CARAUDIO-SYSTEMS

c.LOGiC lite-Interface

C1-NTG2

for Mercedes Benz
Comand APS NTG1 and Comand APS NTG2
navigation systems

Product features

- full plug and play multimedia interface
- 1 AV-input with separate IR-control channel
- control of after-market devices (e.g. DVB-T tuner, DVD-player, DVD-changer, …) by factory navigation buttons
- after-market rear-view camera
- rear-view camera power (+12V max 1A)
- power on remote out trigger signal (+12V) to switch on connected 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.

Interface-Box
C1C-M10
HW_____ SW_____

Harness
C1C-MBN2

If remote function of the connected device should be used, additional IR-remote cables and Y-adapters are needed, see chapter *AV-source* .

1.2. Check compatibility of vehicle and accessories

Requirements

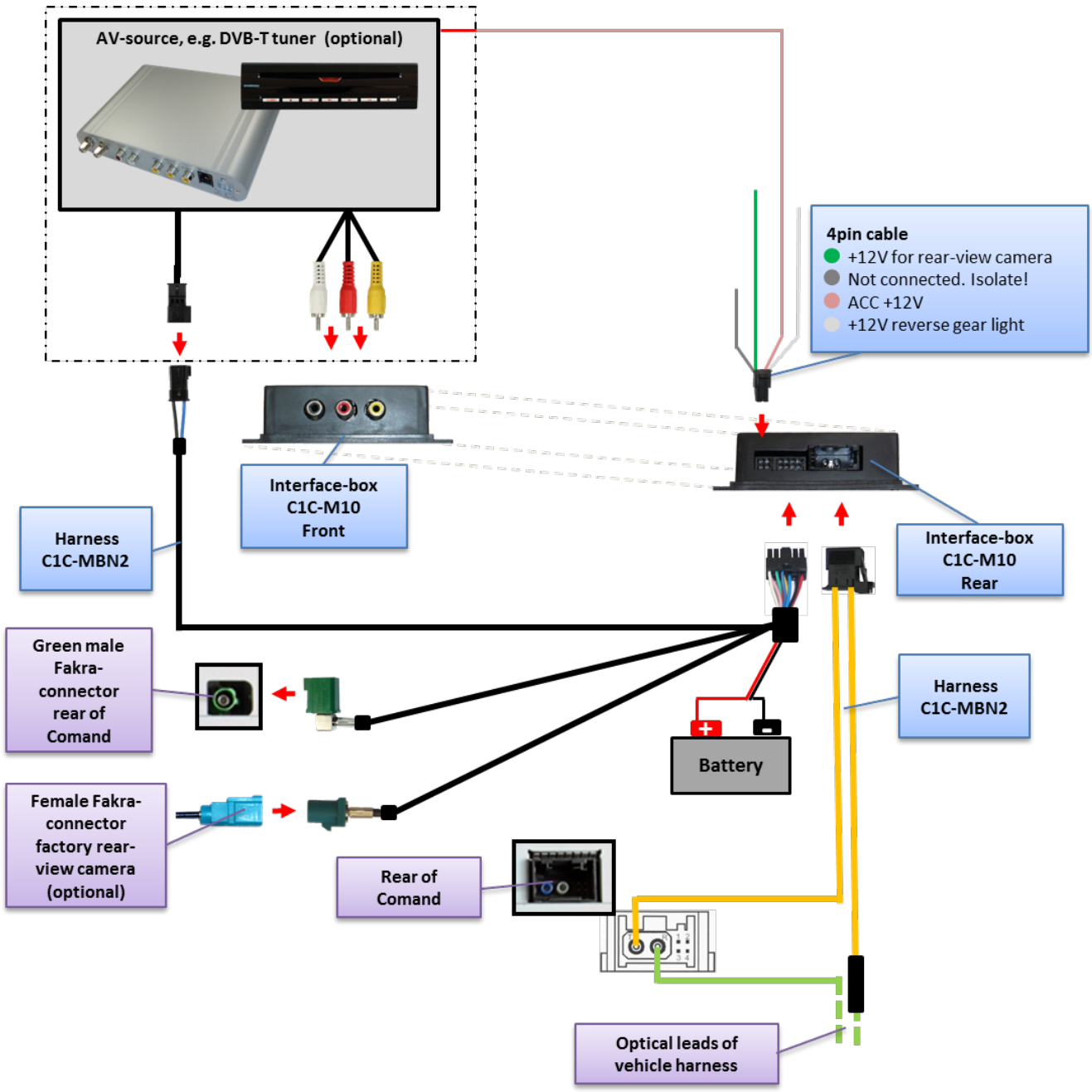
Vehicle	A-class (W169) from 09/2004 til 06/2008, B-class (W245) from 09/2004 til 06/2008, C-class (W203) from 04/2004 til 02/2007, CLC-class (CL203) from 06/2008 til 09/2008, CLK-class (C209 W209) from 06/2004, CLS-Coupe (W219) from 10/2004 til 03/2008, E-class (W211) til 05/2008, G-model (G463) from 04/2007 til 08/2008, GL-class (X164) til 06/2008, ML-class (W164) til 06/2008, R-class (W251) til 06/2008, SLK-class (R171) from 03/2004 til 03/2008, Sprinter, Viano **Compatible with vehicles with green Fakra connector on rear-side. From approx week 6 of 2004 (NTG1) and accordingly from approx 11/2007 (NTG2) it was left out on vehicles which were delivered w/o factory TV-tuner or factory RVC.**
Navigation	Comand APS NTG1, Comand APS NTG2

