

Video-inserter

BMW-CIC-LVDS

**BMW monitors
with 4pin HSD LVDS connector**

Video-inserter with 2 video + RGB + rear-view camera input and CAN control

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Legal Information

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

Information

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

Product features

- RGB-input for after-market navigation
- 2 video-inputs for after-market devices (e.g. DVD-Player, DVB-T tuner, ...)
- Built-in audio-switch
- Rear-view camera input, automatically switching
- Factory rear-view camera compatible
- Switching of video through factory infotainment buttons
- Switching of video through external switch
- PAL/NTSC input compatible
- Ultra-wide picture mode 24:9 (only BMW with ultra-wide screen 8.8" or 10.2")
- Wrong-plugging circuit protection

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	
<i>General</i>	monitor with 4pin HSD LVDS video connector
<i>Vehicle</i>	1series (E87), 3series (E90/91/92), 5series (E60/61/F10/F11), 6series (E63/64/F12/F13), 7series (F01/F02), GT5 (F07), X1 (E84), X3 (F25), X5 (E70), X6 (E71), Z4 (E89) and other vehicles
<i>Navigation/Radio</i>	Professional Navigation CIC (also few CCC) Business Navigation M-ASK from about 2009 Radio with colour screen
Limitations	
<i>Ultra-wide mode</i>	Only available for ultra-wide screens 8.8"/10.2"
<i>Video only</i>	The interface inserts ONLY video into the infotainment,

1.3. Dip-switch settings

With the video interface boxes dip-switches it is possible to select vehicle/navigation the interface is to be installed in (dip 6 to 8), to dis- or enable the interfaces inputs (dip 1 to 3), to preselect the type of camera which is (to be) installed (dip 5) and to set the resolution of the RGB-input. Dip position down is ON and position up is OFF.



1.3.1. Vehicle selection (dip 6-8)

Choose the vehicle/navigation/monitor the interface is to be installed to and set dip 6 through 8 according to the below table.

Vehicle/Navigation	Resolution	Dip 6	Dip 7	Dip 8
BMW CIC with 8.8"/10.2" ultra-wide monitor	1246 x 480	OFF	ON	OFF
BMW CIC with 6.5" monitor	800 x 480	OFF	ON	ON

1.3.2. Enabling the interface's video inputs (dip 1-3)

Only the enabled video inputs can be accessed when switching through the video sources. It is recommended to enable only the required inputs for the disabled will be skipped when switching through the video interfaces inputs.

Dip	Video-input	ON (down)	OFF (up)
Dip 1	RGB	enabled	disabled
Dip 2	Video IN1	enabled	disabled
Dip 3	Video IN2	enabled	disabled

1.3.3. Rear-view camera settings (dip 5)

Depending on whether no camera, after-market camera or factory camera shall be used, dip 5 must use different settings. If set to OFF, the interface switches to factory LVDS picture when the reverse gear is engaged to display factory rear-view camera or factory PDC picture.

Rear-view camera type	Dip 5
None	OFF
Factory	OFF
After-market	ON

Note: If the Can-bus does not work while connecting an after-market rear-view camera, cut the green cable of the 6pin to 8pin cable at the black 8pin connector and connect it to the reverse gear light (+12V). For this use a relay because the reverse gear light of the vehicle is clocked (relay AC-RW1230 and AC-RS5 optional available).

1.3.4. RGB settings

Depending on whether an NTSC-RGB-signal or a VGA-signal is connected to the RGB-input, the dip 4 setting must be different.

Dip	ON (down)	OFF (up)
Dip 4	VGA (resolution 800x480)	RGB (resolution 400/480x240)

Note: If the displayed picture of the RGB-input shows problems (double picture, no picture, etc.), check the setting of dip 4.

