v.LOGiC Intelligent Solution

Interface

CI-V4-NTG45

Compatible with Mercedes Benz vehicles with COMAND Online NTG4.5 navigation and Audio20 NTG45 system with 4pin HSD LVDS connector

Product features

- Plug and play media-controller with controls by factory infotainment
- Own on-screen display and setup
- 2 picture format modes, 4:3 and full screen
- 3 AV-inputs
- Controls of after-market devices (e.g. DVD-player, DVD-changer, ...) by factory infotainment (see STA + Database for supported devices)
- 2 trigger outputs (+12V max. 1A), separately adjustable switching events (CAN, ACC, rear-view camera, reverse gear, external navigation)
- Video-in-motion (only for video-sources connected to the v.LOGiC)
- Rear-view camera input
- Automatic switching to rear-view camera input on engagement of reverse gear from all operation modes
- Automatic return from rear-view camera input, adjustable in OSD (reverse gear or delay up to 20km/h)
- AV3 can be used for front camera, automatic on parking operation, automatic return at 20km/h
- Manual switching to rear-view camera
- Manual return from rear-view and front camera (cancellation of automatic switching)
- Compatible with all factory video accessories (e.g. rear-view camera, DVD-changer, TV-tuner)
- Rear-seat-entertainment output for AV-sources connected to the v.LOGiC
- USB update-port for software-updates by consumer

Optional upgrades

- IR-remote control set, control of v.LOGiC and the most important functions of all connected AV-sources (see STA + Database for supported devices)

Contents

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. Labor 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 SW-version and HW-version of the interface boxes, and store this manual for support purposes.

1.1. Check compatibility of vehicle and accessories

Requirements	
Vehicle	Mercedes Benz with 6”/ 7“ monitor and 4pin HSD LVDS connector
Device	COMAND Online NTG4.5, Audio20 NTG4.5
Audio-AUX	A factory audio-AUX input is required. On some head-units it is already activated. If not, it is necessary to code the head-unit to audio-AUX by diagnosis computer.
Limitations	
Factory media-interface	The AUDIO connection is different if the vehicle is with factory media-interface, see the note in chapter “Connection to the vehicle-AUX-input”, please!

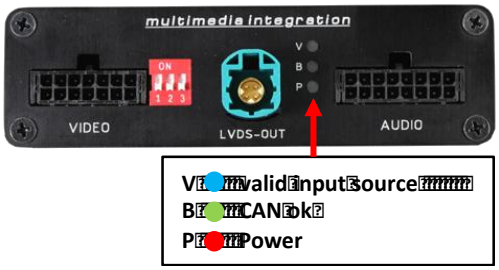
1.2. Setting the dip switches of the interface-box V4C-M613

Dip 1 on the back of the interface-box V4C-M613 is used to set the monitor type.

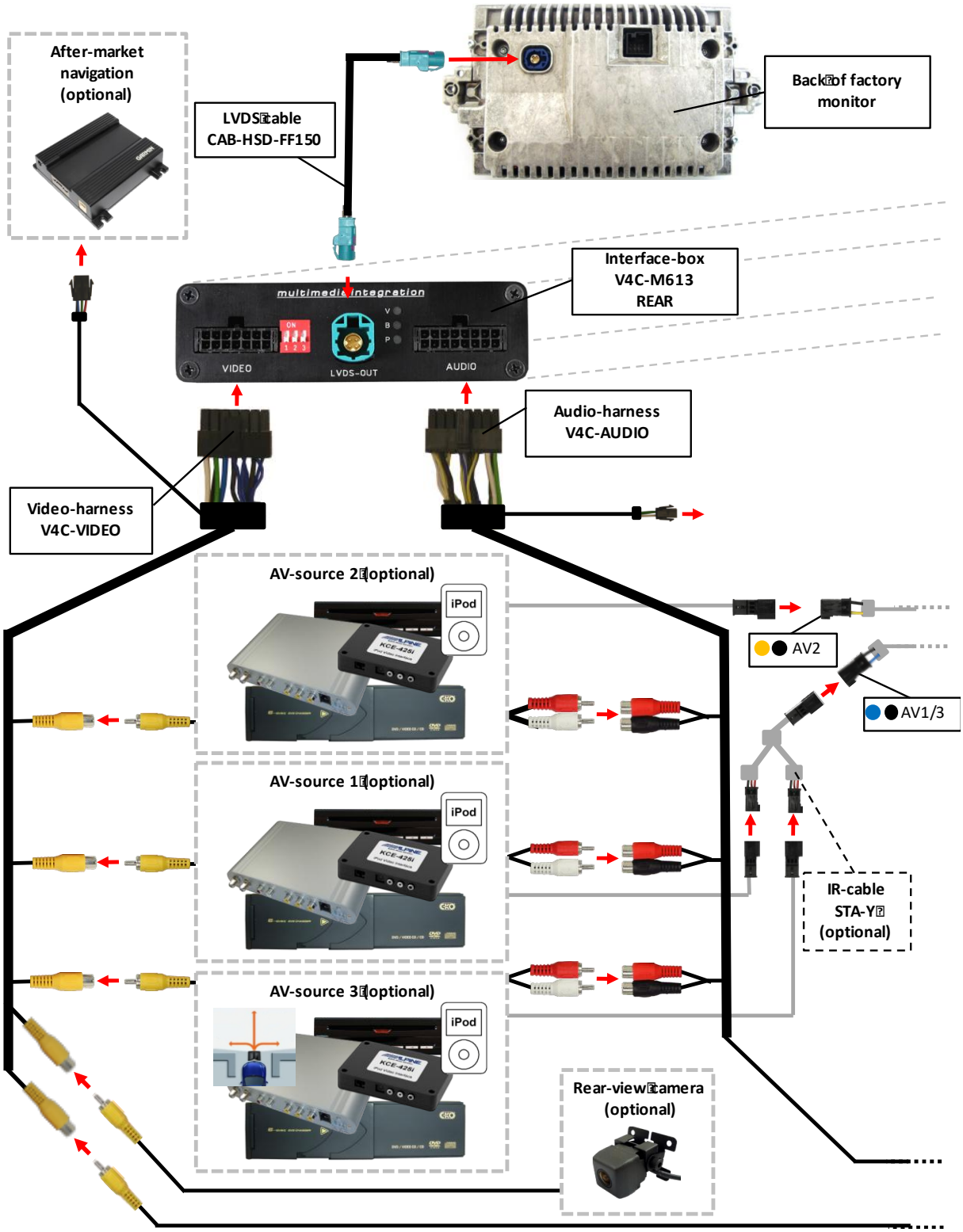
Device	Dip 1
COMAND Online NTG4.5	ON
Audio20 NTG4.5	OFF