Limitations

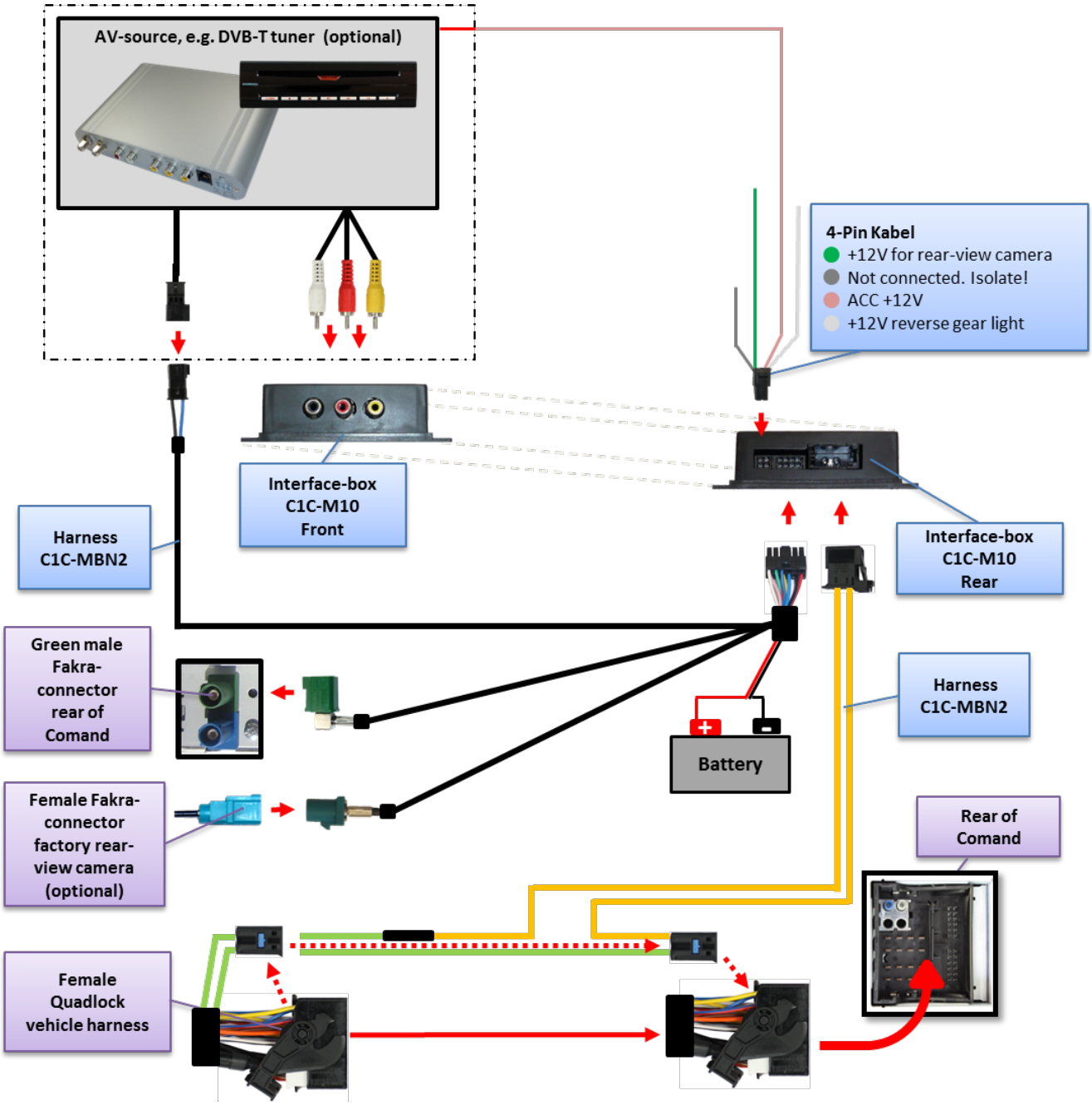
Factory-TV-tuner	Must NOT be installed. If uninstalled, optical ring must be closed.
After-market rear-view camera	Automatic switching from OEM modes to camera only works after coding the Comand at dealership (only possible on vehicles for which factory rear-view camera is offered, not possible for vehicles with Comand APS NTG1).
After-market rear-view camera	Optionally available adapter CAB-TVAS20 is necessary to connect.
No MOST®-component	If the vehicle is without factory MOST®-components, the MOST®-ring needs to be opened by diagnosis computer.

