

Video inserter

CI-HDV-MIB100 / CI-HDA-MIB100

New function: interface reset via external keypad!

Compatible with

Audi vehicles with MMI Radio Plus and MMI Navigation (Plus) infotainment and 8.8, 10.1 or 11.6inch monitor

Ford vehicles with audio system 6 MIB3 Infotainment and 10inch monitor

MAN vehicles with ICAS3/MIB3 infotainment and 10.3, 10.4 or 12.9inch monitor

Seat/Cupra vehicles with ICAS3/MIB3 Media System Plus Infotainment and 10, 12, 12.9 or 13inch monitor

Skoda vehicles with MIB3 Bolero/Columbus infotainment and 10, 12, 12.9 or 13inch monitor

VW vehicles with ICAS3/MIB3 High Discover Media/Pro infotainment and 10, 10.3, 10.4, 12, 12.9 or 13inch monitor

VW vehicles with Discover Premium (18T)
MIB infotainment with 15-inch monitor



Beispiele/Examples



Product features

- 1 x CVBS/AHD input for rear-view camera
- > 1 x CVBS/AHD input for front camera
- > 2 x CVBS/AHD input for side cameras or additional after-market video-sources (e.g. USB devices, DVB-T2 tuner, etc.)
- ➤ All inputs NTSC and PAL compatible
 Supported AHD resolutions 720p NTSC (30Hz), 720p PAL (25Hz), 960p NTSC (30Hz), 960p PAL (25Hz), 1080p NTSC (30Hz), 1080p PAL (25Hz)
- HDV-MIB100 only: 1 HDMI input for HD rear-view camera or other HDMI source (e.g. iOS/Android device, laptop, streaming stick, DVB-T2 tuner, etc.)
 Supported HDMI resolutions (720p NTSC (60Hz), 720p PAL (50Hz), 1080p NTSC (60Hz), 1080p
 PAL (50Hz))
- **▶ HDV-MIB100 only:** Analogue audio output for HDMI source
- Automatic switchover to rear-view camera input while reverse gear is engaged
- > Automatic front camera shift after reverse gear is engaged for 5, 10, 15 or 20 seconds
- Adjustable guide lines (fixed or movable) can be activated for rear-view camera (movable guide lines not available for all vehicles)
- > PDC graphics can be activated (not available for all vehicles)
- > Free picture while driving (ONLY for fed-in video sources)

Attention!
Video signal type of each video source must be preset in OSD-menu of corresponding video-input.



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Legal notice

The driver must not be distracted directly or indirectly by moving pictures while driving. This is prohibited by law in most countries/states. We therefore exclude all liability for damage to property and personal injury caused directly or indirectly by the installation and operation of this product. This product is only intended for displaying stationary menus (e.g. MP3 menu of USB devices) or pictures from (rear-view) cameras while driving.

Changes/updates to the vehicle software may impair the functionality of the interface. Software updates for our interfaces are provided to customers free of charge for up to one year after purchase of the interface. The interface must be sent in free of charge for the update. Costs for installation and removal will not be reimbursed.

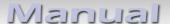
1 Before installation

These instructions must be read before installation. Specialist knowledge is required for installation. The installation location of the interface must not be near sources of moisture or heat.

Before final installation in the vehicle, we recommend a test run after connection to ensure that the vehicle and interface are compatible. Due to production-related changes made by the vehicle manufacturer, there is always the possibility of incompatibility.

1.1 Scope of delivery





1.2 Check interface compatibility with vehicle and accessories

Requirements

Manufacturer	Compatible vehicles	Compatible systems
	A1 (GB) from 11/2018 A3 (8Y) from 03/2020 A4 facelift (8W) from 05/2019 A5 facelift (F5) from 10/2019	MMI Radio Plus or
	A6 (4K) from 06/2018 A7 (4K) from 02/2018 A8 (4N-D5) from 11/2017	MMI navigation or MMI Navigation (Plus)
Audi	e-tron (GE) from 03/2019 Q3 (F3) from 08/2018 Q4 e-tron (FZ) from 03/2021 (MEB)*	with MMI Touch Response MIB2+ High/MIB3 Premium with 8.8inch, 10.1inch or 11.6inch monitor
	Q4 Sportback e-tron (FZ) from 03/2021 Q5 (FY) from 09/2020 Q5 Sportback (FYT) from 03/2021 Q7 facelift (4M) from 09/2019 Q8 (4M) from 07/2018	Not compatible with vehicles with factory DVD player (factory DVD player no longer displays a picture)!
Ford	Tourneo Connect3 from 05/2022 Transit Connect3 from 05/2024	Audio system 6 MIB3 Standard or High with DIN head unit with separate 10inch ultra-wide monitor
MAN	TGE (VW Crafter based) from model year 2024	ICAS3/MIB3 - Composition Media or Discover Media infotainment – with 10.3inch, 10.4inch or 12.9inch monitor with separate DIN head-unit
Seat/Cupra	Born (K11) from 2024 Formentor (KM7) from 09/2020 Leon4 (KL) from 01/2020 Terramar (KN2) from 2024	ICAS3/MIB3 Standard or High - Media System Plus infotainment - with DIN Head-Unit with separate 10inch, 12inch, 12.9inch or 13inch ultra-wide monitor
Skoda	Elroq (PY) from 11/2024 Enyaq (5A) from 11/2020 (MEB)* Kodiaq2 (PS7) from 12/2023 Octavia4 (NX) from 03/2020 Octavia4 Face-Lift (PV) from 01/2024 Superb4 (3Y) from 12/2023	MIB3 Standard or High - Bolero and Columbus infotainment - with DIN Head-Unit with separate 10inch, 12inch, 12.9inch or 13inch ultra-wide monitor
vw	Caddy5 (SB) from 11/2020 Crafter Face-Lift (SZ/SY) from 06/2024 ID.3 (E11) from 09/2020 (MEB)* ID.4 (E21) from 12/2020 (MEB)* ID.5 (E39) from 01/2022 (MEB)* ID.7 (ED) from 08/2023 ID.Buzz (EB) from 05/2022 (MEB)* Golf 8 (CD) from 12/2019 Passat (B9) from 11/2023 T7 Multivan/Califonia (ST) from 10/2021 Tayron from 2024 Tiguan3 (CT) from 11/2023	ICAS3/MIB3 High - Discover Media/Pro, Ready 2 Discover Infotainment – with DIN head-unit with separate 10inch, 10.3inch, 10.4inch, 12inch, 12.9inch or 13inch ultra-wide monitor
	Touareg (CR) from 07/2018	Discover Premium(18T) MIB Infotainment with 15inch monitor Not compatible with vehicles with factory DVD player (factory DVD player no longer displays a picture)!

^{*}Vehicles based on the MEB modular system - different dip switch settings are sometimes provided for these vehicles

) age (



Limitations

CAN bus compatibility The CAN bus compatibility of the interface may be limited for some

vehicles, either completely or for individual functions. This may be

noticeable both during installation and later.

The interface with all video inputs can be operated with analogue switching signals without connection to the vehicle CAN bus.

In this case, individual additional functions are omitted, see chapter

2.4.2 Analogue connection without CAN bus.

Vehicles with CAN-FD For vehicles with CAN-FD, the interface must be connected in

analogue mode. The optical PDC display and static guide lines functions are available, but the movable guide lines function is not available. To determine whether CAN-FD is available in the vehicle, a

current diagnostic device or a CAN finder is required.

Video only Interface does not insert any audio signals. In order to insert audio

signals, any factory audio AUX input or optional products must be used. (e.g. FM modulator). For HDMI source, the audio is output via

an analogue audio output (3.5mm jack socket).

Factory rear-view camera Automatic switching to rear-view camera input only takes place while

reverse gear is engaged. Optional accessories are required for

different switching times.

Factory DVD player Not compatible with vehicles with factory DVD player (factory DVD

player no longer displays a picture)!

After-market front camera Switching to front camera occurs automatically after shifting into

reverse gear for 5, 10, 15 or 20 seconds (depending on the OSD menu setting). Manual switching to front camera is also possible via the

external keypad.

Guide lines for rear-view

camera and PDC

If the vehicle CAN bus is not fully compatible with the interface or if

the connection is analogue, the movable guide lines and optical PDC

display function cannot be used.

Vehicles with Trailer Assist In vehicles with Trailer Assist, this function is not compatible, i.e. the

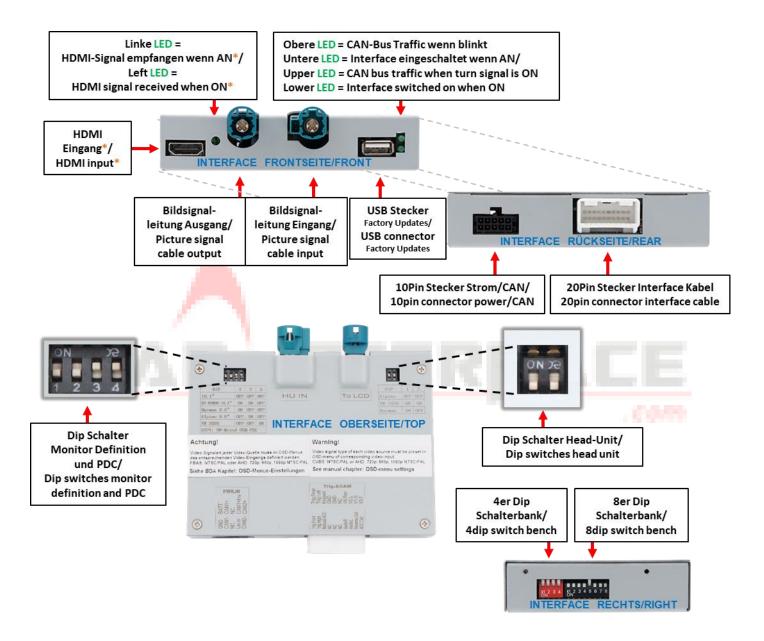
assistant can no longer be used when the interface is installed.