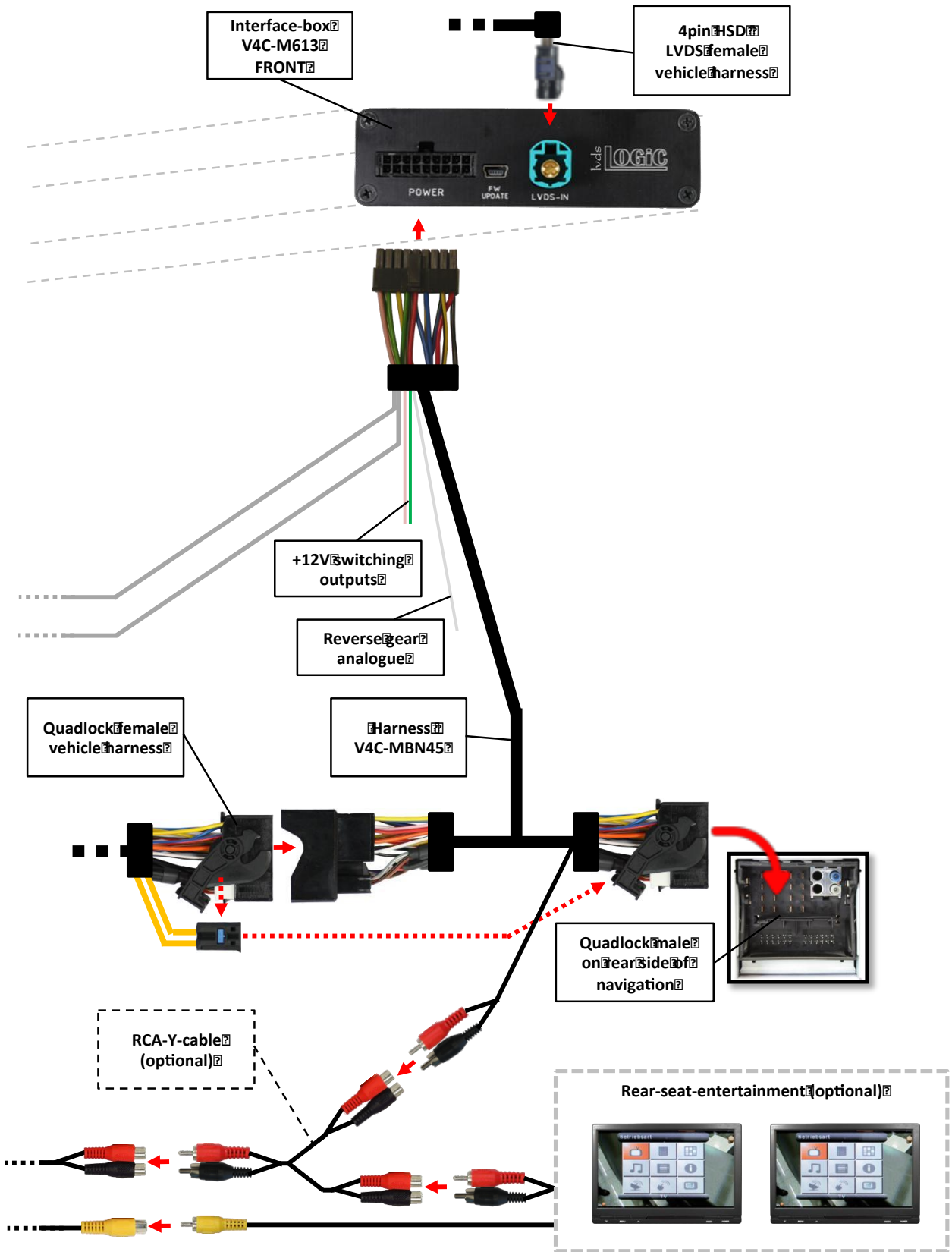
After each change of the dip switch settings you have to execute a power reset of the v.LOGiC interface-box!

1.3. LED‘s of the interface-box V4C-M613



2. Connection schema




Interface-box
V4C-M613
FRONT
4pin HSD
LVDS female
vehicle harness
POWER
FW UPDATE
LVDS-IN
lvds LOGIC
+12V switching
outputs
Reverse gear
analogue
Quadlock female
vehicle harness
Harness
V4C-MBN45
Quadlock male
on rear side of
navigation
RCA-Y-cable
(optional)
Rear-seat-entertainment (optional)

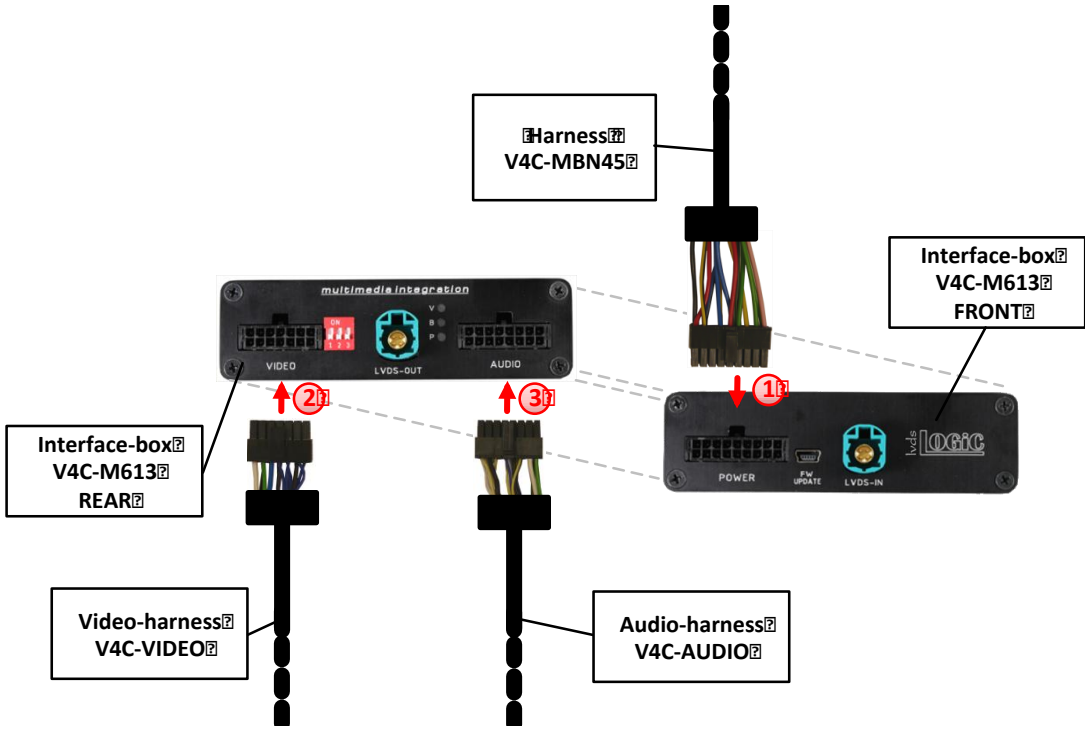
3. Installation

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 is 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.

