r.LiNK Video-inserter

Compatible with
Fiat vehicles
with Uconnect 7inch infotainment



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

Product features

- **Video-inserter for factory-infotainment systems**
- **1 CVBS video-input for after-market device (e.g. USB-Player, DVB-T2 tuner)**
- **1 CVBS rear-view camera video-input**
- **Automatic switching to rear-view camera input on engagement of the reverse gear**
- **Video-in-motion (ONLY for connected video-sources)**
- **Video-inputs NTSC and PAL compatible**

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Legal Information

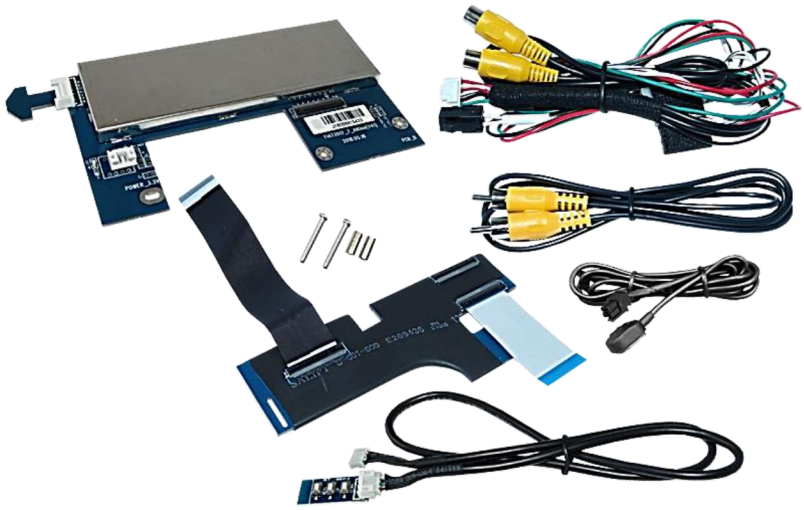
By law, watching moving pictures while driving is prohibited, the driver must not be distracted. We do not accept any liability for material damage or personal injury resulting, directly or indirectly, from installation or operation of this product. This product should only be used while standing or 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



Take down the serial number of the interface and store this manual for support purposes:

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1.2. Checking the compatibility of vehicle and accessories

