	The grey wire of the 6pin cable doesn't receive the +12V reverse signal	Apply +12V from the reverse light. Use a relay or electronics to "clean" reverse gear lamp power.

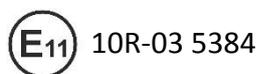
## 7. Technical Support

Please note that direct technical support is only available for products purchased directly from NavLinkz GmbH. For products bought from other sources, contact your vendor for technical support.

**NavLinkz GmbH**  
**distribution/tech dealer-support**

Eurotec-Ring 39  
D-47445 Moers

Tel +49 2841 949970  
Email [mail@navlinkz.de](mailto:mail@navlinkz.de)



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