2. Connection schema

2.1. Connection schema for Comand APS NTG1



2.2. Connection schema for Comand APS NTG2

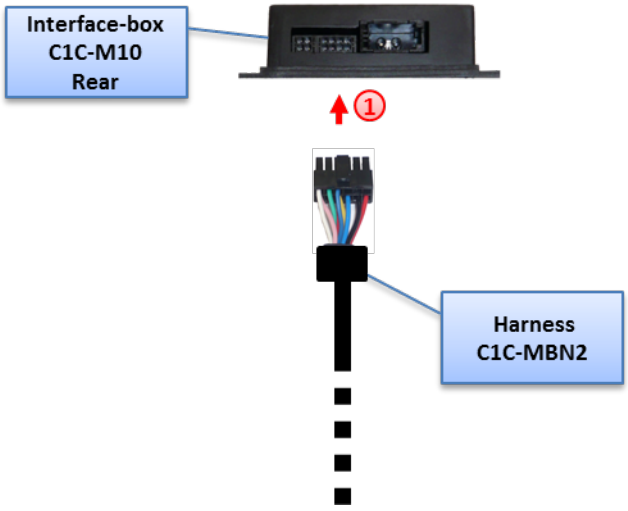


3. Installation

Switch off ignition and disconnect the vehicle's battery! If according to factory rules disconnecting the battery has 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.

Place of installation is behind the Comand head-unit.