Requirements

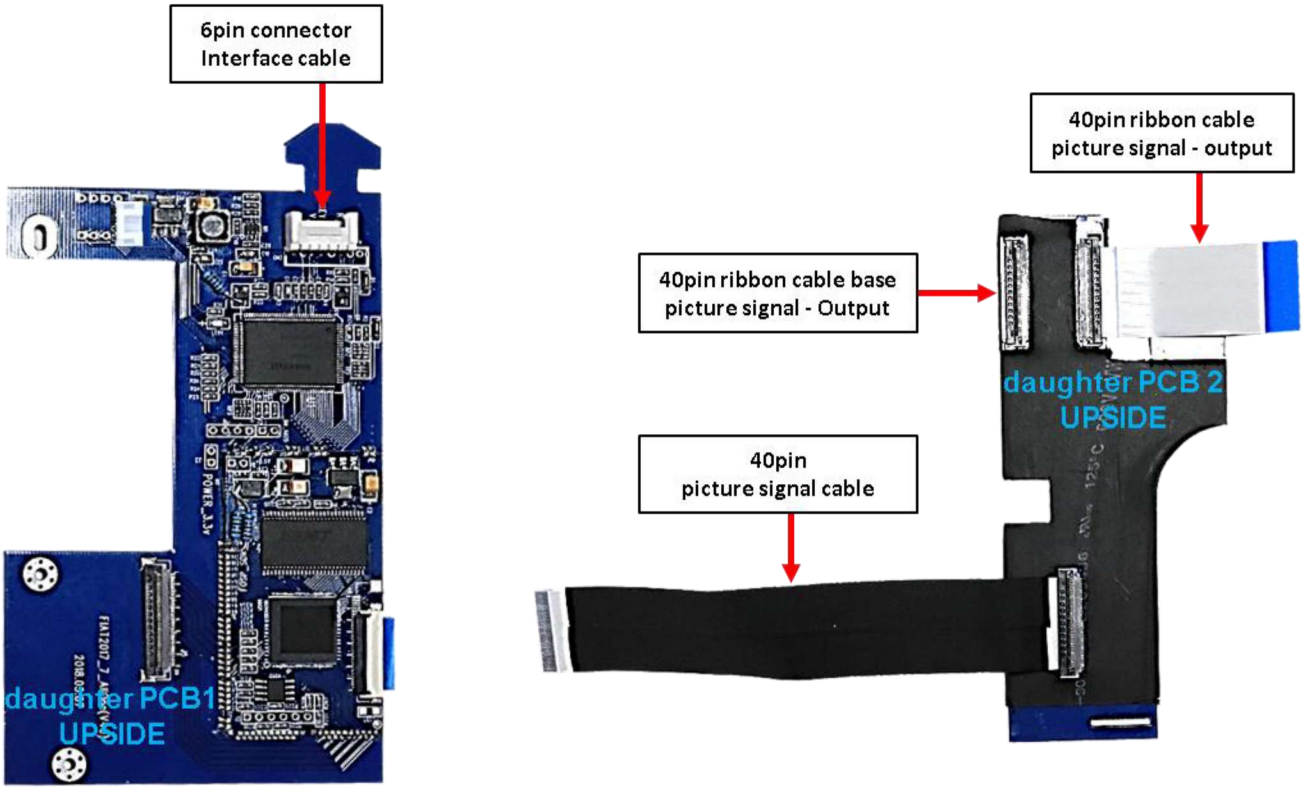
Brand	Compatible vehicles	Compatible systems
Fiat	500 since 07/2016 (from model year 2017) 500L since 06/2017 (from model year 2018) 500X since 11/2017 (from model year 2018)	Uconnect LIVE HD/ Nav LIVE HD with 7inch monitor (***VP2-312-7in + VP2 334 7in***)

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. Anschlüsse - Video-interface (daughter PCB)

The video-interface (daughter PCBs) 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.