1.3 Limitations



1.4 Boxes and connections - Interface

The video interface converts video signals from after-market sources into a video signal compatible with the factory head unit. This is inserted into the factory monitor via various switching options. It also reads digital signals from the vehicle CAN bus and converts them for its own functions.



^{*} HDMI input only available with HDV-MIB100

Interface box, right side, black

1.5 Settings – 8 dip switch bench (interface functions)

Dip position UP = OFF and DOWN = ON

Dip	Function	ON (down)	OFF (up)
1	Video 1 / V1-Left	activated	deactivated
2	Video 2 / V2-Right	activated	deactivated
3	Front camera / V3 front	activated*	deactivated
4	Type of rear-view camera (V4 reverse))	After-Market	Plant or none
5	Connection type of the After-market rear-view camera**	HDMI**	V4 Reverse (CVBS/AHD)
6	HDMI input**	activated	deactivated
7	Position of PDC from factory***	left	centre + right
8	Position of PDC from factory***	centre	left + right

Power reset interface after each dip change to activate changes!

- * Switching to front camera takes place automatically for 5, 10, 15 or 20 seconds (depending on the OSD menu setting) after shifting into reverse gear.
- ** With HDA-MIB100, dip 5 and dip 6 have no function. Set to OFF.
- *** The PDC function must also be activated via dip 4 of the 4 dip switch bench on the top of the interface box. The position of the PDC display is not adjusted; instead, the interface is told where to find the factory PDC graphic. After activation, the PDC display is always located to the right of the picture from an aftermarket rear-view camera.

See following chapters for detailed information about 8dip switch bench.

1.5.1 Interface video inputs "V1-Left" and "V2 Right" (Dip 1-2)

Dip 1 (Dip 2) = **ON** activates the CVBS/AHD input **V1-Left** (**V2** Right) for side camera or other video sources. Only activated video inputs can be accessed - both with automatic and manual switching. It is recommended to only activate used inputs, to avoid accidental switching.

1.5.2 Front camera input "V3-Front" (Dip 3)

If Dip 3 = **ON**, the interface switches to the CVBS/AHD front camera input **V3-Front** after the reverse gear is engaged. In addition, manual switching to the front camera input is possible from any picture mode using an external keypad (short press).

In the OSD menu settings, the automatic display time of the front camera can be selected between 5; 10; 15 or 20 seconds or switched off. Another video source could then also be connected to instead of a front camera.



1.5.3 Rear-view camera settings (dip 4)

If dip 4 = **OFF**, the interface switches to the factory image for the existing factory rear-view camera or factory PDC display as long as reverse gear is engaged.

If Dip 4 = **ON**, the interface switches to its CVBS/AHD rear-view camera input **V4-Reverse** (provided Dip 5 is set to OFF) or the **HDMI input*** (provided Dip 5 and Dip 6 are set to **ON**) when reverse gear is engaged.

Note: V4 reverse remains without function when dip 5 = ON, using an HDMI camera.

1.5.4 Connection type of the rear-view camera (Dip 5)

Dip 5 = **ON** selects the **HDMI input*** as the rear-view camera input. In addition, the **HDMI input*** must be activated with dip 6 = **ON**.

Dip 5 = **OFF** selects the **V4** -**Reverse** input as the rear-view camera input.

Note: The automatic switchover to front camera for the preset time is given in both cases after engaging while reverse gear is engaged.

1.5.5 **HDMI** input (Dip 6)

Dip 6 = **ON** activates the **HDMI input*** and can be used for various HDMI sources (e.g. rear-view camera or 360° camera system, smartphone, laptop, streaming stick, DVB-T2 tuner, etc.) . Dip 5 = **ON** must also be set for rear-view camera/360° camera system. With Dip 6 = **OFF**, the **HDMI input*** is deactivated.

1.5.6 Position of factory PDC display (Dip 7-8)

The position of the factory PDC display is using Dips 7 and 8. The position of the PDC display is not adjusted; instead, the interface is told where to find the factory PDC graphic. After activation, the PDC display is always located to the right of the picture from an aftermarket rearview camera.

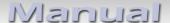
Position of PDC	Dip 7	Dip 8
Right	OFF	OFF
Centre	OFF	ON
Left	ON	OFF



Note: The PDC function of the interface must also be activated via dip 4 of the 4 dip switch bench on the top of the interface box.

Power reset interface after each dip change to activate changes!

^{*} HDMI input only available with HDV-MIB100



Interface box, top side, black

1.6 Settings – 2 dip switch bench (head unit)





Attention: In contrast to the other switch benches (8 and 4 on the side), the dip position UP = ON and DOWN = OFF for the 2 on the top!

Assignment of the 4-pin HSD connection according to manufacturer of the head unit/monitor size	Dip 1	Dip 2
Audi with Alpine, Aptiv/Delphi head unit and 8.8, 10.1 and 11.6inch monitor	OFF ↓	OFF ↓
VW with Alpine head unit 15inch monitor	OFF ↓	OFF ↓
Audi with Harman head unit 8.8inch monitor	ON ↑	OFF ↓
VW, Seat, Skoda, Ford, MAN Head-Unit 10, 10.3, 10.4, 12, 12.9 and 13inch monitor	ON ↑	ON↑

Attention!
Flip the dip switches very carefully with micro tool.

Power reset interface after each dip change to activate changes!

If the factory image is displayed when the interface is installed and the power LED is lit, the 2 dips do not need to be changed!





Interface box, top side, black

1.7 Settings – 4 dip switch bench (head unit/monitor size and PDC)



Attention: In contrast to the other switch banks (8 and 4) the dip position UP = ON and DOWN = OFF!

Head unit/monitor size	Dip 1	Dip 2	Dip 3	Dip 4
Audi with Alpine, Aptiv/Delphi head unit 10.1 and 11.6inch monitor	OFF ↓	OFF ↓	OFF ↓ (ON ↑)*	**
Audi with Harman head unit 8.8inch monitor	ON ↑	OFF ↓	OFF ↓	**
Audi with Alpine, Aptiv/Delphi head unit 8.8inch monitor	OFF ↓	ON ↑	OFF ↓	**
Audi with Alpine, Aptiv/Delphi head unit 10.1inch monitor - MEB modular system based vehicles, e.g. Audi Q4 e-tron	ON 个	ON 个	OFF ↓	**
VW, Seat, Skoda, Ford, MAN head unit 10, 10.3, 10.4, 12 or 13inch low resolution monitor	OFF ↓	OFF ↓	ON ↑	**
VW head unit 12.9 or 13inch high resolution monitor	ON ↑	OFF ↓	ON ↑	**
VW with Alpine head unit 15 inch monitor	OFF ↓	ON ↑	ON ↑	**
PDC deactivated	-	-	-	OFF ↓
PDC activated*	-	-	-	ON ↑

Attention!
Dip switch
especially careful
with micro-tool
to fold.

Power reset interface after each dip change to activate changes!

If the camera picture and/or the inserted video or other functions are not working properly, press the external keypad for 10 seconds to reset the interface.

- * If a white or grey bar appears on the right edge of the inserted picture, set Dip 3 to ON.
- ** Dip 4 with switch position ON shows the PDC display as a "picture in picture" in conjunction with the camera image.

Note: If the video interface does not receive the required information from the vehicle CAN bus, the optical PDC display cannot be used.



1.8 Settings – 4 dip switch bench (CAN bus)

Interface box, right side, red

Set the DIP switch positions according to the following table.

Dip position UP = OFF and DOWN = ON

Dip	Function	ON (down)	OFF (up)
1	Selection of manufacturer-specific image signal type (only if Dip 2 = OFF)	Harman head unit	Alpine, Aptiv/Delphi, LG head unit
2	Automatic detection or manual setting of manufacturer-specific signal type	Automatic detection	Manual setting via Dip 1
3	No function	-	Set to OFF
4	No function	-	Set to OFF

Power reset interface after each dip change to activate changes!

2 Installation

Switch off the ignition and disconnect the vehicle battery according to the factory specifications!

If the vehicle battery must not be disconnected according to the factory specifications, in most cases it is sufficient to put the vehicle into sleep mode. If this does not work, disconnect the vehicle battery with a resistor cable.

Before final installation, we recommend a test run of the interface with all connected devices to ensure that all parts are compatible. Due to possible changes in the vehicle manufacturer's production at any time, incompatibility can never be ruled out.

As with every installation of retrofit devices, a quiescent current test of all retrofitted devices must be carried out after installation to ensure that the devices are switched off to standby mode in vehicle sleep mode.



Place of connection

The video interface is connected to the rear of the head unit.