3.1. Interconnecting Interface-box, CAN-box and harnesses

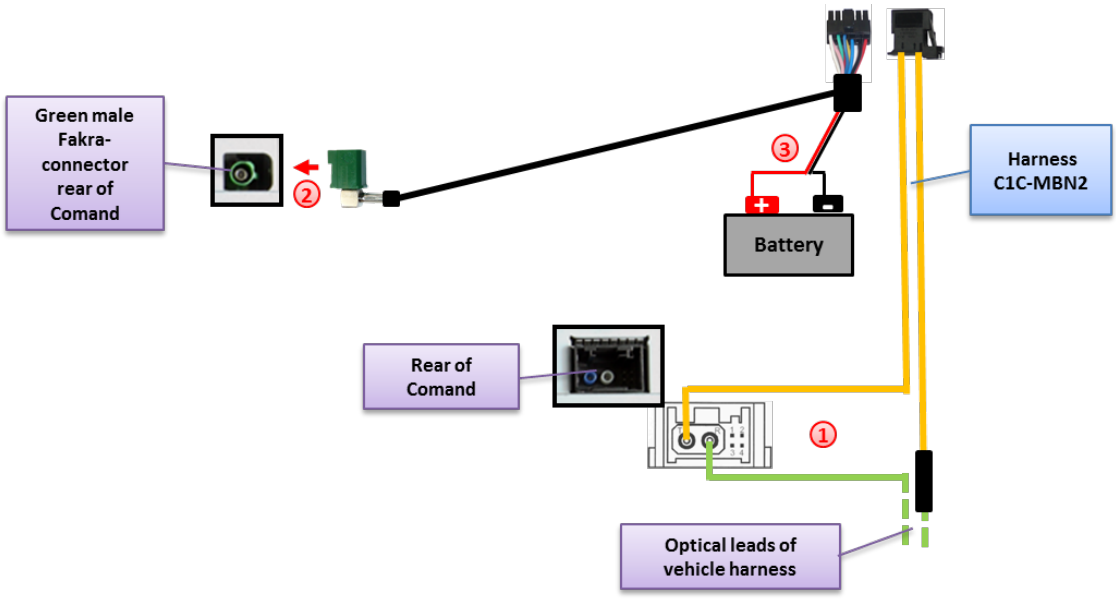


1 Plug harness C1C-MBN2 into 8pin Molex of Interface-box C1C-M10.

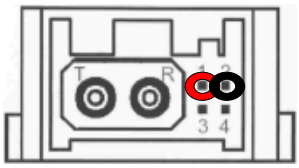
3.2. Connections to the head-unit

Remove the head-unit from the dash-board.

3.2.1. Connections to Comand APS NTG1

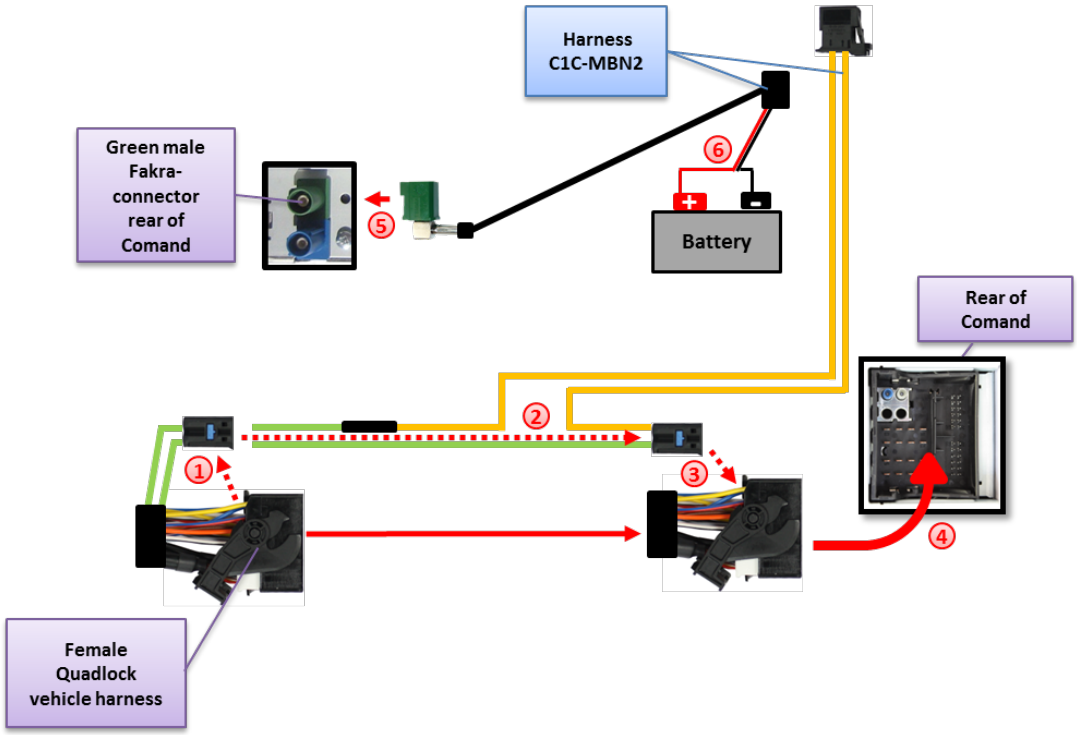


1. Remove the black MOST®-connector which contains the optical leads from the rear of the Comand and connect the optical leads of the vehicle harness to the optical leads of harness C1C-MBN2, see chapter “Connecting optical ring”.
2. Connect female Fakra connector of harness C1C-MBN2 to the male Fakra-connector of the Comand.
3. Connect red wire of harness C1C-MBN2 to +12V permanent (pin 1) and the black wire to ground (pin 2) of the black MOST®-connector’s analogue wires.