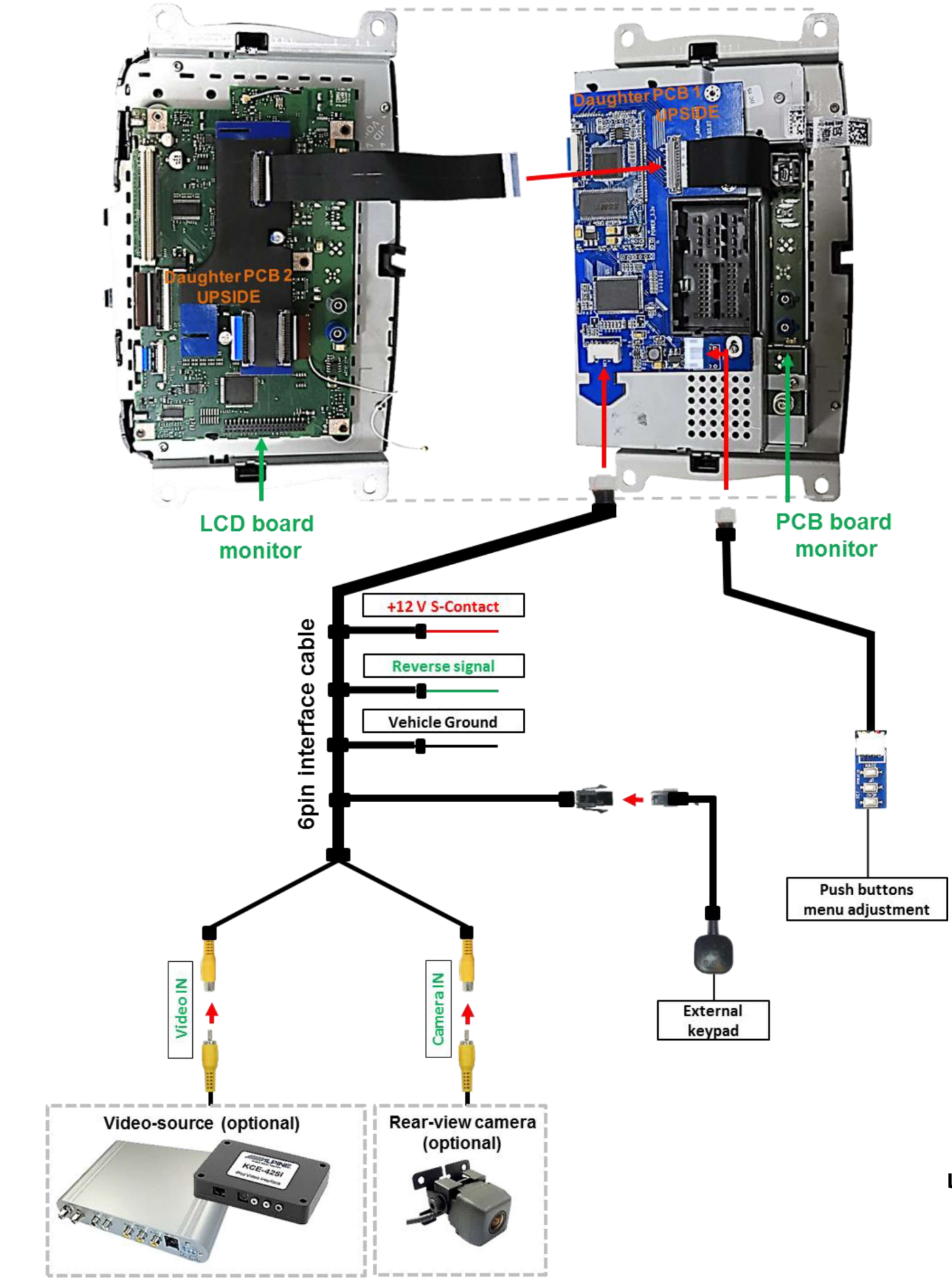
2. Installation

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

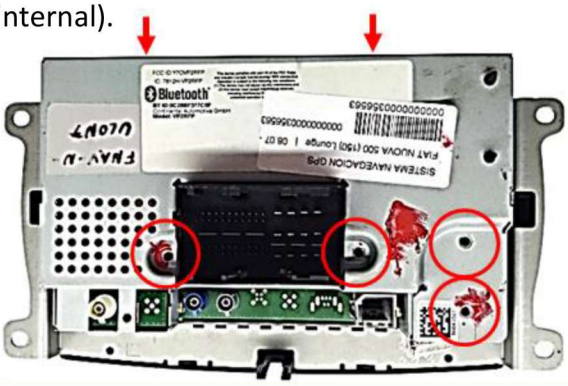
Both daughter PCBs shell be installed and connected inside the factory Monitor housing.

2.2. Connection Scheme



2.3. Installation - ribbon cables into the monitor panel

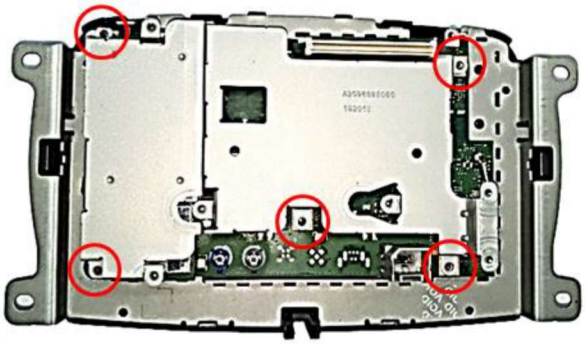
Remove the factory monitor and open it`s housing. The daughter PCBs is shell be installed into the optical lead between the monitor panel and mainboard of the vehicles monitor (PCB 1 external, PCB 2 internal).