Model	Location of the head unit
Audi A6	at the top behind the glove compartment
Audi A8 Audi Q4 e-tron	behind the glove compartment
Audi e-tron	Centre console under the ventilation for rear passengers*

^{*}Note: In the Audi e-tron, the following hidden screw (Torx) at the rear of the centre console must be loosened (one screw, the rest is plugged in - ventilation does not need to be removed).

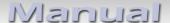




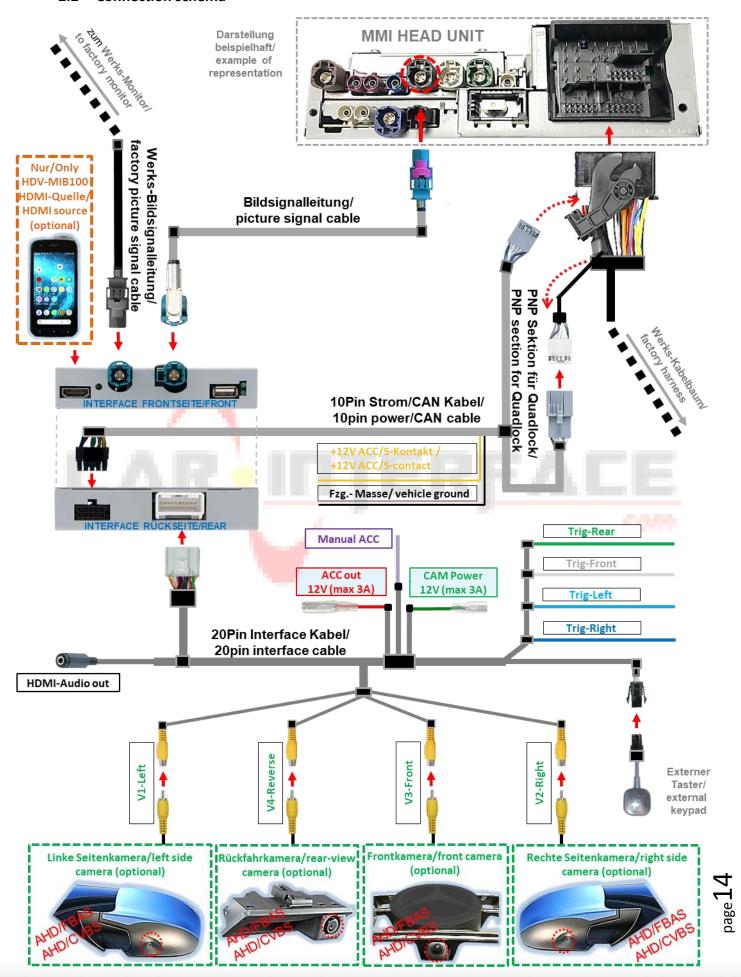




Note for test run: For vehicles in which the climate control runs via a touchscreen monitor, this must also be connected for a test run of the interface.



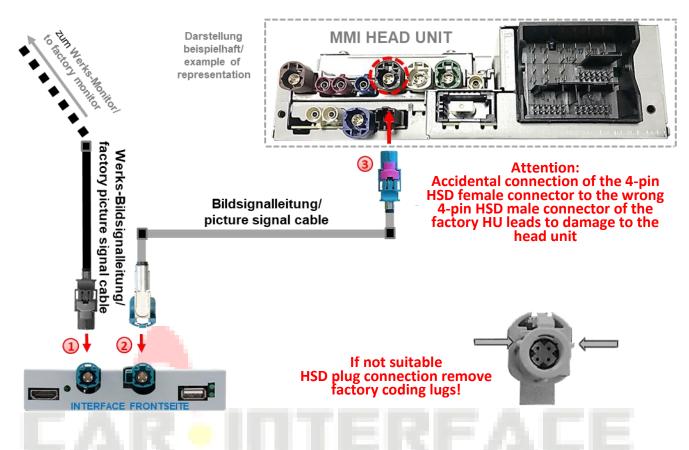
2.2 Connection schema





2.3 Connection - picture signal cable

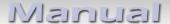
Remove the head unit.



- Disconnect the **black** or **pink** HSD connector (colours may vary) of the factory picture signal cable on the back of the head unit and connect it to the **water-blue** HSD connector "**TO LCD**" of the interface.
- 2 Connect the water-blue angled HSD female connector of the picture signal cable to the water-blue HSD+2 male connector "HU IN" of the interface.
- 3 Connect the water blue non-angled HSD female connector of the picture signal cable to the black or pink HSD male connector (colours may vary) of the head unit.



Note: Depending on the installation conditions, the picture signal cable supplied may also be installed with the HSD connectors reversed. However, it may only be connected to the head unit!



2.4 Connection - cable sets, power supply and CAN bus or analogue without CAN bus

The interface can be integrated via CAN bus or operated completely analogue without connection to the CAN bus.

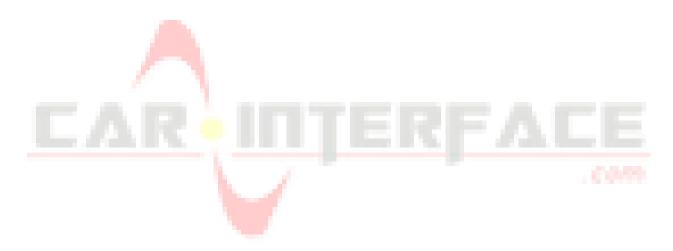
When integrated via CAN bus, the interface is switched on via the CAN bus and R-gear signal and turn signals are usually recognised from this. In some vehicles, movable guide lines can also be displayed using the CAN bus steering signals.

In exceptional cases, CAN communication is not (fully) compatible. If no interface LED lights up after connecting the 10-pin power/CAN cable set when the ignition is switched on, the analogue connection described below must be made. The analogue connection is also possible to avoid a possible subsequent CAN bus incompatibility. The interface must be both switched on and switched to its inputs via +12V switching inputs.

The display of movable guide lines for rear-view camera is omitted with analogue connection.

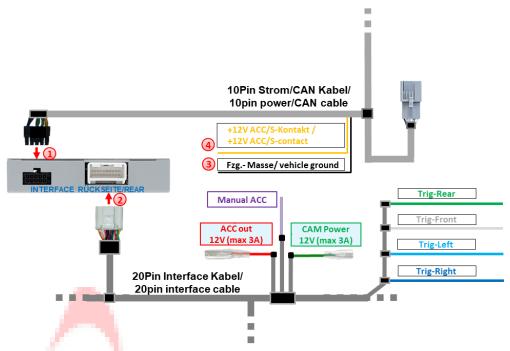


For vehicles with CAN-FD, the interface must be connected in analogue mode. To determine whether CAN-FD is available in the vehicle, a current diagnostic device or a CAN finder is required.





Regardless of whether the connection is made with CAN bus or analogue without CAN bus, the **black Ground wire** and the **yellow +12V ACC/S contact wire** of the **10-pin power/CAN cable** must always be connected.



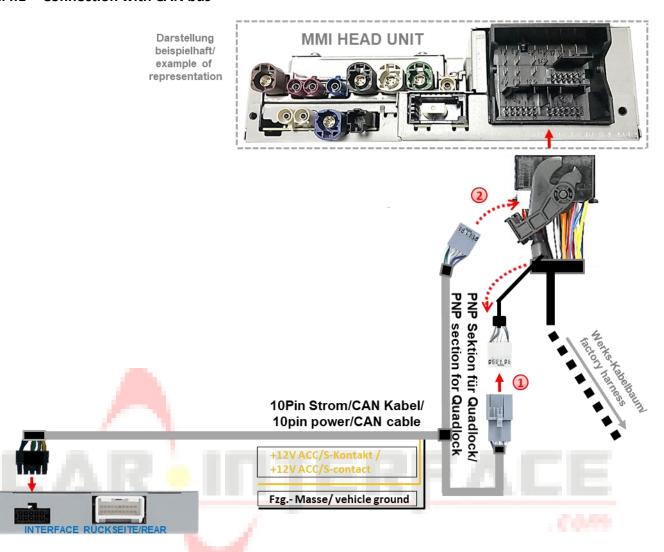
- 1 Connect the 10-pin female connector of the 10-pin power/CAN cable to the 10-pin male connector of the interface.
- Connect the 20-pin female connector of the 20-pin interface cable to the 20-pin male connector of the interface.
- 3 Connect the black ground wire of the 10-pin power/CAN cable to vehicle ground.
- 4 Connect the yellow +12V ACC/S-contact wire of the 10-pin power/CAN cable to +12V ACC (terminal 15r) or S-contact (terminal 86s) of the vehicle.



Note: It is technically also possible to connect the interface to the +12V battery (terminal 30). However, in the event of a (partial) CAN bus incompatibility or a defect, it cannot be ruled out that the interface <u>does not</u> switch off in sleep mode. A connection to +12V battery (terminal 30) is at your own risk!



2.4.1 Connection with CAN bus



- Disconnect the female Quadlock connector of the vehicle wiring harness at the rear of the head unit and connect the 12-pin female connector previously unclipped from it to the grey 12-pin male connector of the 10-pin power/CAN cable.
- Clip the grey 12-pin female connector of the 10-pin power/CAN cable into the previously vacated position of the female Quadlock connector.

Then reconnect the female Quadlock connector on the back of the head unit.