Prior to wire and device installation we suggest to connect and test correct function of all after-market and factory infotainment equipment!

The interface is installed on the backside of the factory monitor and on the backside of the navigation computer.

3.1. Connecting interface-box and harnesses

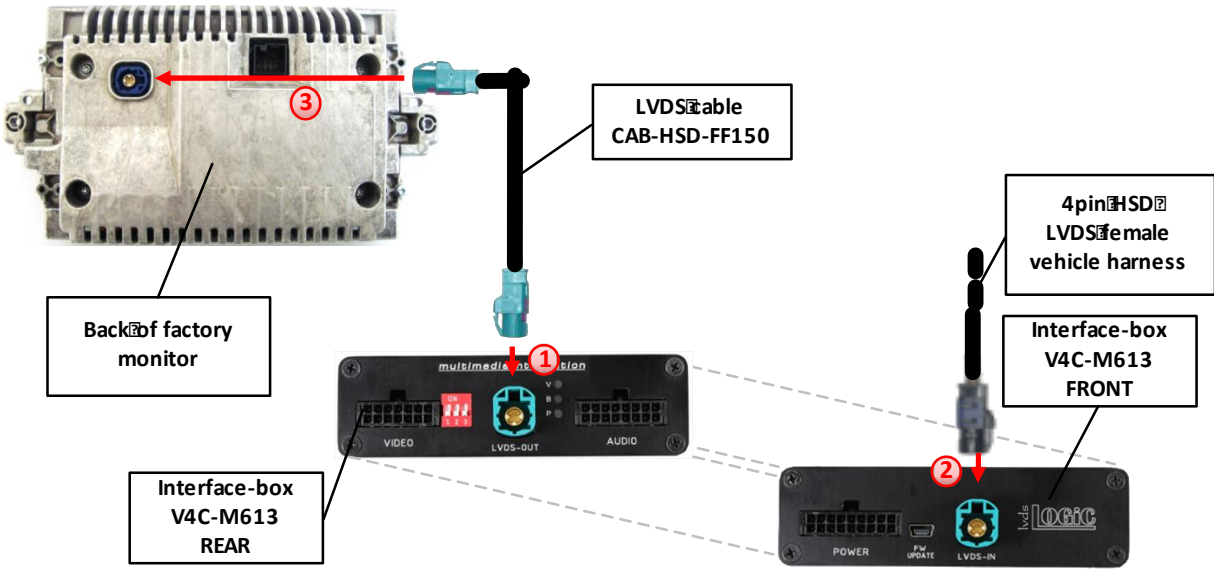


1. Connect female 18pin Micro-Fit connector of harness V4C-MBN45 to the male 18pin Micro-Fit connector (POWER) on the front of the interface-box V4C-M613.

2. Connect female 14pin Micro-Fit connector of the video-harness V4C-VIDEO to the male 14pin Micro-Fit connector (VIDEO) on the rear of the interface-box V4C-M613.

3. Connect female 16pin Micro-Fit connector of the audio-harness V4C-AUDIO to the male 16pin Micro-Fit connector (AUDIO) on the rear of the interface-box V4C-M613.

3.2. Connection to the factory monitor

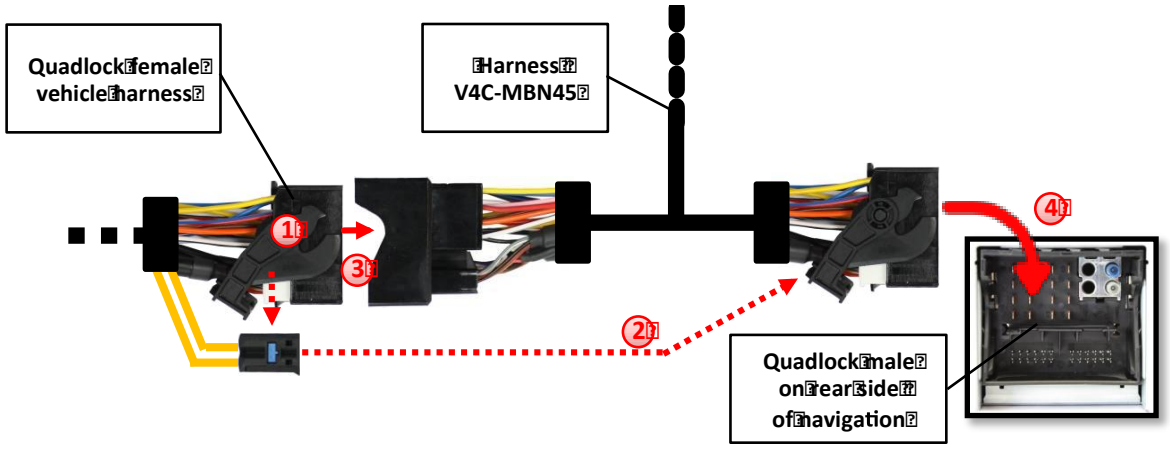


1. Connect the straight female 4pin HSD LVDS connector of the LVDS cable CAB-HSD-FF150 to the male 4pin HSD LVDS connector (LVDS-OUT) on the rear of the interface-box V4C-M613.

2. Remove the female 4pin HSD LVDS connector of the vehicle harness at the back of the factory monitor and connect it to the male 4pin HSD LVDS connector (LVDS-IN) on the front of the interface-box V4C-M613.

3. Connect the angulated female 4pin HSD LVDS connector of the LVDS cable CAB-HSD-FF150 to the male 4pin HSD LVDS connector of the factory monitor.

3.3. Quadlock connector



1. Remove the female Quadlock connector of the vehicle harness from the rear of the navigation computer.

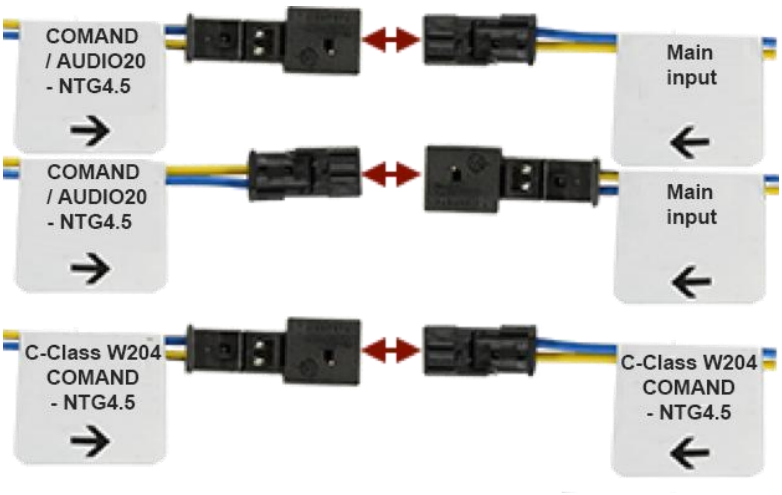
2. Remove optical leads from the female Quadlock connector of the vehicle harness and insert them into the female Quadlock connector of harness V4C-MBN45 at the same position.