2. Installation

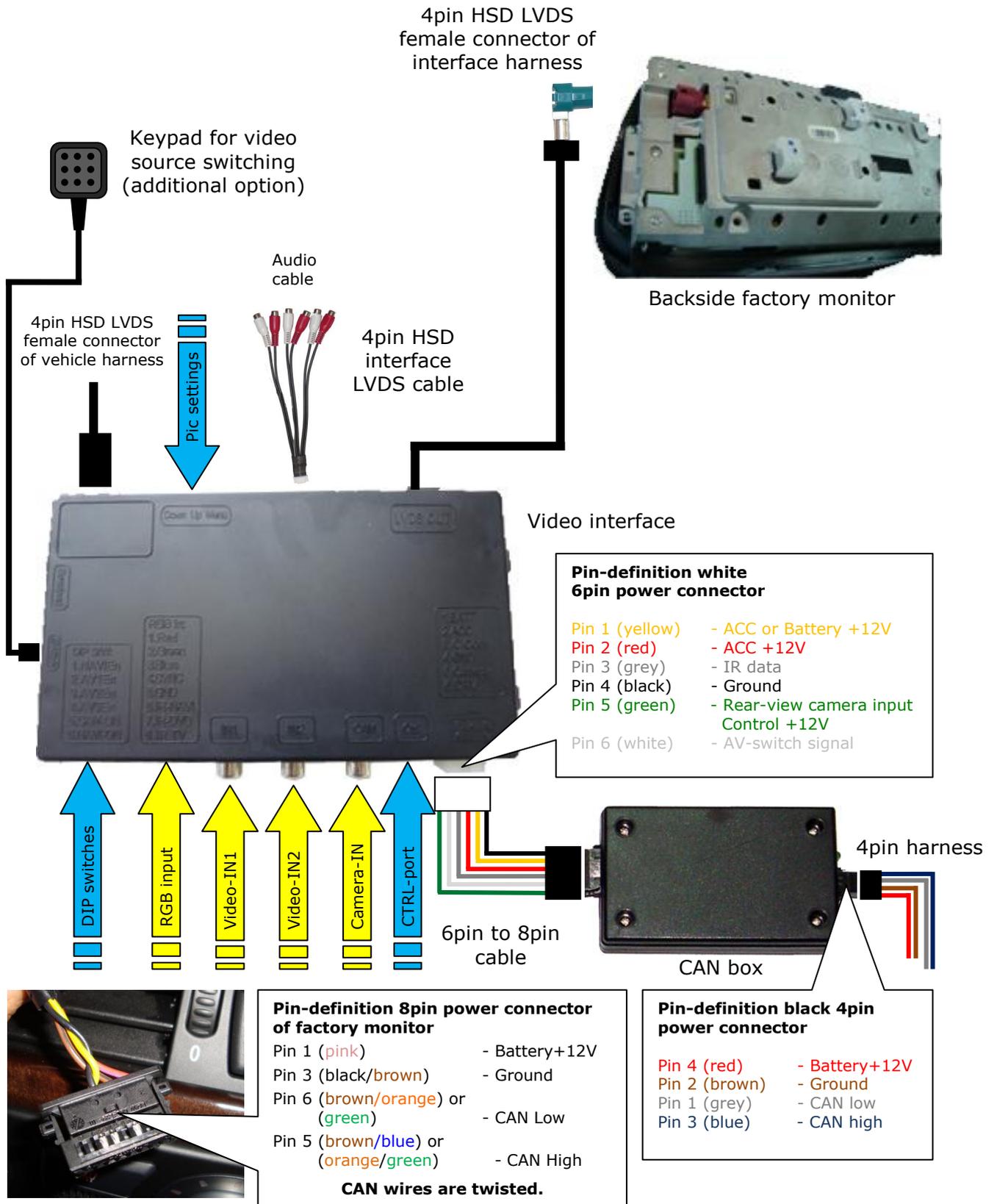
Switch off ignition and disconnect the vehicle's battery! The interface needs a permanent 12V source. If according to factory rules disconnecting the battery is to be avoided, it is usually sufficient to put the vehicle in sleep-mode. In case the sleep-mode does not show success, disconnect the battery 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

The interface is installed on the backside of the vehicle's monitor.

2.2. Connections



No liability for vehicle wire colors and pin definition!
Possible changes by the vehicle manufacturer. The given information must be verified by the installer.

2.3. Installation procedure – function check

Follow the below procedure using the “Connections” scheme from chapter 2.2. as reference. Before the installation of the sources and the interface we recommend a first quick connection of the interface and test run to ensure that vehicle and product are compatible. Due to changes in production of the vehicle manufacturer there is always the possibility of incompatibility.

- Switch off ignition and disconnect vehicle’s battery
- Remove vehicle monitor
- Disconnect 8pin power connector from backside of factory monitor
- Connect 4pin CAN box harness to 8pin power connector of factory monitor harness
- Reconnect 8pin power connector to factory monitor
- Plug 4pin harness into CAN box
- Plug 8pin female connector of 6pin to 8pin cable into CAN box
- Transfer vehicle harness’ 4pin HSD LVDS connector from factory monitor to interface’s male 4pin HSD connector port
- Connect video-interface LVDS output and factory monitor’s 4pin HSD LVDS port using the 4pin HSD interface LVDS cable
- Plug 6pin female connector of “6pin to 8pin cable” into video interface
- Plug keypad into “Switch” connector. Even if the keypad shall not be used, its installation (e.g. in a hidden spot) is recommended for support reasons
- If 2 audio sources shall be used, connect it according to chapter 2.6.
- Reconnect battery and turn on ignition
- Check LEDs on CAN box and video interface, one on each must be on
- Try to activate video sources by infotainment buttons (see chapter 3.1.) and by keypad (see chapter 3.2.), using a test picture source
- If camera is (to be) connected try to engage reverse gear with test picture source connected
- If 2 audio sources shall be used, connect the audio wires and check the audio function
- **ONLY after positive function check proceed with final installation of the video sources!**
- After installation and connection of the real video source(s), adjust picture settings (see chapter 2.4.)