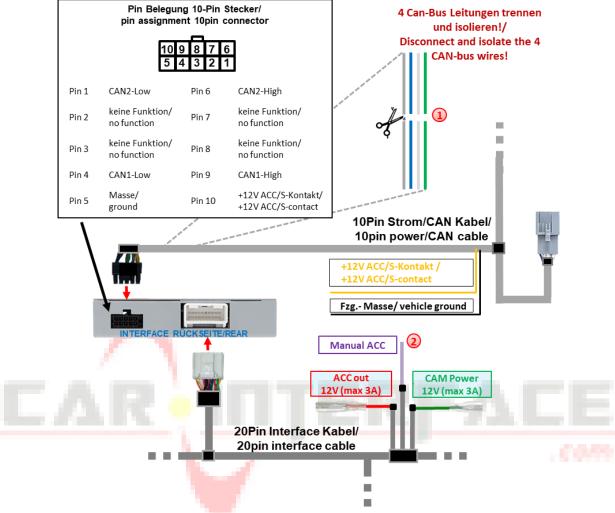
Attention!

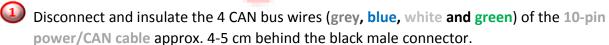
In exceptional cases, CAN communication is not (fully) compatible. If no interface LED lights up after connecting the 10-pin power/CAN cable set when the ignition is switched on, the analogue connection described below must be made.

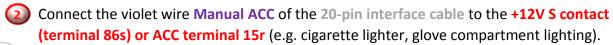


2.4.2 Analogue connection without CAN bus

With analogue connection, the four CAN wires of the 10-pin power/CAN cable are not connected - the four wires of the 10-pin power/CAN cable must be disconnected for this!



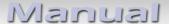






Notes

- The screen is only switched on as long as the video interface is switched on via +12V on Manual ACC. Otherwise, the factory picture is also black.
 When selecting the switch-on signal, it must be checked whether the factory picture is available in all desired operating states.
- The display of movable guide lines for rear-view camera is omitted with analogue connection.
- If the interface is connected analogue (without CAN bus), the rear-view camera and side cameras must also be connected analogue. See points:
 - 2.6.2 Case 2: Reverse gear signal from analogue signal
 - 2.8.2 Case 2: Turn signals from analogue signal



2.4.3 Special case: CAN bus connection for vehicles with CAN bus tail lights if the reverse gear signal is not recognised

In some vehicles (e.g. vehicles based on the MEB modular system, including the Audi Q4 e-tron), the reverse gear signal is not available at every point on the CAN bus, especially not at the rear of the factory head unit. If the vehicle also has CAN bus-controlled tail lights, the analogue connection described in the previous chapter is also not possible.

In this case, the grey and blue CAN wires of the 10-pin power/CAN cable can be disconnected and the interface ends connected to the CAN bus at another point in the vehicle, e.g. at the BCM (Body Control Module).

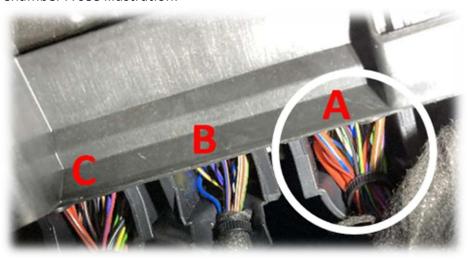


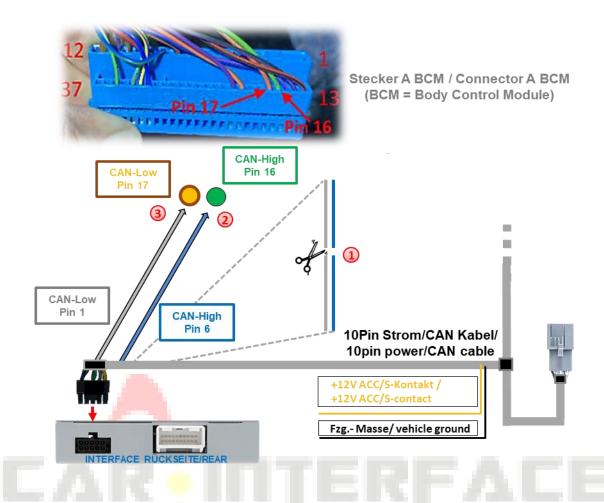
Attention: The reverse gear signal is not recognised by the interface via the CAN bus in all vehicles. If this is the case in conjunction with CAN bus-controlled tail lights, the special case described below is also not a solution. In such a case, only an additional CAN bus interface from another manufacturer can be used!

The BCM (Body Control Module) is located on the driver's side on the left-hand black male connector above the pedals:

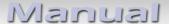


Chamber A see illustration:



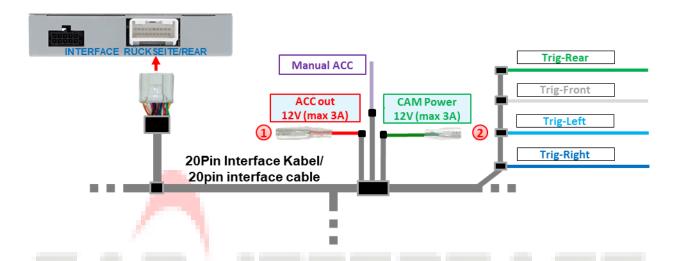


- Disconnect the 2 CAN bus wires (grey pin 1, blue pin 6) of the 10-pin power/CAN cable approx. 4-5 cm behind the black male connector and insulate the ends to the PNP section for Quadlock.
- Connect the interface-side blue CAN bus wire CAN-High of the 10-pin power/CAN cable to CAN-High of male connector A of the BCM (Body Control Module, green pin 16) of the vehicle.
- 3 Connect the interface-side grey CAN bus wire CAN-High of the 10-pin power/CAN cable to CAN-High of male connector A of the BCM (Body Control Module, orange brown pin 17) of the vehicle.



2.5 Power supply outputs

The two red and green power supply lines ACC out 12V (max 3A) and CAM Power 12V (max 3A) of the 20-pin interface cable can be used either as ACC power supply for the external video sources connected to V1-Left, V2-Right, V3-Front or HDMI input* (e.g. iOS/Android devices, laptop, streaming stick, DVB-T2 tuner), or as power supply for the external video sources connected to V1-Left, V2-Right, V3-Front or HDMI input*, or as a power supply for the after-market cameras (e.g. side, front and rear-view cameras) connected to the V1-Left, V2-Right, V3-Front, V4-Reverse or HDMI input*.

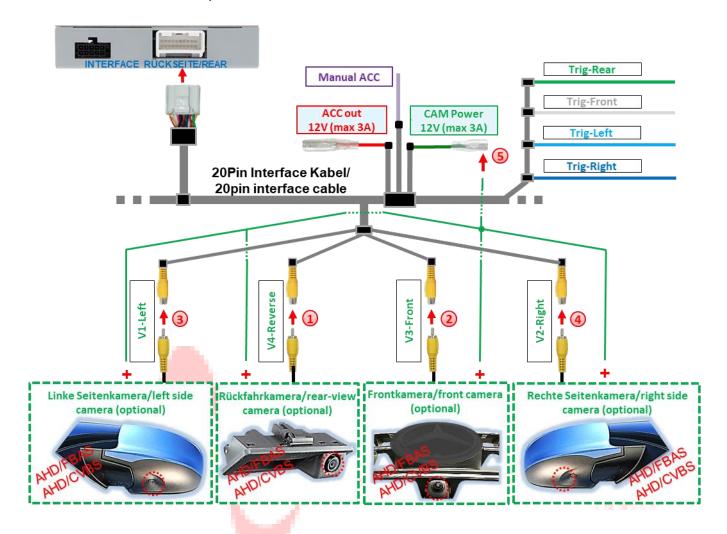


- External video sources (no cameras) can be supplied with power via the red ACC out 12V (max 3A) power supply line of the 20-pin interface cable.

 The wire carries a permanent +12V ACC switching output current while the interface is switched on (see the following chapter for connection diagrams).
- 2 The power supply for after-market cameras (e.g. rear-view, side and front cameras) can be provided via the green CAM Power 12V (max 3A) power supply line of the 20-pin interface cable. The wire carries +12V switching output current only as long as one of the camera inputs is displayed, regardless of whether the connection is made via the vehicle CAN bus or via one of the trigger wires (see the following chapter for connection diagrams).