Note: Vehicles without MOST®-components, which means without factory CDC, without factory phone or other MOST®-components have no optical leads at the Comand. In this case plug the optical leads of harness C1C-MBN2 into the enclosed MOST®-insert (take notice of the direction of the arrows) and plug the MOST®-insert into the respective position at the rear of the Comand

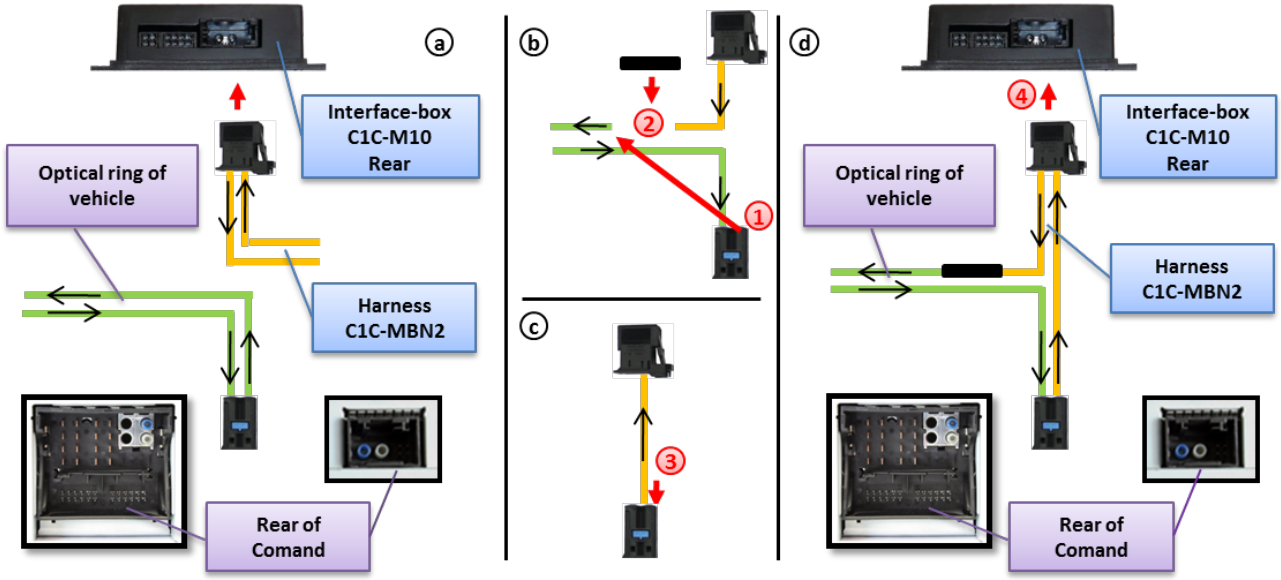
3.2.2. Connections to Comand APS NTG2



1. Disconnect female Quadlock connector from the back of the Comand and remove MOST®-insert from the female Quadlock connector of the factory harness.
2. Connect the optical leads of the vehicle harness to the optical leads of harness C1C-MBN2, see next chapter “Connecting optical ring”.
3. Plug MOST®-insert at the respective position (the insert of the Comand's male Quadlock connector which contains the optical sensor and light) into the female Quadlock connector of vehicle harness.
4. Connect female Quadlock connector of vehicle harness to the male Quadlock connector of the Comand.
5. Connect female Fakra connector of harness C1C-MBN2 to the male Fakra connector of the Comand.
6. Connect red wire of harness C1C-MBN2 to +12V permanent and the black wire to ground.

Note: Vehicles without MOST®-components, which means without factory CDC, without factory phone or other MOST®-components have no optical leads at the Comand. In this case plug the optical leads of harness C1C-MBN2 into the enclosed MOST®-insert (take notice of the direction of the arrows) and plug the MOST®-insert at the respective position (the insert of the Comand's male Quadlock connector which contains the optical sensor and light) into the female Quadlock connector of vehicle harness (see point 3).

3.2.3. Connecting optical ring



1. Remove the vehicle harness' optical output lead (see arrows on MOST®-connector) from the MOST®-insert.

2. With the included optical bridge, connect the removed vehicle harness' optical output lead to the optical output lead of the C1C-MBN2 (see arrows on MOST®-connector).