1 Turn out the 4 screws shown above, to remove the metal frame cover from the screen.



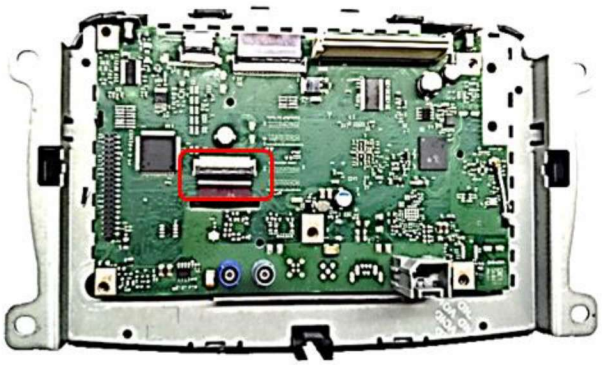
2 Carefully separate the original PCB from the system. Make sure not to damage the connector.



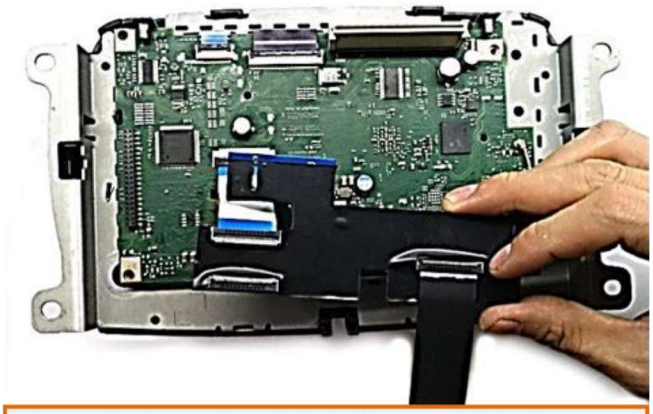
3 Turn out the 5 screws shown above to remove the metal cover from the screen.



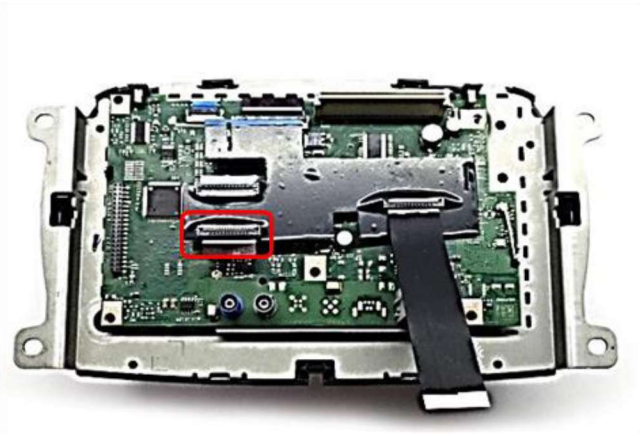
4 Carefully seperate the metal cover and disconnect the small Coaxial wire connected in between.



5 Disconnect the ribbon cable from the mainboard's ribbon cable base, as shown above.



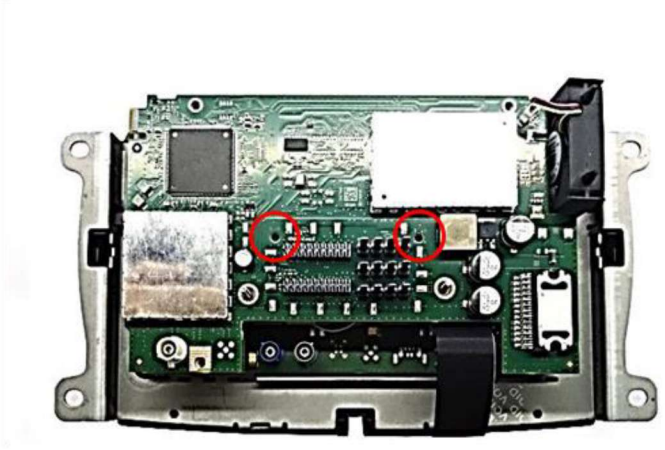
6 Connect the enclosed 40pin ribbon cable to the mainboard's 40pin ribbon cable base and lock the connection.