3. Connect female Quadlock connector of vehicle harness to the male Quadlock connector of harness V4C-MBN45.

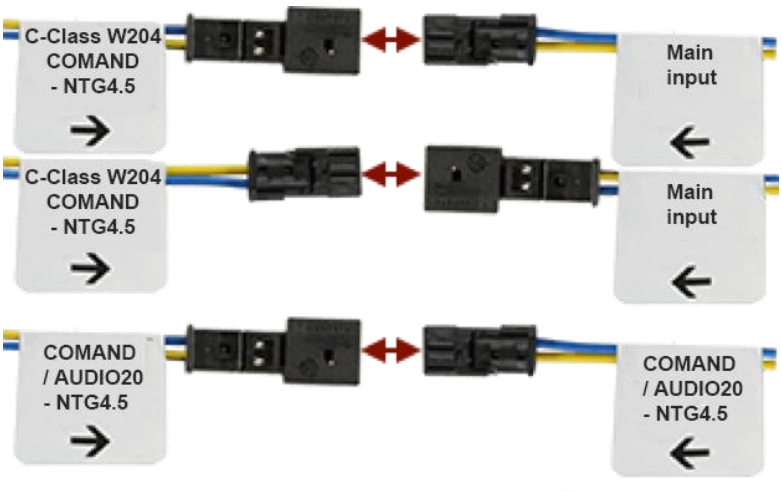
4. Connect female Quadlock connector of harness V4C-MBN45 to the male Quadlock connector of the navigation computer

5. Connect the CAN-bus lines on the V4C-MBN45 harness as follows:

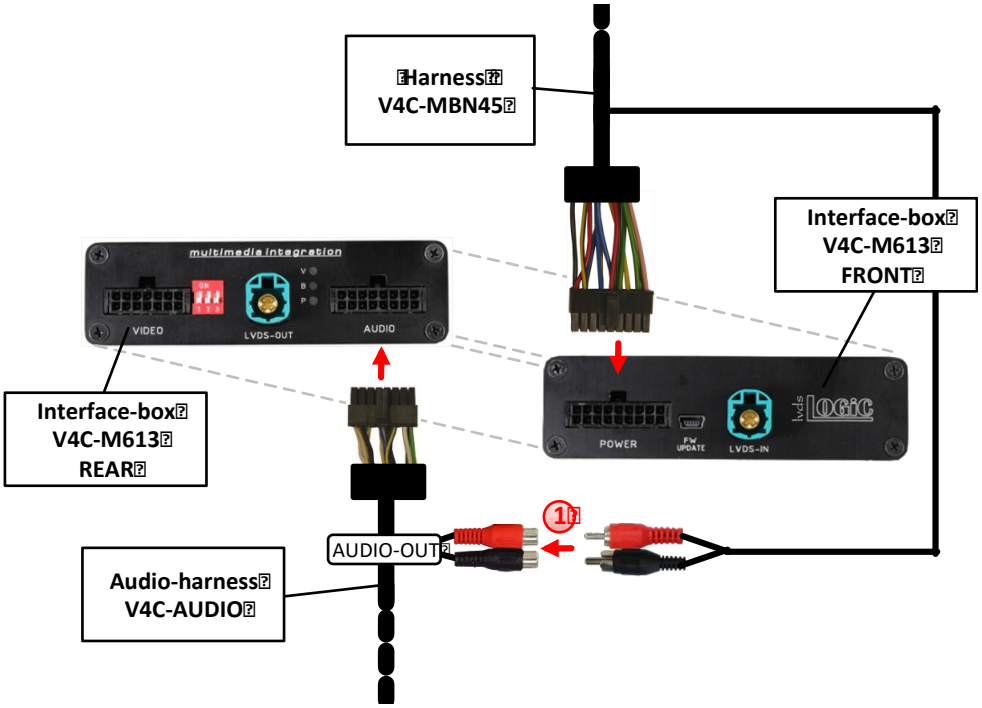
Comand Online NTG 4.5 (not C-Class W204) and Audio20 NTG4.5:



Comand Online NTG 4.5 (only C-Class W204):



3.4. Connection to the vehicle-AUX-input



1 Connect the audio-RCA of harness V4C-MBN45 to the female RCA-connectors AUDIO OUT of the audio-harness V4C-AUDIO.

Note: If the vehicle is with factory media-interface, the AUDIO-OUT of the audio harness V4C-AUDIO **must be connected** to the factory 3,5mmjack bush audio AUX adapter of the factory media-interface. (instead of to the male RCA on harness V4C-MBN4).

If connecting a rear-set-entertainment an optional RCA Y-cable is plugged in between, see chapter “Rear-seat-entertainment”