3. Plug the optical input lead of harness C1C-MBN2 into the free connector of the MOST®-insert of the vehicle harness.

4. Plug male MOST®-connector of harness C1C-MBN2 into female MOST®-connector of the interface-box C1C-M10.

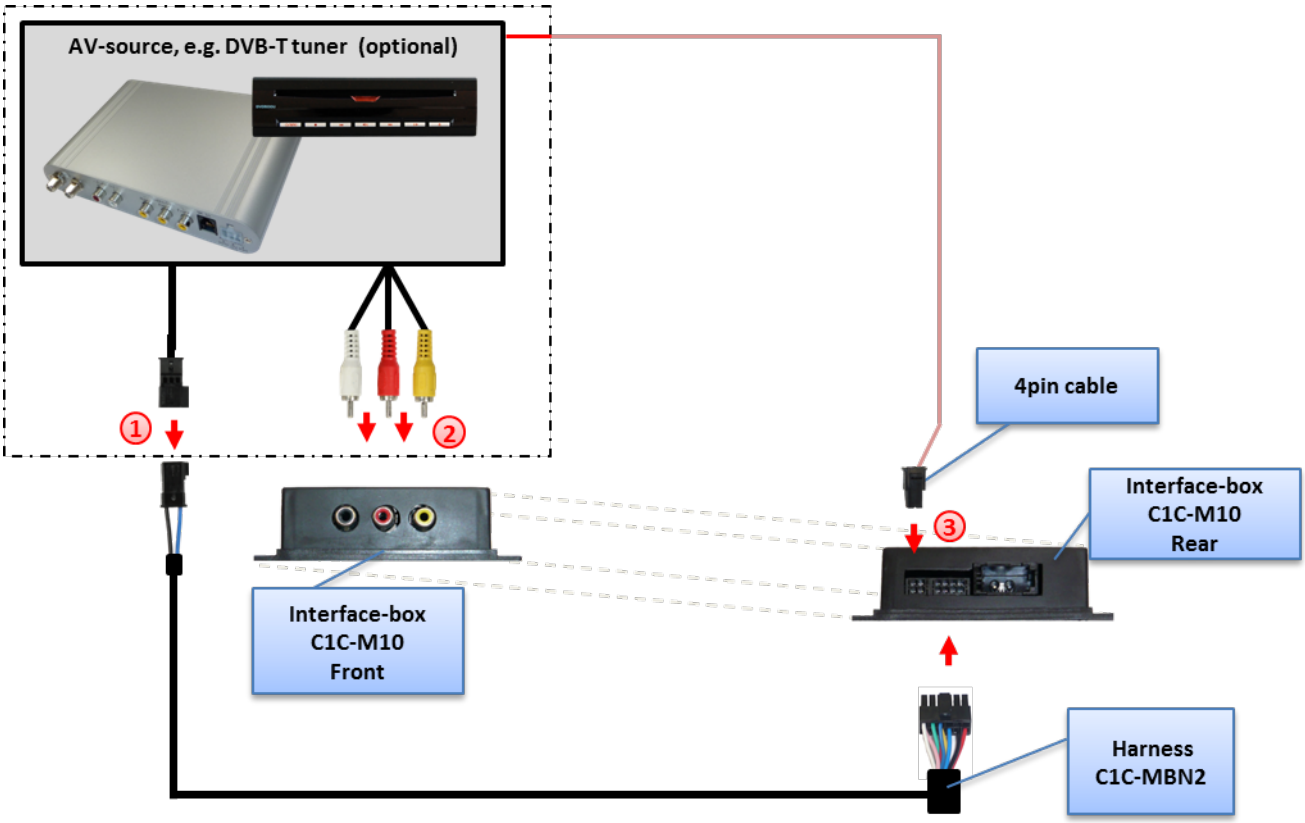
3.3. Connecting peripheral devices

It is possible to connect one after-market AV-source and an after-market rear-view camera to the c.LOGiC Interface.

Before final installation of the peripheral devices, we recommend to test-run the c.LOGiC functions to detect incompatibility of vehicle, navigation, factory accessories or peripheral devices as soon as possible.