7 Connect the preveously disconnected 40pin ribbon cable to the 40pin ribbon cable base of the daughter PCB 2.



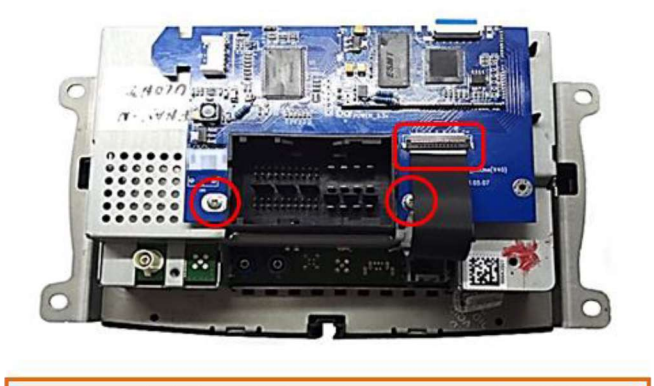
8 Reconnect the coaxial wire between the metal brackets and fix the metal bracket. Pay attention to a perfect position of the connectors in between.



9 Reinstall the original mainboard and fix it with the to original screws (The original car screws have to be replaced as shown above)



10 Reinstall the back cover and fix it. The former screw positions provide the place for the enclosed spacers.



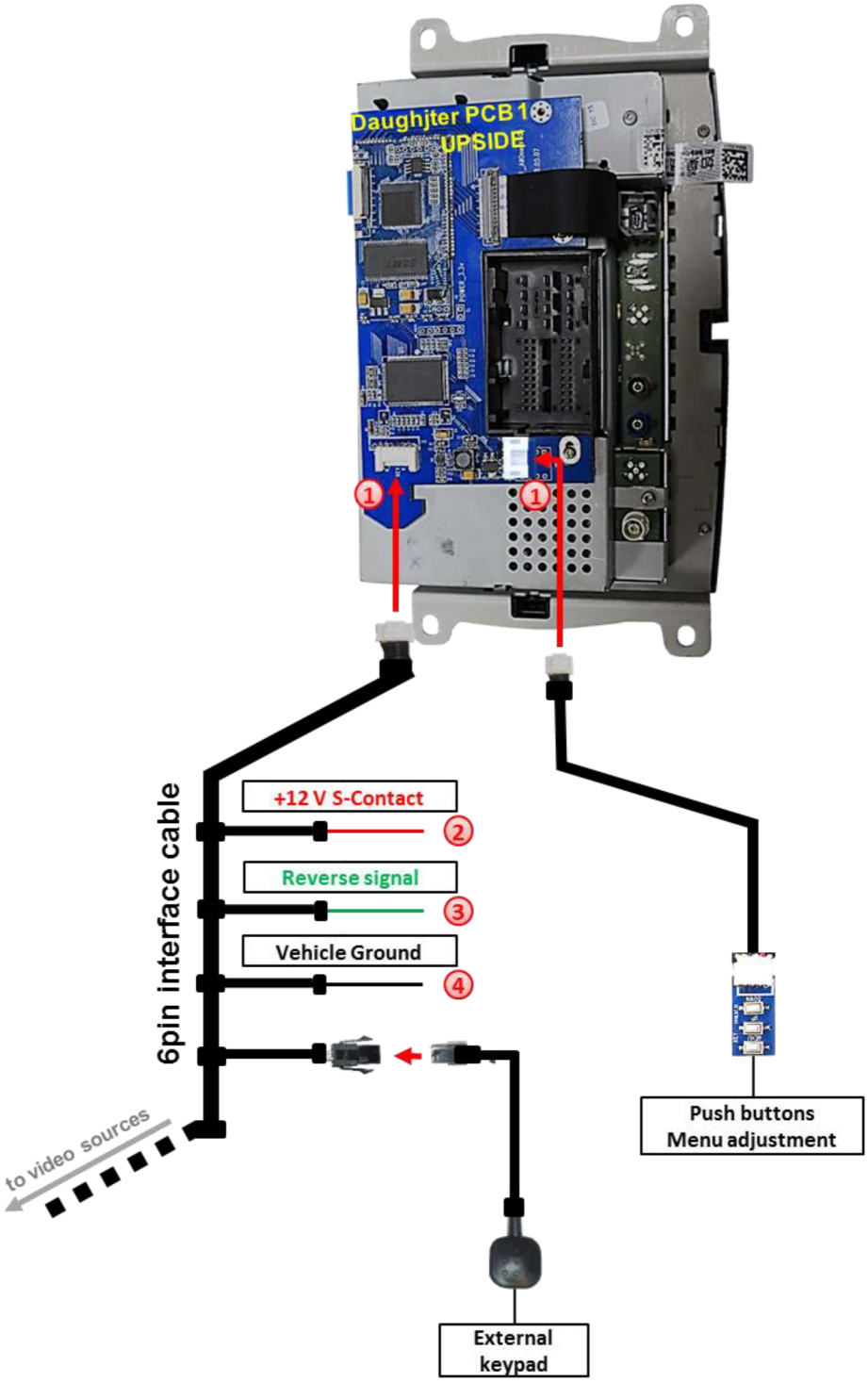
11 Connect the PCB2 40pin ribbon cable to the PCB1 40pin ribbon cable base and fix it at the spacers by using the enclosed longer screws.