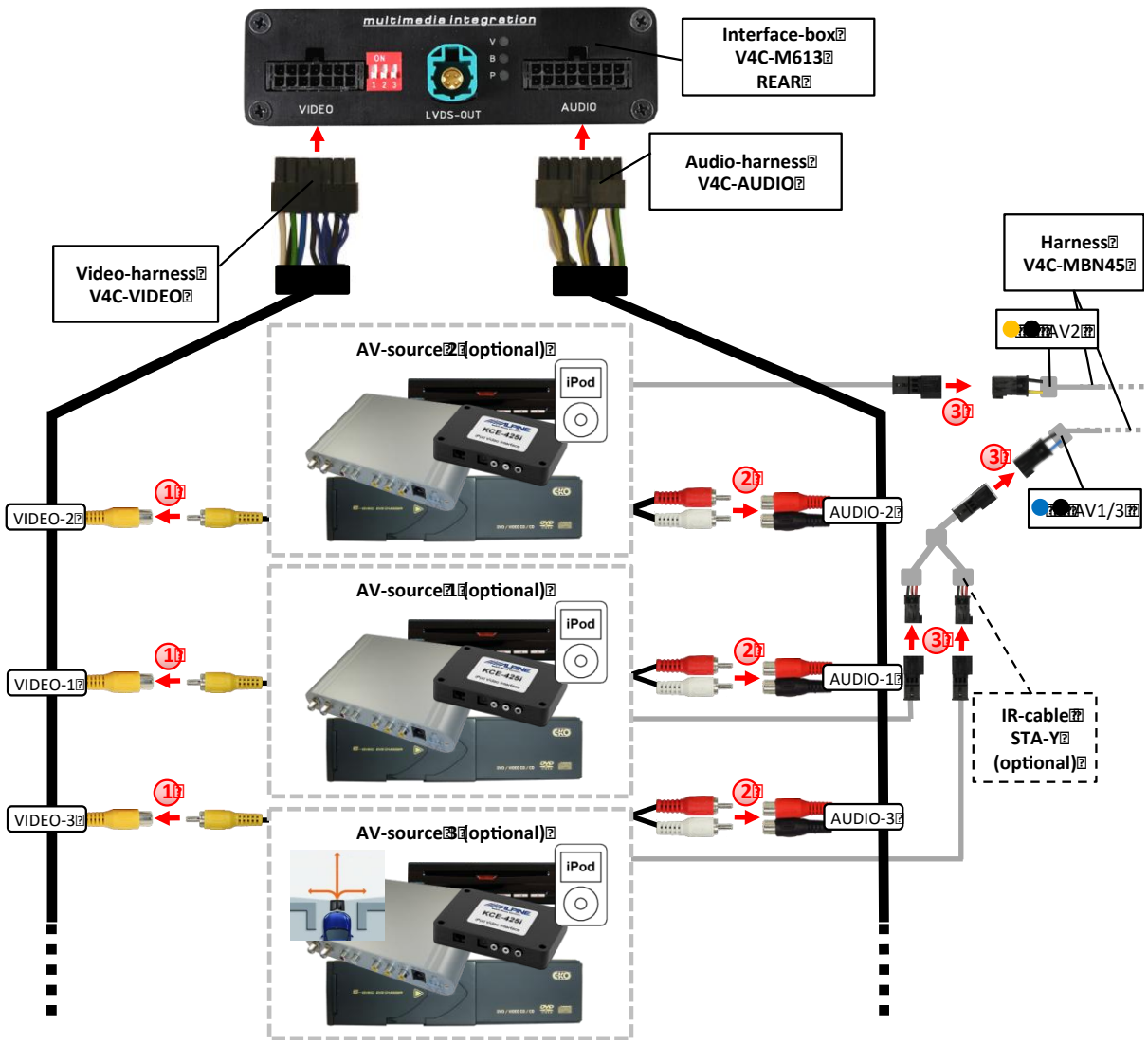
3.5. Connecting peripheral devices

It is possible to connect 3 after-market AV-sources, therefrom optional an iPod and an after-market front camera, an after-market rear-view camera, an after-market navigation and rear-seat-entertainment to the v.LOGiC interface.

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

3.5.1. AV-source(s)

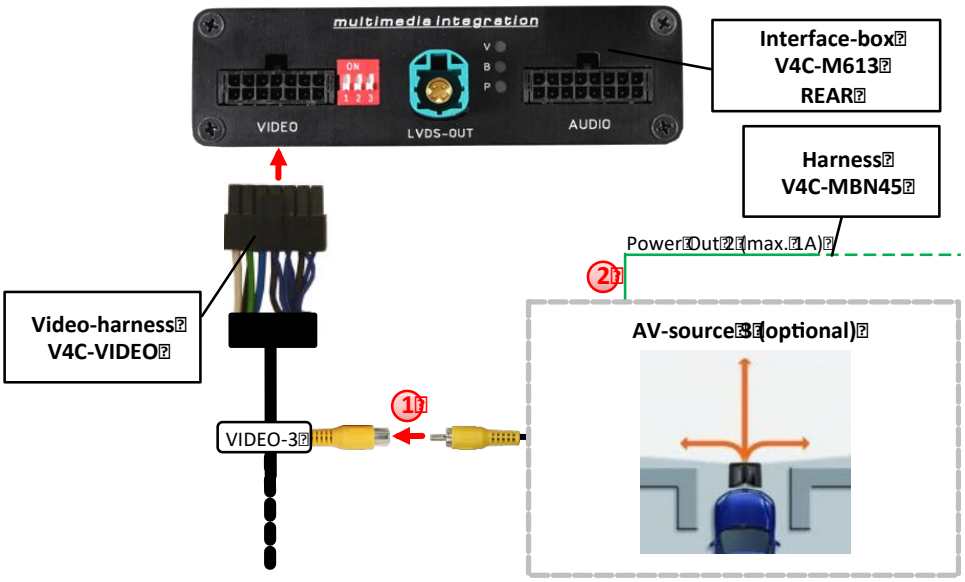
The v.LOGiC interface has the possibility to connect and remotely control by navigation buttons 3 pre-programmed devices. The device list in the device control table (appendix A) shows the pre-programmed remote channels and the related IR-remote cables STA-xxx which must be ordered separately for the control of the device.



1. Connect video RCA of AV-source 1 to female RCA connector VIDEO-1, the video RCA of AV-source 2 to female RCA connector VIDEO-2 and video RCA of AV-source 3 to female RCA connector VIDEO-3 of the video-harness V4C-VIDEO.
2. Connect audio RCA of AV-source 1 to female RCA connectors AUDIO-1, the audio RCA of AV-source 2 to female RCA connectors AUDIO-2 and audio RCA of AV-source 3 to female RCA connectors AUDIO-3 of the audio-harness V4C-AUDIO.
3. Using the respective STA-xxx IR-control cable, interconnect the blue-black (yellow-black) female 3pin AMP connector of harness V4C-MBN45 and the IR-port of the AV-source 1 (AV-source 2). If 3 AV-sources are connected, connect the optionally available IR-control cable STA-Y between the blue-black female 3pin AMP connector and the IR-ports of the AV-sources 1 and 3.

3.5.2. After-market front camera

3.5.2.1. Connection to the after-market front camera



1. Connect the video RCA of the after-market front camera to the female RCA connector VIDEO-3 of the video-harness V4C-VIDEO.
2. The green wire of harness V4C-MBN45 can be used for +12V electric power supply (max. 1A) of the after-market front camera. Configure in the OSD-menu “MISC”, menu item “POWER OUT 2” the designated electric power supply (see chapter “Configurable switching outputs”).

Note: The after-market front camera is always connected to AV3.