2.4. Picture settings

After installing the sources the picture settings can be changed using a pen on the buttons of the video interface. Press the MENU button to open settings menu on the OSD and to switch to the next setting. UP and DOWN change the corresponding values. The buttons are embedded in the housing to avoid accidental changes during or after installation.

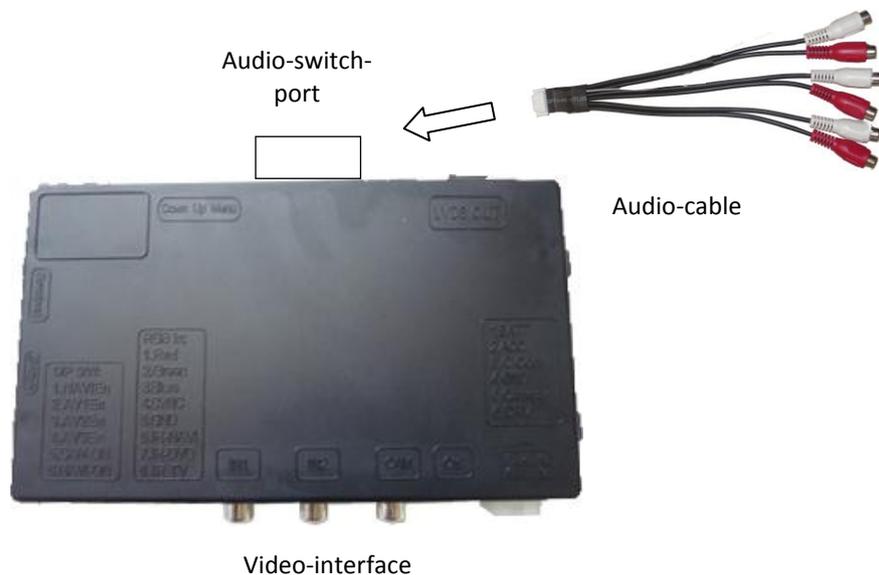
2.5. Audio insertion

This interface can only insert video into the factory infotainment. The video can be activated to any audio mode of the factory infotainment. If an AV-source is to be connected, the source's video out is connected to the video IN1 of the video interface and the source's audio out to the audio insertion. Audio insertion is possible by factory audio AUX-input or FM-modulator. The factory audio AUX might be already available in the vehicle. If not, on most infotainments which are compatible with this video interface, it can be coded by the dealership.

2.6. Connecting 2 AV-Sources

If two AV-sources shall be connected, connect the included audio cable to audio-switch-port of the video interface. When switching the video interface from video-IN1 to video-IN2, the audio will also automatically be switched.

Audio pins	Definition
1/2	Audio input signal R/L of source IN2
3/4	Audio input signal R/L of source IN1
5/6	Audio output signal L/R of factory audio AUX or FM-modulator
7	Ground
8	No function



3. Interface operation

3.1. By factory infotainment buttons

Some of the factory buttons can be used to execute interface functions.

Longpress NAV (MAP)(more than 1 second) to activate the interface video. Each longpress will switch to the next enabled input. If all inputs are enabled the order is:

Factory video → RGB-in → video IN1 → video IN2 → factory video →...

Inputs which are not enabled are skipped. If the audio cable is connected, when switching from video IN1 to video IN2, also the sound will be switched.

When in interface video mode it is also possible to return to factory video by pressing **RADIO** or **CD**.

When in interface video mode, by pressing the **OPTION** button, it is possible to switch the picture ratio between 16:9 and 24:9 (Only on vehicles with ultra-wide 8.8" or 10.2" screen).



3.2. By keypad

Alternatively or additionally to the factory infotainment buttons the interface's keypad can be used to execute interface functions.

Shortpress keypad – video input switching, like longpress NAVI, see chapter 3.1.

Longpress keypad – inserted picture ratio switching, like OPTION, see chapter 3.1.

4. Specifications

BATT/ACC range	7V ~ 25V
Power	0.3A @12V
Video input	0.7V~1V
Video input formats	PAL/NTSC
Weight	195g
Dimensions (box only) B x H x T	182 x 24 x 100 mm

CE  12V DC