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 curse 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. Cable connection – daughter PCBs



1. Connect the 6pin interface cable's 6pin connector and the menu pushbutton cable's 4pin connector to the 6pin and 4pin connectors of the daughter PCB.

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).

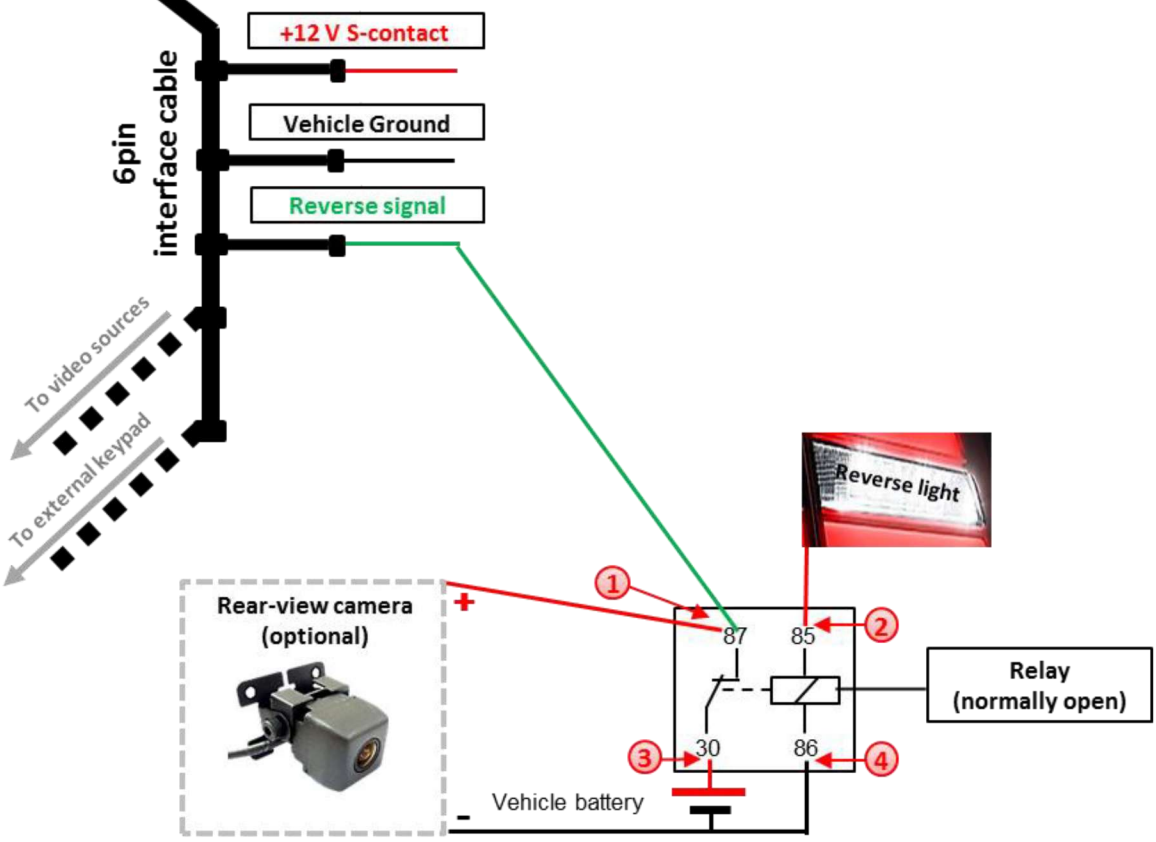
4. Connect the 6pin interface cable's black wire to vehicle Ground.