^{*} HDMI input only available with HDV-MIB100

2.5.1 Connection and power supply - Video sources Rear-view camera, front camera and 2 side cameras



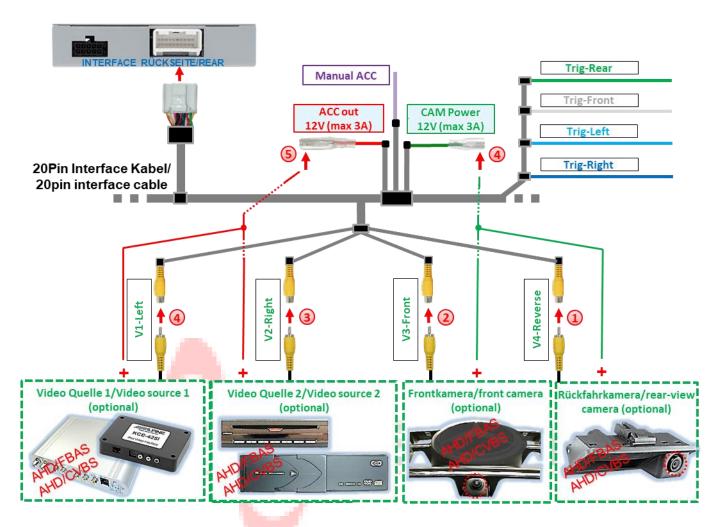
- 1 Connect the RCA male connector of the rear-view camera to the V4 reverse RCA female connector of the 20-pin interface cable.
- Connect the RCA male connector of the front camera to the RCA V3 front female connector of the 20-pin interface cable.
- Connect the RCA male connector of the left side camera to the RCA female connector V1-Left of the 20-pin interface cable.
- Connect the RCA male connector of the right side camera to the RCA V2-Right female connector of the 20-pin interface cable.
- Connect the power supply for all after-market cameras to the green wire CAM Power 12V (max 3A) of the 20-pin interface cable.



Note: The type of camera selection (via vehicle CAN bus or trigger lines) can be preset **individually** for each input in the OSD menu settings.

Attention!
Video signal type of each video
source must be preset in OSD-menu
of corresponding video-input.

2.5.2 Connection and power supply - video sources Rear-view camera, front camera and 2 video sources



- (1) Connect the RCA connector of the rear-view camera to the RCA socket V4-Reverse of the 20-pin interface cable.
- Connect the RCA male connector of the front camera to the RCA female connector V3-Front of the 20-pin interface cable.
- Connect the male connectors of video sources 1 and 2 to the RCA connectors V1-Left and V2-Right of the
- 20-pin interface cable.

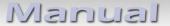
Connect the power supply for after-market cameras to the green CAM Power 12V wire (max 3A) of the 20-pin interface cable.

5 Connect the power supply for video sources to the red wire ACC out 12V (max 3A) of the 20pin interface cable.



Note: The type of camera selection (via vehicle CAN bus or trigger lines) can be preset **individually** for each input in the OSD menu settings.

Attention!
Video signal type of each video
source must be preset in OSD-menu
of corresponding video-input.



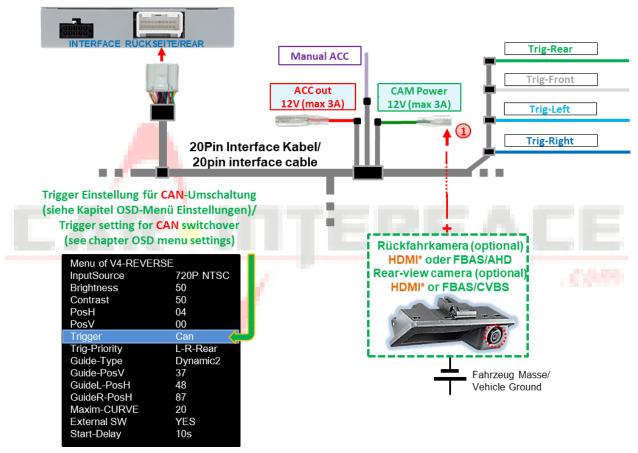
2.6 After-market rear-view camera

Automatic switching to rear-view camera can be carried out via the CAN bus or an analogue reverse gear signal.

2.6.1 Case 1: Reverse gear signal from CAN bus

The basic requirement is that the connection of the interface is made with CAN bus. Furthermore, the vehicle CAN bus reverse gear signal and detection by the interface must be compatible. Then the interface supplies +12V on the green wire CAM Power 12V (max 3A) of the 20pin interface cable while reverse gear is engaged and the interface automatically switches to the rear-view camera input V4-Reverse or the HDMI- input*.

See also chapter 1.5 Settings – 8 dip switch bench (interface functions).



The +12V power supply for the after-market rear-view camera can be provided via the green wire CAM Power 12V (max 3A) of the 20-pin interface cable, as this wire only carries current while the camera inputs are switched on (some cameras are not continuously current-stable).



Notes

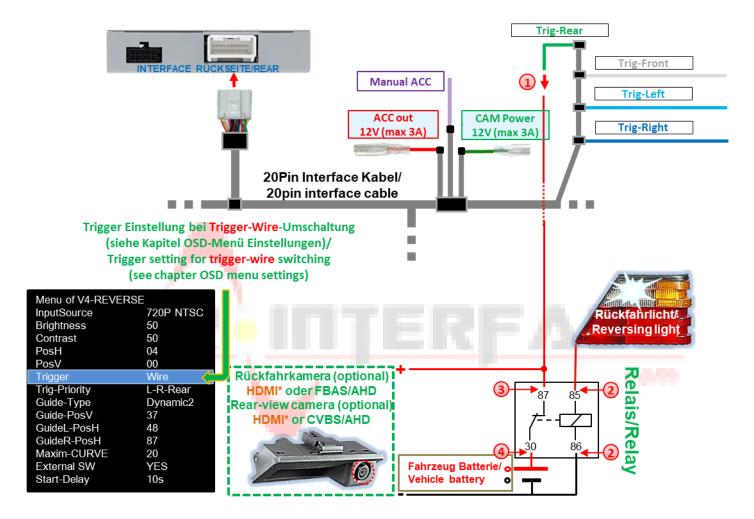
- If the HDMI input* is defined as the rear-view camera input, the V4 reverse input has no function!
- If the reverse gear detection of the interface on the CAN bus does not work, the reverse gear signal must be connected analogue.

^{*} HDMI input only available with HDV-MIB100



2.6.2 Case 2: Reverse gear signal from analogue signal

When connected the interface without CAN bus or when connected with CAN bus, if reverse gear is engaged and the interface does not provide +12V on the green wire CAM Power 12V (max 3A) of the 20pin interface cable (not all vehicles are compatible), an external reversing light switch signal is required. As the reversing signal contains electronic interference, a normally open relay (e.g. AC-MR-312 or AC-MR-201) or a noise filter (e.g. AC-PNF-RVC) is required. The following diagram shows the use of a normally open relay.

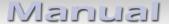


- Oonnect the green wire Trig-REAR to the output terminal (87) of the relay.
- Connect the reversing light power cable to the switching coil terminal (85) and the vehicle Ground to the switching coil terminal (86) of the relay.
- 3 Connect the rear-view camera power supply wire to the output terminal (87) of the relay, in addition to the green Trig-REAR wire.
- Connect continuous current +12V to the input terminal (30) of the relay.

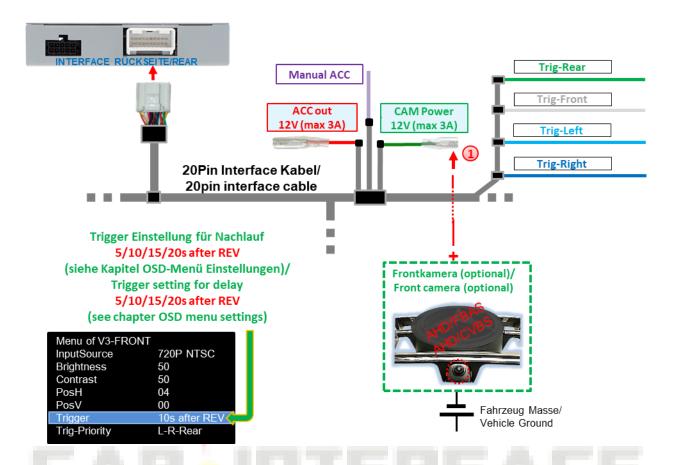


Note: For vehicles with CAN bus tail lights in which the reverse gear signal is not recognised (see chapter 2.4.3 Special case: CAN bus connection for vehicles with CAN bus tail lights if the reverse gear signal is not recognised), the analogue connection of the reverse gear signal is not possible

^{*} HDMI input only available with HDV-MIB100



2.7 After-market front camera



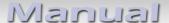
To power the front camera (and all other cameras connected to the video inputs), the green CAM Power 12V (max 3A) wire can be used. This is only current-carrying for the duration of any camera activation (some cameras are not continuously current-stable). Requirements are that dip 3 = ON (black 8 switch bench). The green wire then carries +12V (max. 3A) as power supply for the front camera as long as the front camera input is displayed.

The delay time can be individually selected for **5**, **10**, **15** or **20** seconds in the OSD menu settings of the front camera.

Switchover to front camera after reverse gear has been engaged for the time set in the OSD menu takes place with reverse gear signal from CAN bus and with analogue connection.



Note: In addition, manual switching to front camera input (short press) is possible from any picture mode using an external keypad (see chapter *3 Operating the video interface*).

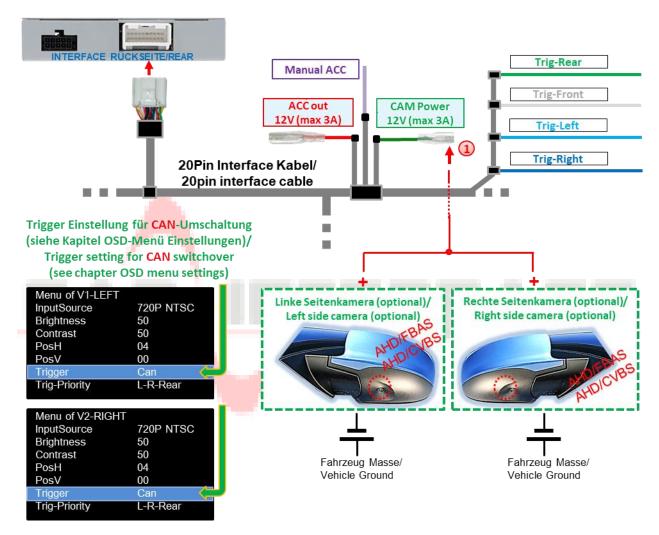


2.8 After-market side cameras

Side cameras can be connected with selection via CAN bus or analogue signals.