3.5.2.2. Settings for connecting an after-market front camera

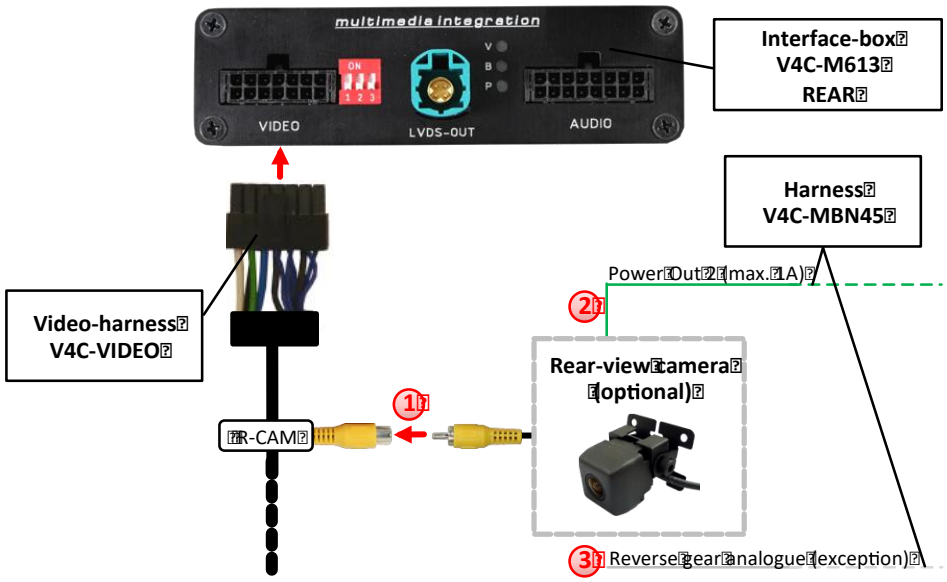
You have to configure some settings in the OSD-menus INPUTS and MISC if you want to connect an after-market front camera (Operation of the OSD: see chapter “OSD-Operation”).

OSD-menu	Menu item	Setting	Explication
INPUTS	AV3	OFF	The front camera is connected to AV3
	FRONT CAM	OFF	No front camera connected
		ON	Switches to front camera if parking process is enabled and reverse gear is released
MISC	REVERSE LOGIC	REVERSE+SPEED	Enabled while parking process and up to 20 km/h

Note: After deactivation you can’t enable the parking process again until the vehicle is driving faster than 20km/h or the ignition is switched off and on.

3.5.3. After-market rear-view camera

3.5.3.1. Connection to the after-market rear-view camera



1 Connect the video RCA of the after-market rear-view camera to the female RCA connector of the video-harness V4C-VIDEO.

2 The green wire of harness V4C-MBN45 can be used for +12V electric power supply (max. 1A) of the after-market rear-view camera. Configure in the OSD-menu “MISC”, menu item “POWER OUT 2” the designated electric power supply (see chapter “Configurable switching outputs”).

3 On some vehicles the reverse light signal doesn’t exist on the CAN-bus. Connect the white wire of harness V4C-MBN45 to reverse light signal (+12V of reverse light) if the v.LOGiC doesn’t switch to the rear-view camera automatically after the described OSD-setup (see next chapter).

3.5.3.2. Settings for connecting an after-market rear-view camera

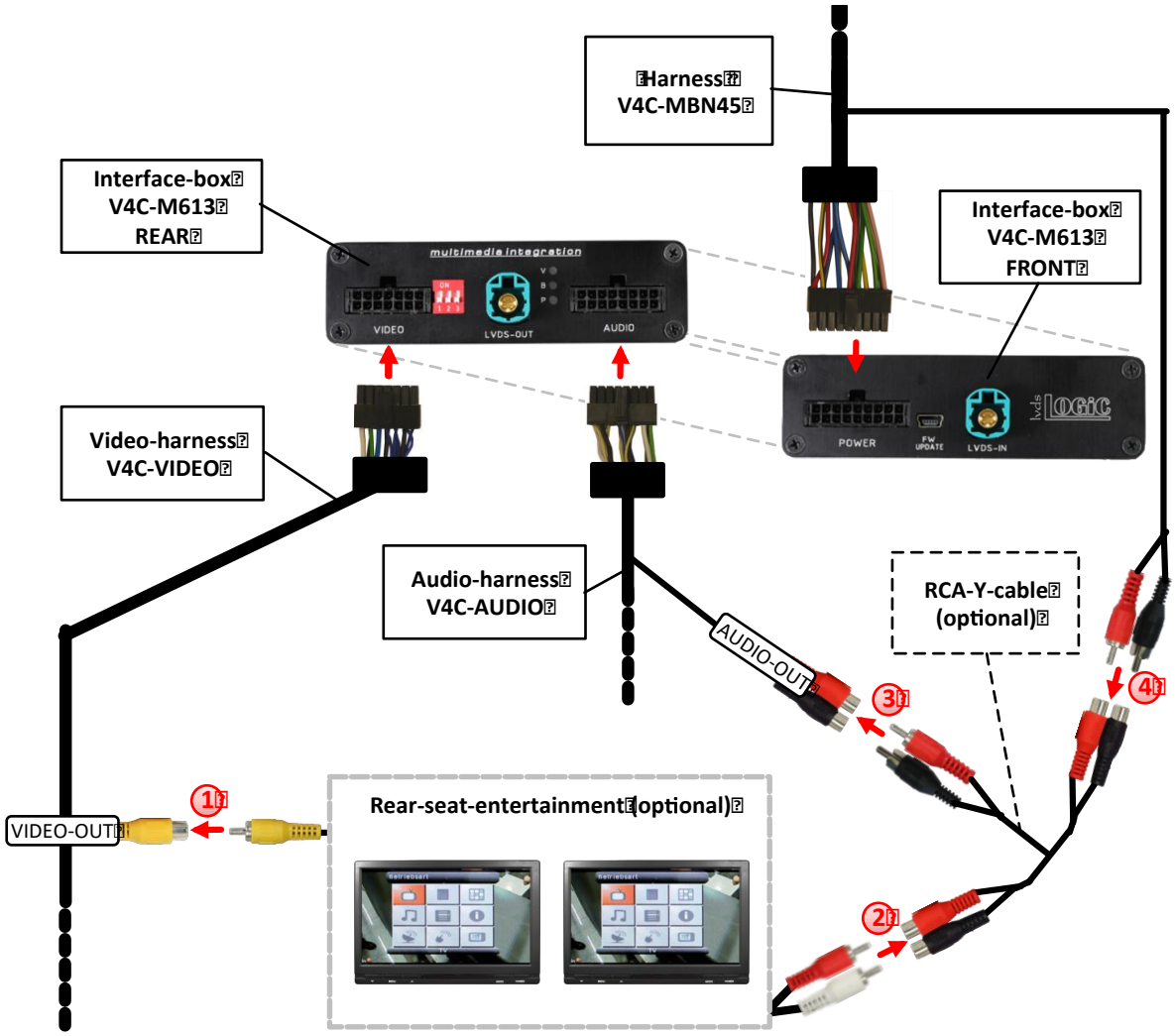
You have to configure some settings in the OSD-menus INPUTS and MISC if you want to connect an after-market rear-view camera (Operation of the OSD: see chapter “OSD-Operation”).