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).



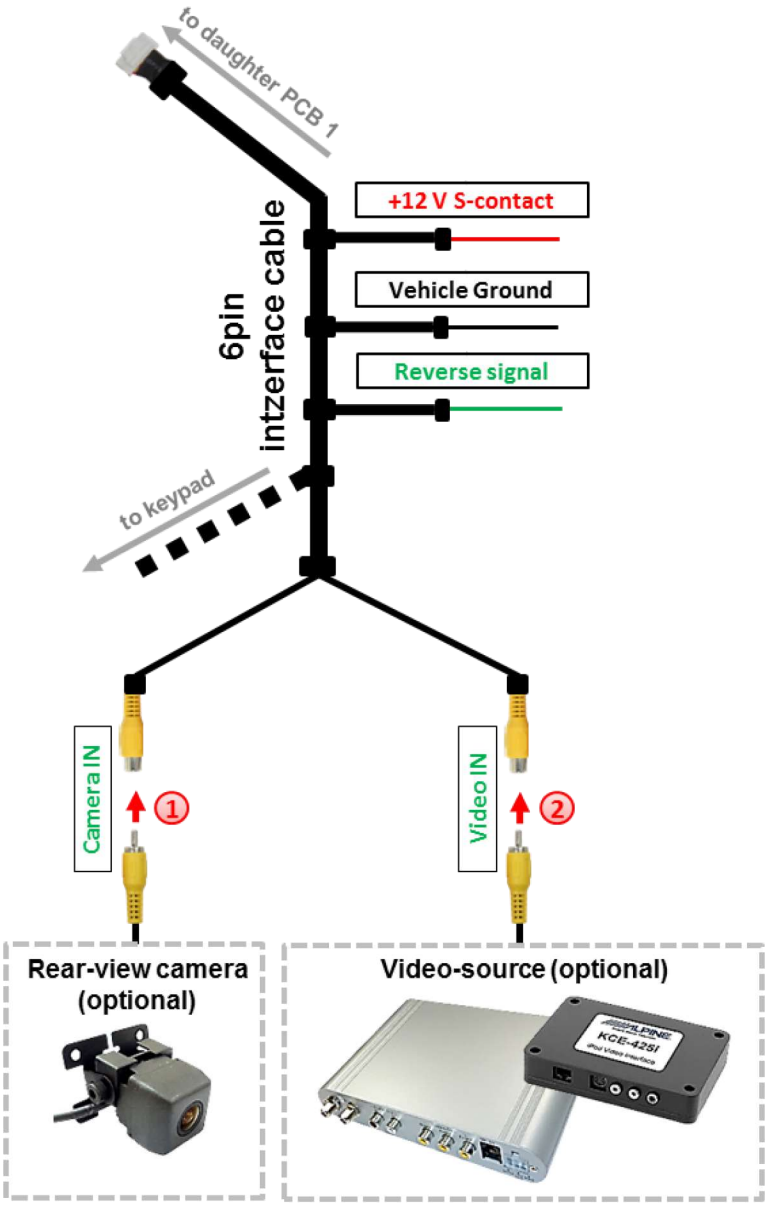
1. Connect the single green colored wire and the rear-view camera's power both to the relay's terminal (87).
2. Connect the reverse light's power to the relay's coil terminal (85).
3. Connect permanent power to the relay's input terminal (30).
4. Connect vehicle's ground to the relay's coil terminal (86).