2.8.1 Case 1: Turn signals from CAN bus

The basic requirement is that the connection of the interface is made with CAN bus. Furthermore, vehicle CAN bus turn signals and their recognition by the interface must be compatible. Then +12V is present on the **green wire CAM Power 12V (max 3A)** of the **20-pin interface cable for the** duration of turn signal operations.



The power supply for the side cameras can be provided via the green CAM Power 12V (max 3A) wire of the 20-pin interface cable, as this wire only carries current during camera activations (some cameras are not continuously current-stable).

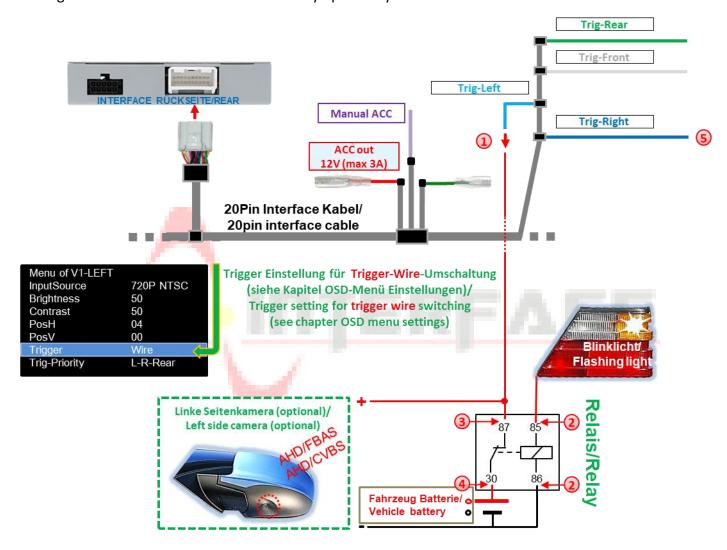


Note: If the turn signal detection of the interface on the vehicle CAN bus does not work, the turn signals must be connected analogue.

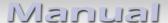


2.8.2 Case 2: Turn signals from analogue signal

When the interface is connected without CAN bus or when the interface is connected with CAN bus and the turn signals from the vehicle CAN bus are not recognised, an analogue activation of the side camera inputs is possible via the +12V switching input wires Trig-Left and Trig-Right. An external switching signal from the turn signal bulbs is required to switch to the side camera inputs. As turn signals may contain electronic interference, a normally open relay (e.g. AC-RW-1230 with AC-RS5 wiring) or a noise filter (e.g. AC-PNF-RVC) is required for each input. The diagram below shows the use of a normally open relay.

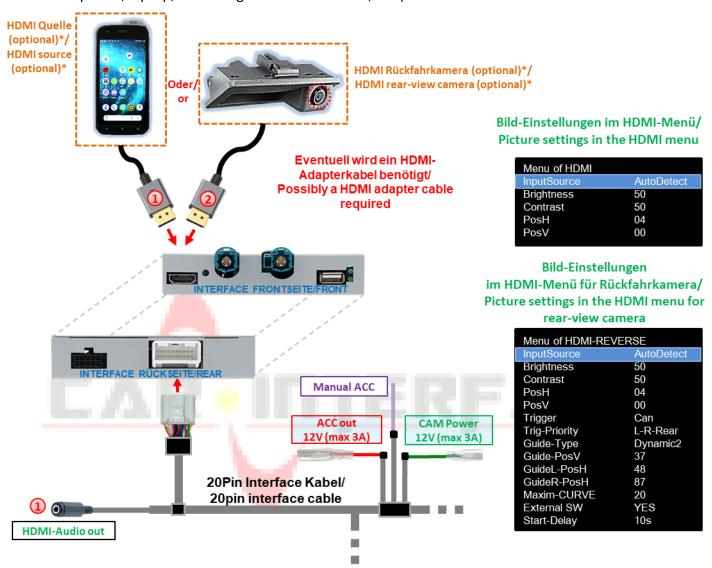


- Connect the light blue wire Trig-Left to the output terminal (87) of the relay.
- 2 Connect the flashing light power cable of the left-hand flashing light to the switching coil terminal (85) of the relay and the vehicle ground to the switching coil terminal (86) of the relay.
- 3 Connect the left side camera power cable to the output terminal (87) of the relay, in addition to the light blue Trig-Left wire.
- (30) of the relay.
- 5 The same connection method applies to the right side camera via the dark blue Trig-Right wire.



2.9 HDMI rear-view camera or other HDMI sources (HDV-MIB100 only)

The **HDMI input** * of the interface can generally be used for any video source connected to it with an HDMI output (e.g. rear-view camera, 360° camera system or other video source such as smartphone, laptop, streaming stick DVB-T2 tuner, etc.).



- If an optional HDMI video source is connected to the HDMI input*, the picture shown on the display of the source (e.g. smartphone, laptop, etc.) is mirrored on the vehicle monitor. Other sources (e.g. streaming stick, DVD player, DVB-T tuner, etc.) can also be displayed on the vehicle monitor. The video source can be supplied with power via the red wire ACC out 12V (max3A). Received audio signals are output via the 3.5 mm jack socket HDMI audio out * of the 20-pin interface cable. (See the following chapter 2.10 Audio insertion.)
- 2 If a rear-view camera or a 360° camera system is connected to the HDMI input* (activated via CAN bus or analogue), the picture from the rear-view camera is displayed for the preset time when reverse gear is engaged and, after it has been laid out, the picture from a front camera connected to the front camera input V3-Front is also displayed. Power can be supplied via the green wire CAM Power 12V (max3A).

^{*} HDMI input only available with HDV-MIB100



2.10 Audio insertion

The interface can only insert video signals into the factory infotainment.

Audio signals from the **HDMI input*** are output via the 3.5mm jack socket **HDMI audio out *** of the interface. For all connected video sources, an existing audio output must be connected to the factory AUX input (if available) or an optional Audio inserter (e.g. FM modulator). If several AV sources are connected to the infotainment, an additional audio switch may be necessary.

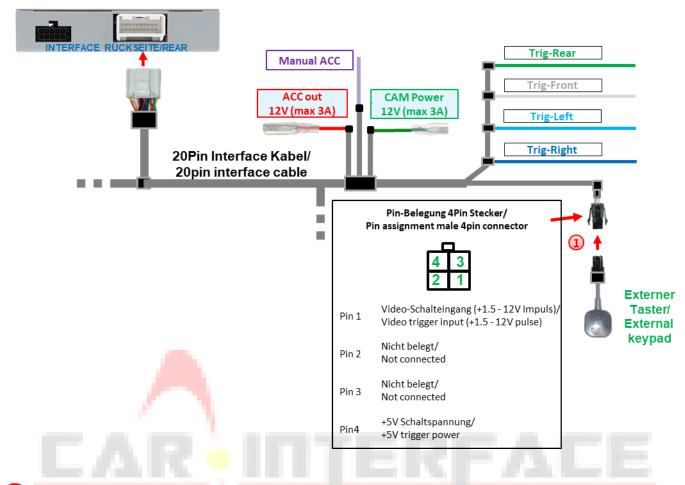
Video signals fed in can be activated in parallel to any audio mode of the factory infotainment system.

* HDMI input only available with HDV-MIB100





2.11 Connection - video interface and external keypad



Connect the 4-pin female connector of the external keypad to the 4-pin male connector of the 20-pin interface cable.



Note: Even if the keypad is not required for switching multiple sources, it is strongly recommended that it is connected to the interface and remains invisible. The keypad should then not be installed "pressed".

If the camera picture and/or the inserted video or other functions are not working properly, press the external keypad for 10 seconds to reset the interface.

Optional: Instead of the external keypad, the interface can also be operated using the optionally available remote control "HDA-RC".* This enables direct selection of the video/camera inputs and more convenient changing of settings in the respective OSD menus.

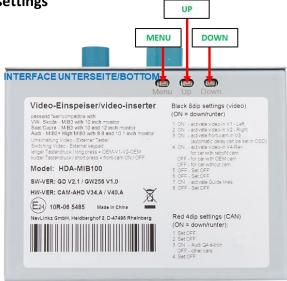


Remote control 'HDA-RC' optionally available

^{*} The remote control is compatible with all HDA and HDV interfaces that are labelled with 'RC' at the end of the software version.



2.12 OSD menu settings



Attention!
Video signal type of each video
source must be preset in OSD-menu
of corresponding video-input.

OSD menu settings can be changed using the 3 keypads on the back of the interface. MENU opens the OSD settings menu or moves the cursor to the next menu item. UP (UP) and DOWN (DOWN) change the values of the current menu item.



The individual OSD settings menu of each video input can only be called up while it is displayed, regardless of whether a video source is connected.