OSD-menu	Menu item	Setting	Explication
INPUTS	REAR CAM	OFF	No rear-view camera connected
		ON	Enabled while reverse gear is engaged and up to 20 km/h
		OEM	If a factory rear-view camera is existing! v.LOGiC turns off, if reverse gear is enabled

-

Note: You can deactivate the enabled parking process by long pressing the knob. After deactivation you can’t enable the parking process again until the vehicle is driving faster than 20km/h or the ignition is switched off and on.

3.5.4. Rear-seat-entertainment



1. Connect the video RCA of the rear-seat-entertainment to the female RCA connector VIDEO-OUT of video-harness V4C-VIDEO.

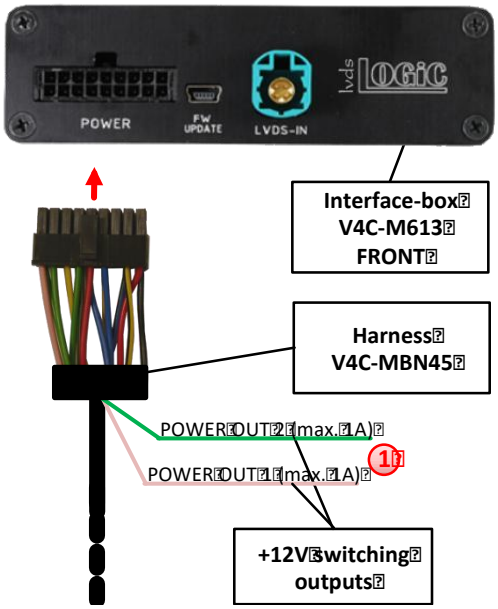
2. Connect the audio-RCA of the rear-seat-entertainment to the female RCA connectors of the optional RCA-Y-cable.

3. Connect the audio RCA of the optional RCA-Y-cable to the female RCA connectors AUDIO OUT of the audio-harness V4C-AUDIO.

4. Connect the audio RCA of harness V4C-MBN45 to the female RCA connectors of the optional RCA-Y-cable.

Note: The last source keeps active on rear-seat-entertainment if you switch the navigation to OEM mode.

3.5.5. Configurable trigger outputs



1 You can configure the both +12V trigger outputs separately. The pink wire is POWER OUT 1 and the green wire is POWER OUT 2.

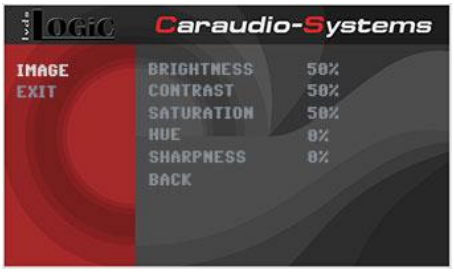
Note: You can configure the both trigger outputs in the OSD-menu MISC separately (Operation of the OSD: see chapter “OSD-Operation”).

OSD-menu	Menu item	Setting	Explication
MISC	POWER OUT 1 (pink)* POWER OUT 2 (green)*	OFF	Port disabled
		CAN	+12V when the v.LOGiC is on (red LED on)
		Ignition	+12V when ignition is on
		RearCam	+12V when the rear-view camera input (AV4) is activated

*Default setting pink = Ignition
*Default setting green = RearCam

3.6. Picture settings

You can change the picture settings in the OSD-menu IMAGE (activation only from v.LOGiC AV level possible).



- Brightness
- Contrast
- Saturation
- Hue
- Sharpness

Note: The picture settings will be retained for each AV-source separately.

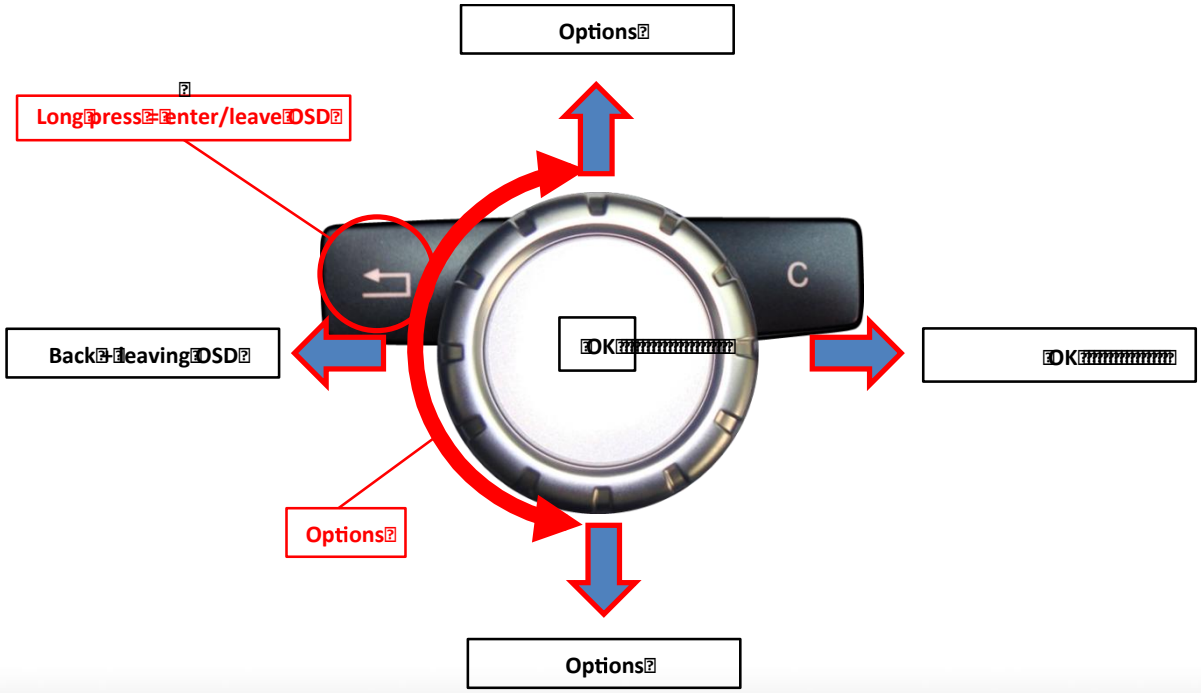
4. Operation

4.1. OSD – On-screen display

You can change the basic configurations of the v.LOGiC in the OSD (on screen display).

4.1.1. OSD – Operation

You can control the OSD by the knob.