2.6. Connection – video inputs

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

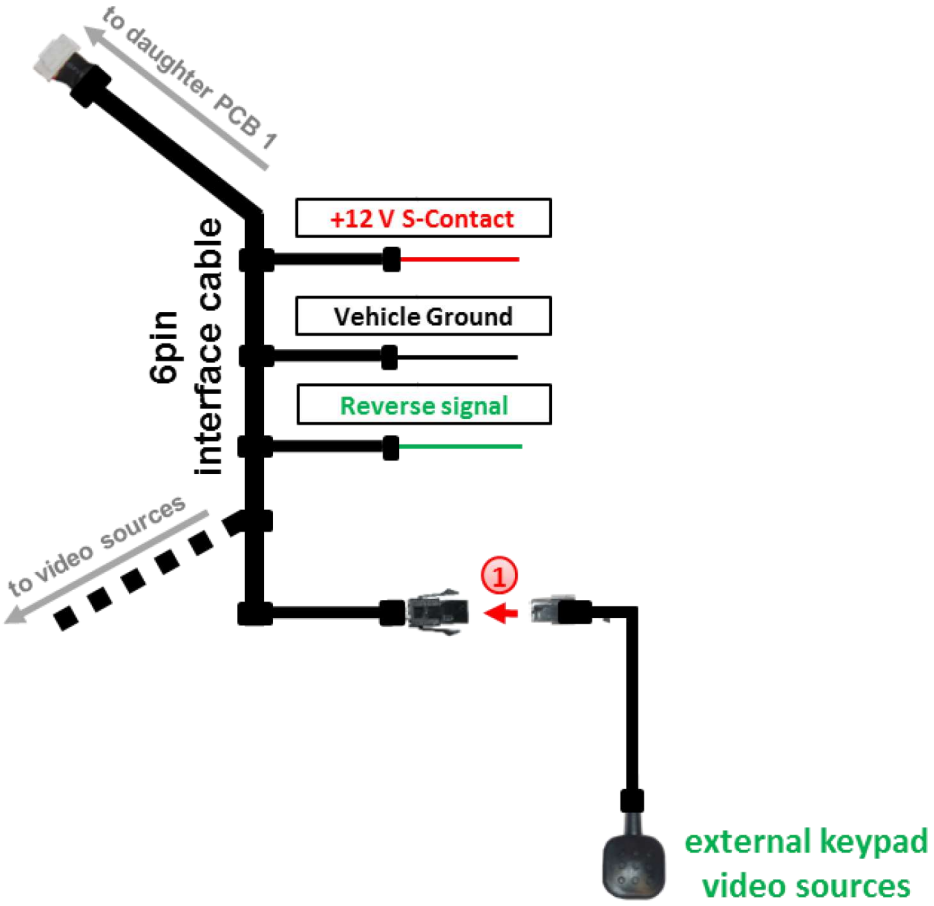
Before final installation of the peripheral devices, we recommend a test-run to detect a incompatibility of vehicle and interface. Due to changes in the production of the vehicle manufacturer there's always a possibility of incompatibility.



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 - 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

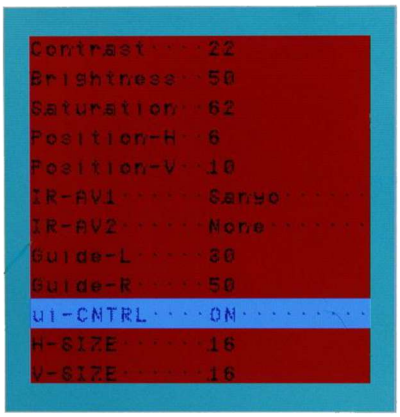


Push buttons
Menu adjustment

The picture settings are adjustable by the 3 push-buttons of the daughjter 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 from the pushbutton cable 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	140mA @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 PCB1	164x 11 x 82 mm (W x H x D)
Dimensions PCB2	118 x 3 x 52mm (W x H x D)

6. FAQ – Trouble shooting 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.