3.3.1. AV-source

The c.LOGiC interface has the possibility to connect and remotely control by navigation buttons one pre-programmed device. 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. Using the respective STA-xxx IR-control cable, interconnect the blue-black female 3pin AMP connector of harness C1C-MBN2 and the IR-port of the AV-source.

2. Using RCA-cables, interconnect the female RCA-ports of the interface-box C1C-M10 with the AV-outputs of the AV-source.

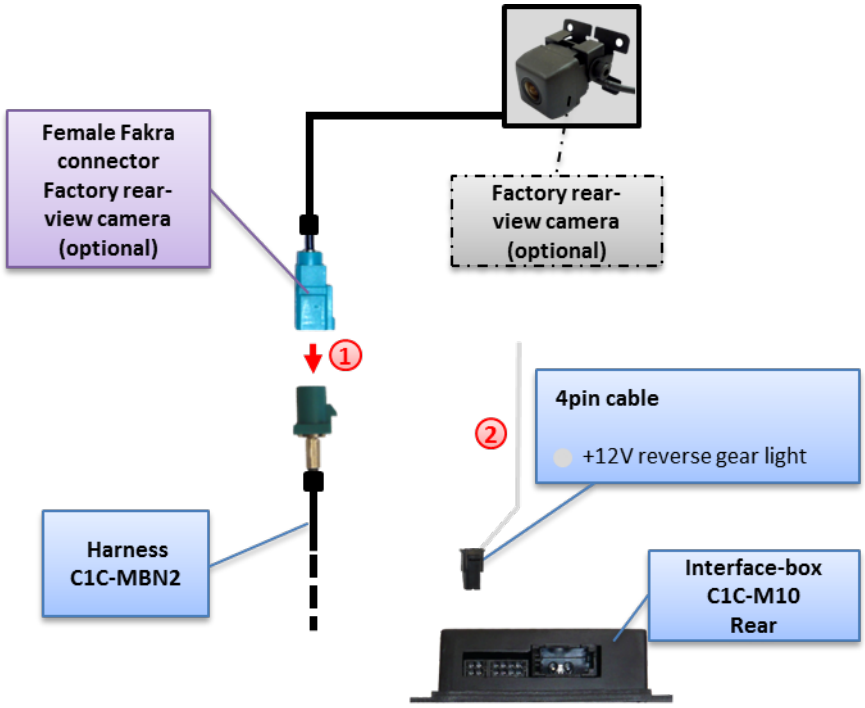
3. The pink ACC-output wire (+12V max. 1A) of the 4pin cable can be connected to the ACC-input wires of the connected device to switch it on. It carries +12V when the head-unit is running.

3.3.2. Installing AV-source's IR-sensor additionally

Additionally to the control via OEM navigation, it is possible to install the original IR-sensor of a connected device. By using the respective Y-adapter (e.g. STA-Y35MM or STA-RJ12) for the IR-Port of the connected device, the controls of navigation AND device's IR-sensor can be connected and used simultaneously. Installation of the IR-sensor is recommended as the controls via navigation are limited, and not all functions may be covered.

3.3.3. Rear-view camera

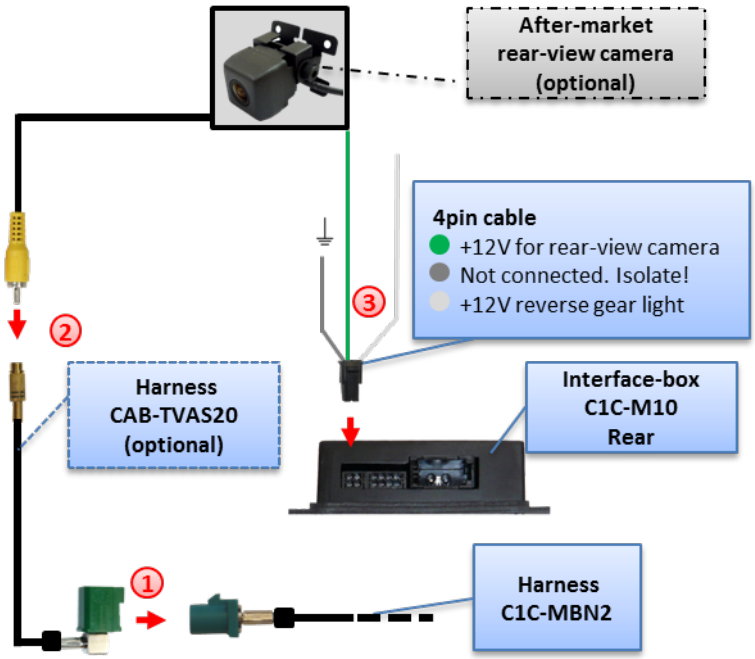
3.3.3.1. Factory rear-view camera



1. Remove the female Fakra connector of the factory rear-view camera from the rear of the head-unit and connect it to the green Fakra connector of harness C1C-MBN2.