4.1.2. OSD – Additional setting options

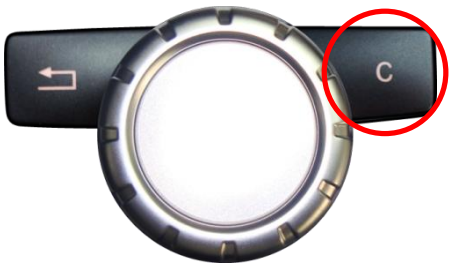
The following settings in the OSD-menus OSD and MISC can be configured over and above the described settings in this manual (Operation of the OSD: see chapter “OSD-Operation”):

OSD-Menü	Menüpunkt	Einstellung	Erklärung
MISC	FACTORY RESET		Resetting to factory settings
OSD	H POSITION	0-xxx	Horizontal position of the OSD
	V POSITION	0-xxx	Vertical position of the OSD
	SIZE	SMALL	OSD window small
		LARGE	OSD window large
INFO	COMPANY	CA-S.info	Displays manufacturer website address
	PRODUCT	V4-NTG45	Displays product number
	VERSION	X.X.X	Displays the current software version

4.2. Video-in-motion function

The video-in-motion function for (audio-) video-sources connected to the v.LOGiC is permanently active without disturbing the navigation performance.

4.3. Selecting the v.LOGiC as current AV-source



In the vehicle’s **Audio menu**, activate **AUX** and after it **long press C button** to choose the v.LOGiC as current AV-source.

Short press C button to switch the AV-sources. Each short press will switch to the next enabled input. If all inputs are enabled the order is:

AV1 → AV2 → AV3 → AV4 (R-CAM) →…

Inputs which are not enabled are skipped.

4.4. Assigning device controls

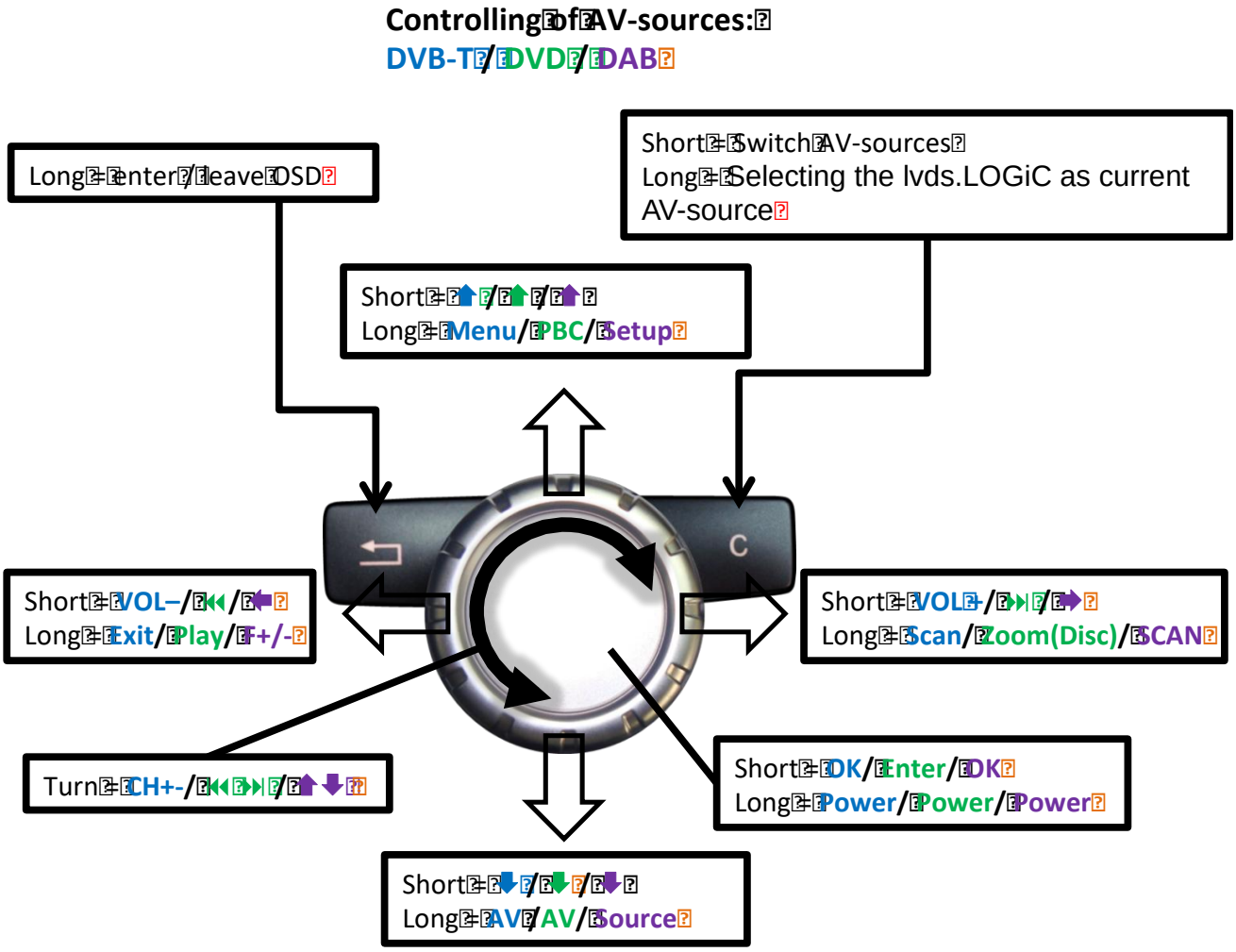
You can assign the device controls in the OSD-menu INPUTS (Operation of the OSD: see chapter “OSD-Operation”). Assign related IR-codes AV1 for AV-source 1, AV2 for AV-source 2 and AV3 for AV-source 3 as described in device control table (see appendix A)

Note: The IR-control channel AV1 is preset to RC-Code 41 compatible DVB-T tuners and AV2 is preset to RC-Code 36 for the usbLiNK2.

If you connect an AV-source without control you have to assign any IR code for the respective AV-input (AV1/2/3) because in the setting „OFF“ there is no picture visible.

4.5. Controlling of the connected AV-sources

The picture shows which functions of the connected devices can be executed by the knob. Once an AV-input is activated the knob action will execute the function described in the picture. The function description equals the remote control buttons of the device's remote control. On the additional device the writing on the remote control buttons may vary (e.g. AV instead of Source).



Note: A few functions could be different on some connected devices.

5. Specifications

Operation voltage	10.5 – 14.8V DC
Stand-by power drain	<0,1mA
Operation power drain	190mA
Power consumption	2,6W
Temperature range	-20°C to +80°C
Weight (box only)	285g
Measurements (box only) B x H x T	141 x 30 x 105 mm

CE ⎓12V DC

6. Connections (interface-box)