The following setting options are available in the OSD setting menus of the 5 video inputs:

Menu V1-Left (V2-Right)

Switch bench of 8 dip switches dip 1 (dip 2) = ON

Input Source Video-signal type for video-source(s) connected

to V1-Left (V2-Right).

This setting must be preset for correct video playback.
The following video-source signal types can be selected:

CVBS video-sources: NTSC, PAL

AHD video-sources: **720p NTSC, 960p NTSC, 1080p NTSC,**

720p PAL, 960p PAL, 1080p PAL

Brightness Brightness **Contrast** Contrast

Pos H Horizontal image position
Pos V Vertical image position

Trigger Type of selection of video input V1-Left (V2-Right)

"CAN" function for side cameras via CAN bus. Selection of the video input

V1-Left (V2-Right) when activating the blink signal left (right). The prerequisite is that

the blink signal is recognised by the interface on the vehicle CAN bus. Manual selection of this

input using an external keypad does not work with this setting.

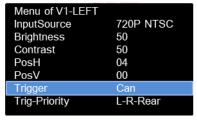
"Wire" function for other video sources or side cameras without CAN bus. The video input V1-Left (V2-Right) is selected exclusively via the light blue (dark blue) Trig-Left (Trig-Right)

wire or manually via an external keypad.

Trig-Priority Switching priority when switching signals are present for multiple inputs simultaneously

(CAN bus or analogue +12 V triggers). The signal with the highest priority is displayed:

L-R-Rear: V1-Left \rightarrow V2-Right \rightarrow V4-Reverse Rear-R-L: V4-Reverse \rightarrow V2-Right \rightarrow V1-Left



Menu of V2-RIGHT	
InputSource	720P NTSC
Brightness	50
Contrast	50
PosH	04
PosV	00
Trigger	Can
Trig-Priority	L-R-Rear



50 50

04

00

720P NTSC

10s after REV

L-R-Rear

Menu of V3-FRONT InputSource

Brightness

Trig-Priority

Contrast

PosH

PosV



Menu V3 front Switch bench of 8 dip switches Dip 3 = ON

Input Source Video-signal type for video-source(s) connected

to V3-Front.

This setting **must** be preset for correct video playback. The following video-source signal types can be selected:

CVBS video-sources: NTSC, PAL

AHD video-sources: 720p NTSC, 960p NTSC, 1080p NTSC, 720p PAL, 960p PAL,

1080p PAL

Brightness
Contrast
Brightness
Contrast

Pos H Horizontal image position
Pos V Vertical image position

Trigger Type of selection of video input **V3 front**.

"Delay" function for front camera. The "Delay" setting is used to determine the automatic switching of a front camera connected to the V3 front input after reverse gear is engaged and its display duration on the display. Available are 5s after REV, 10s after REV, 15s after REV,

20s after REV.

"Wire" function for other video sources. If another video source is to be connected to V3-Front instead of a front camera, select the "Wire" setting. This switches off the "Delay" function and the input can only be selected via the white Trig-Front wire or manually via an

external keypad.

Trig-Priority Switching priority when switching signals are present for multiple inputs simultaneously

(CAN bus or analogue +12 V triggers). The signal with the highest priority is displayed:

L-R-Rear: V1-Left \rightarrow V2-Right \rightarrow V4-Reverse

Rear-R-L: V4-Reverse → V2-Right → V1-Left





Menu V4 reverse Switch bench of 8 dip switches Dip 4 = ON, Dip 5 = OFF, Dip 6 = OFF

V4-Reverse input has no function if **HDMI input*** is defined as rear-view camera input (Dip 5 = ON).

Input Source Video-signal type for video-source(s) connected

to V4-Reverse. This setting must be preset for correct video

playback.

The following video-source signal types can be selected:

CVBS video-sources: NTSC, PAL

AHD video-sources: 720p NTSC, 960p NTSC, 1080p NTSC, 720p PAL, 960p PAL, 1080p PAL

Brightness
Contrast
Brightness
Contrast

Item HHorizontal image positionItem VVertical image position

Trigger Type of selection of rear-view camera input **V4 reverse**.

"CAN" function with CAN bus connection. With the "CAN" setting, the system

automatically switches to V4 reverse for CVBS/AHD rear-view camera when reverse gear is

engaged. The interface must recognise the reverse gear in the CAN bus.

"Wire" function with analogue connection. The selection of a rear-view camera

connected to the V4 reverse via the green Trig-Rear wire is possible with both the "Wire" and "CAN" settings. Itgis pase സ്വാന അംഗ്ലെ സ്വാന്ത്ര പ്രവാദ വരുന്നു പ്രവാദ പര്യാട്ടില്ലെ വരുന്നു പര്യാട്ടില്ലെ പ്രവാദ പര്യാട്ടില്ലെ പ്രവാദ പര്യാട്ടില്ലെ പ്രവാദ പര്യാട്ടില്ലെ പ്രവാദ പര്യാട്ടില്ലെ പരത്യാട്ടില്ലെ പര്യാട്ടില്ലെ പര്യാട്ടില്ലെ പര്യാട്ടില്ലെ പര്യാട്ടില്ലെ പര്യാട്ടില്ലെ പരത്യാട്ടില്ലെ പര്യാട്ടില്ലെ പര്യാട്

connection.

Trig-Priority Switching priority when switching signals are present for multiple inputs simultaneously

(CAN bus or analogue +12 V triggers). The signal with the highest priority is displayed:

L-R-Rear: V1-Left → V2-Right → V4-Reverse Rear-R-L: V4-Reverse → V2-Right → V1-Left

Guide Type Setting 6 different angles of the guide lines for the rear-view camera

Moving guide lines

Fixed guide lines

Fixed 1-6

Fixed 1-6

No guide lines OFF

Guide Pos. VVertical position of the auxiliary wires35-69Guide L Pos.HHorizontal position of the left auxiliary wire00-90Guide R Pos.HHorizontal position of the right-hand auxiliary wire00-121Maxim. CurveRadius of the auxiliary wires01-20

External SW Selectable via external keypad V4 Reverse

YES: Factory video → HDMI* → V1-Left → V2-Right → V4-Reverse → Factory video

NO: Factory video → **HDMI*** → **V1-Left** → **V2-Right** → Factory video

Start-Delay Switch delay of the interface at start-up. This function is technically necessary in some

vehicles, as otherwise the factory system may malfunction (e.g. black screen, touch

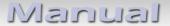
problems). The following options are available (in seconds):

5s/6s/7s/8s/9s/10s/12s/15s/20s

Changing the default settings may cause malfunctions!

Menu of V4-REVERSE 720P NTSC InputSource Brightness 50 50 Contrast 04 PosH PosV 00 Trig-Priority L-R-Rear Dynamic2 Guide-Type Guide-PosV 37 48 GuideL-PosH 87 GuideR-PosH Maxim-CURVE 20 YES External SW Start-Delay 10s

^{*} HDMI input only available with HDV-MIB100



Menu HDMI*

Switch bench of 8 dip switches (dip 4 = ON, dip 5 = ON/OFF, dip 6 = ON)

8-position switch bench (dip 4 = ON, dip 5 = ON/OFF, dip 6 = ON)

HDMI AV input (Dip 5 – OFF)

InputSource The picture resolution of connected HDMI sources

is detected automatically.

Brightness Brightness Contrast Contrast

Item HHorizontal image positionItem VVertical image position

Menu of HDMI	
InputSource	AutoDetect
Brightness	50
Contrast	50
PosH	04
PosV	00

50

04

00

37

48

87

20 YES

10s

Can

L-R-Rear Dynamic2

Menu of HDMI-REVERSE

InputSource Brightness Contrast

PosH PosV

Trigger

Trig-Priority

Guide-Type Guide-PosV

GuideL-PosH

GuideR-PosH

External SW

Start-Delay

Maxim-CURVE

HDMI rear-view camera input (Dip 5 = ON)

InputSource The picture resolution of connected HDMI sources

is detected automatically.

BrightnessBrightnessContrastContrast

Pos. H Horizontal image position
Pos. V Vertical image position

Trigger Type of selection of rear-view camera input HDMI-REV.

"CAN" function with CAN bus connection. With the "CAN" setting, the system

automatically switches to HDMI* for HDMI rear-view camera when reverse gear is engaged.

The interface must recognise the reverse gear in the CAN bus.

"Wire" function with analogue connection. The selection of a rear-view camera connected to the HDMI* via the green Trig-Rear wire is possible with both the "Wire" and "CAN" settings. It is recommended to set "Wire" for analogue (reversing signal) connection.

Trig-Priority Switching priority when switching signals are present for multiple inputs simultaneously

(CAN bus or analogue +12 V triggers). The signal with the highest priority is displayed:

L-R-Rear: V1-Left → V2-Right → V4-Reverse Rear-R-L: V4-Reverse → V2-Right → V1-Left

Guide Type Setting 6 different angles of the guide lines for the rear-view camera

Moving guide lines

Fixed guide lines

No guide lines

OFF

Dynamic 1-6

Fixed 1-6

OFF

Guide Pos. VVertical position of the guide lines01-69Guide L Pos.HHorizontal position of the left hand guide line01-90Guide R Pos.HHorizontal position of the right-hand guide line01-90Maxim. CurveRadius of the guide lines01-20

External SW Selectable via external keypad V4 Reverse

YES: Factory video \rightarrow HDMI* \rightarrow V1-Left \rightarrow V2-Right \rightarrow V4-Reverse \rightarrow Factory video

NO: Factory video \rightarrow **HDMI*** \rightarrow **V1-Left** \rightarrow **V2-Right** \rightarrow Factory video

Start-Delay Switch delay of the interface at start-up. This function is technically necessary in some

vehicles, as otherwise the factory system may malfunction (e.g. black screen, touch

problems). The following options are available (in seconds):

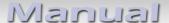
5s/6s/7s/8s/9s/10s/12s/15s/20s

Changing the default settings may cause malfunctions!