2. Connect the white wire to the reverse gear light (+12V). The grey wire is not connected and has to be isolated.

3.3.3.2. After-market rear-view camera



1. Connect female Fakra of the optionally available adapter CAB-TVAS20 to green male Fakra of harness C1C-MBN2.

2. Connect the video RCA of the after-market rear-view camera to the female RCA- connector of optionally available adapter CAB-TVAS20.

3. Connect the green wire of the 4pin cable to the camera power supply (+12V max. 1A) of the after-market rear-view camera. Connect the white wire to the reverse gear light (+12V). The green wire is high when reverse gear is engaged. The grey wire is not connected and has to be isolated.

Note: Automatic switching from OEM modes to camera only works camera after coding the Comand at dealership (only possible on vehicles for which factory rear-view camera is offered, not possible for vehicles with Comand APS NTG1).

4. Operation

4.1. Selecting the c.LOGiC as current AV-source

Push the **VIDEO** button of the Comand and then select **TV** to choose the c.LOGiC as current AV-source.

4.2. Assigning device control for connected AV-source

After selecting the c.LOGiC as current AV source, push "**1**"-button long. When released, a message "RC1" appears. Now push button "*****"-button followed by the device-related IR-code as described in device control table (appendix A). Push **OK** to confirm the assignment.

Note: The IR-control channel is preset to RC-Code 41 compatible DVB-T tuners.

4.3. Button assignment table

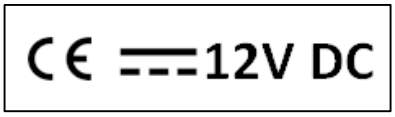
The button assignment table shows which functions of the connected device can be executed by Comand buttons. Once the AV-input is activated, the Comand button in the left column will execute the function described in the corresponding device column.
The function description equals the remote control buttons of the additional device. On the additional device the writing may vary (e.g. AV instead of Source).

Button assignment table c.LOGiC Mercedes Benz Comand APS NTG1 & 2						
COMAND button	**DVB-T**	**USB-LiNK**	**DVD-player**	**DVD-changer**	**iPod®-control**	**Analog-tuner**
1	AUTO	POWER	PLAY	PLAY	PLAY/PAUSE	SCAN
2	↑	↑	↑	↑	↑	VOL +
3	EPG	EXIT	STOP	STOP	POWER	FM
4	←	←	←	←	←	CH -
4 long	INFO	VOL-	DISPLAY	DISPLAY		DISPLAY
5	OK	OK / PLAY	OK	OK	ENTER	MODE
6	→	→	→	→	→	CH +
6 long	AUDIO	VOL+	AUDIO	AUDIO	MUTE	FM
7	EXIT	MEDIA	PBC	DISC	SHUFFLE	MUTE
7 long	MANUAL	AUDIO	SUB	SUB		MUTE
8	↓	↓	↓	↓	↓	VOL -
9	MENU	SETUP	SETUP	SETUP	LIGHT	MODE
0		MEDIA	AV	AV	EJECT	DISPLAY
0 long	POWER	POWER	POWER	POWER	POWER	POWER
<<	CH -	TRACK -	TRACK -	TRACK -	TRACK -	CH -
>>	CH +	TRACK +	TRACK +	TRACK +	TRACK +	CH +

Additionally to the Comand buttons, the steering-wheel buttons UP and DOWN can be used for remote functions. Longpress UP has the same function as "<<" on the Comand and longpress DOWN has the same function as ">>" on the Comand.

5. Specifications

Operation voltage	10.5 – 14.8V DC
Stand-by power drain	<1mA
Operation power drain	180mA
Power consumption	2.5W
Temperature range	-30°C to +80°C
Weight	95g
Measurements (box only) B x H x T	106 x 30 x 71 mm



6. Technical Support

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