Notes: V4 reverse input has no function if the HDMI input* is defined as a rear-view camera input (dip 5 = ON).

^{*} HDMI input only available with HDV-MIB100

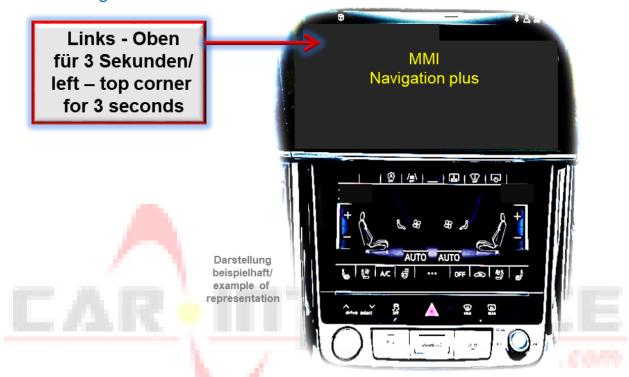


3 Operating the video interface

3.1 Via factory touch display

The top left touch display corner can be used to switch all activated inputs.

Umschaltung Video Quellen/ Switching video sources



A long press (3 seconds) in the top left corner of the touch display switches from factory video to the first activated interface video input. Each further long press switches to the next activated interface video input until the last one switches back to factory video. Deactivated inputs are skipped. If all inputs are activated using the corresponding dip switch, the sequence is as follows:

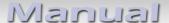
Factory picture → HDMI* → V1-Left → V2-Right → V4-Reverse** → Factory picture

Switching via the top left touch display corner does not work in all vehicles. In some vehicles, the external keypad must be used.

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^{*} HDMI input only available with HDV-MIB100

^{**}V4-Reverse can only be selected via the external keypad if the "External SW" function is set to "Yes" in the V4-Reverse menu.



3.2 Via external keypad

The external keypad can be used to switch all activated inputs and to reset the Interface.

Long press of the keypad (2-3 seconds)

The external keypad switches from factory video to the first activated interface video input with a long press (2-3 seconds). Each further long press switches an activated interface video input until the last press switches back to factory video. Deactivated inputs are skipped. If all inputs are activated using the corresponding dip switch, the sequence is as follows:

Factory picture → HDMI* → V1-Left → V2-Right → V4-Reverse** → Factory picture

Short press of the keypad (only if dip 3 is set to ON)

Short press of external keypad, switches from any video mode to front camera input **V3-Front** and next short press switches back to the previous video mode.



Note: We recommend to install the external keypad for possible support reasons even if not required for customer needs. Make sure the external keypad is not installed "pressed" then.

Press and hold the keypad for 10 seconds

If the camera picture and/or the inserted video or other functions are not working properly, press the external keypad for 10 seconds to reset the interface.

3.3 Optional: Operating the video interface via the 'HDA-RC' remote control

Instead of the external keypad, the interface can also be operated using the optionally available 'HDA-RC' remote control.* This allows direct selection of the video/camera inputs and more convenient changing of settings in the respective OSD menus.

Remote control 'HDA-RC' optionally available

^{*} HDMI input only available with HDV-MIB100

^{**}V4-Reverse can only be selected via the external keypad if the "External SW" function is set to "Yes" in the V4-Reverse menu.

^{*} The remote control is compatible with all HDA and HDV interfaces that are labelled with 'RC' at the end of the software version.



4 Specifications

BATT/ACC range 9V - 16V Stand-by power drain about 5mA Power consumption 350mA @12V

Video input 0.7V - 1V

Video input signal types CVBS/AHD/HDMI (HDV version only)

Signal standards CVBS/AHD NTSC/PAL
Temperature range -40°C to +85°C

Video box dimensions 117 x 25 x 109 mm (W x H x D)

5 FAQ - Troubleshooting Interface functions - product-specific

Problem	Possible cause	Solution
Vehicle battery discharges	Power connection made to battery terminal 30	See chapter 2.4 Connection - cable sets, power supply and CAN bus or analogue without CAN bus - Connection of the 10-pin power / CAN cable
Malfunction or	Video-signal type of video-source not defined in	See chapter 2.12 OSD menu settings
no picture	OSD-menu of the corresponding video input	Menu of the respective input





6 FAQ - Troubleshooting Interface functions - general

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

Symptom	Possible reason	Possible solution
No picture/black	Not all connectors have been reconnected to factory head-unit or monitor after installation.	Connect missing connectors.
picture (factory picture).	CAN-bus wires connected to CAN-bus in wrong place.	Refer to the manual where to connect to the CANbus. If not mentioned, try another place to connect to the CANbus.
	No power on video-interface (all LED video-interface are off).	Check power connection of interface.
	No picture from video source.	Check on other monitor whether video source is OK.
	No video-source connected to the selected interface input.	Check settings dips 1 to 5 of 8dip bench of video interface which inputs are enabled and switch to corresponding input(s).
No picture/black picture/white picture (inserted picture) but factory picture is OK.	Setting of video signal type of active video input is not equal to video signal type of connected video-source.	Set the video signal type of the video source correctly in the OSD menu of the corresponding input.
_	LVDS cables plugged in wrong place.	Double-check whether order of LVDS cables is exactly connected according to manual. Plugging into head-unit does not work when the manual says to plug into monitor and vice versa.
Inserted picture totally wrong size or position. Inserted picture double or multiple times on monitor.	Wrong settings of video- interface.	Verify the vehicle-specific dip switch position in the instructions. If necessary, test different positions of the vehicle-specific dip switches. Perform a power reset after each change (briefly remove the black 10-pin micro-fit power socket once).
Inserted picture distorted, flickering or	Video sources output set to AUTO or MULTI which causes a conflict with the interfaces auto detection.	(Only concerns video-sources with selectable output – e.g., DVD-Players, TV-Tuners, etc.) Set video source output fixed to PAL or NTSC. It is best to set all video sources to the same video signal type output.
running vertically.	If error occurs only after source switching: Connected sources are not set to same video signal type output.	Set all video sources to the same video signal type output.
Inserted picture b/w.	Setting of video signal type of active video input is not equal to video signal type of connected video-source.	Set the video signal type of the video source correctly in the OSD menu of the corresponding input.



Symptom	Possible reason	Possible solution
Only on first inserted video activation after IGN on, the inserted picture is distorted.	Menu item <i>Trigger</i> of the corresponding video-input is set to <i>CAN-bus</i> though analogue signal triggering is used.	Open OSD-menu of corresponding video input and set the menu item <i>Trigger</i> to <i>Wire</i> .
Inserted picture qual. bad. Inserted picture size slightly wrong. Inserted picture position wrong.	Picture settings have not been adjusted.	Use the 3 switches on interface-box or optional HDA-RC cable remote control to set the desired picture settings for the respective video source in the OSD menu of the interface.
Camera input picture flickers.	Camera is being tested under fluorescent light (neon).	Test camera under natural light outside the garage.
Camera input picture is bluish.	Protection sticker not removed from camera lens.	Remove protection sticker from lens.
Camera input picture black. Camera input picture has distortion.	Camera power taken directly from reverse gear lamp.	Use relay or electronic filter to "clean" reverse gear lamp power. Alternatively, camera power can be taken from green wire CAM Power.
Switching to inserted video does not work after IGN on or vehicle startup- temporary.	Interface has a start-up delay during which, after interface start-up for certain time, there is no switching to inserted video. Required to prevent the factory system from crashing.	In OSD menu of V4, default delay can be shortened time in menu item <i>StartDelay</i> , this might especially make sense on installations without connection to CAN-bus. Note: Too short <i>StartDelay</i> setting can cause (sporadically) black-screen of factory picture or loss of factory touch-screen control.
Not possible to switch video sources by OEM	Function not supported in this vehicle.	Use external keypad for AV-switching.
button. Not possible to switch	Pressed too short.	For video source switching a longer press of about 2.5 seconds is required.
video sources by external keypad.	Video-input is not enabled.	Enable corresponding inputs (dips 1 to 5 of 8dip bench).
Interface does not switch to reverse camera input when	CAN-bus of vehicle not fully compatible with interface. Function not supported.	Follow the manual for R-gear signal or turn signal from analogue signal.
reverse gear is engaged or does not switch to side camera input(s) when turn signal in on.	Menu item <i>trigger</i> in the OSD of the video-input was set to <i>Wire.</i>	Switch on corresponding input by external button or 12V to corresponding trigger input. Open OSD-menu of corresponding video input and set the menu item <i>Trigger</i> to <i>CAN bus</i> .
OSD-menu of interface cannot be accessed/opened.	No inserted video input of interface is active, factory picture is displayed.	Each video input of interface has its own OSD with its own settings. The OSD for each input can only be opened when the input is displayed.





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