

c.LOGiC Interface

C2-MK-AUX

**for BMW Professional navigation systems
without iDrive (MK2-MK4)**

Product features

- Full plug and play multimedia interface
- 2 AV-inputs with separate IR-control channels
- control of after-market devices, e.g. DVB-T tuner, DVD-player, DVD-changer, ...
- after-market rear-view camera input (optional adapter is necessary)
- automatic switching to after-market rear-view camera input
- rear-view camera power (+12V max. 1A)
- rear-seat-entertainment video output
- power-on remote-out trigger-signal (+12V max. 1A) to switch on connected devices
- video-in-motion

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Legal Information

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

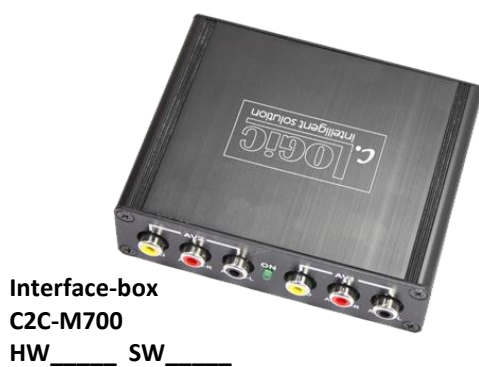
Changes/updates of the vehicle's software can cause malfunctions of the interface. We offer free software-updates for our interfaces for one year after purchase. To receive a free update, the interface must be sent in at own cost. Labor cost for and other expenses involved with the software-updates will 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.



If remote function for a peripheral device shall be used, additional an IR-Remote cable and Y-adapter are needed, see chapter AV-source(s) .

1.2. Check compatibility of vehicle and accessories

Requirements

Vehicle 3series (E46), 5series (E39), 7series (E38), X5 (E53), X3 (E83), Z4 (E85/86), Mini R56 till approx 09/2006
with AUX-input at the radio module (from approx 10/2002)

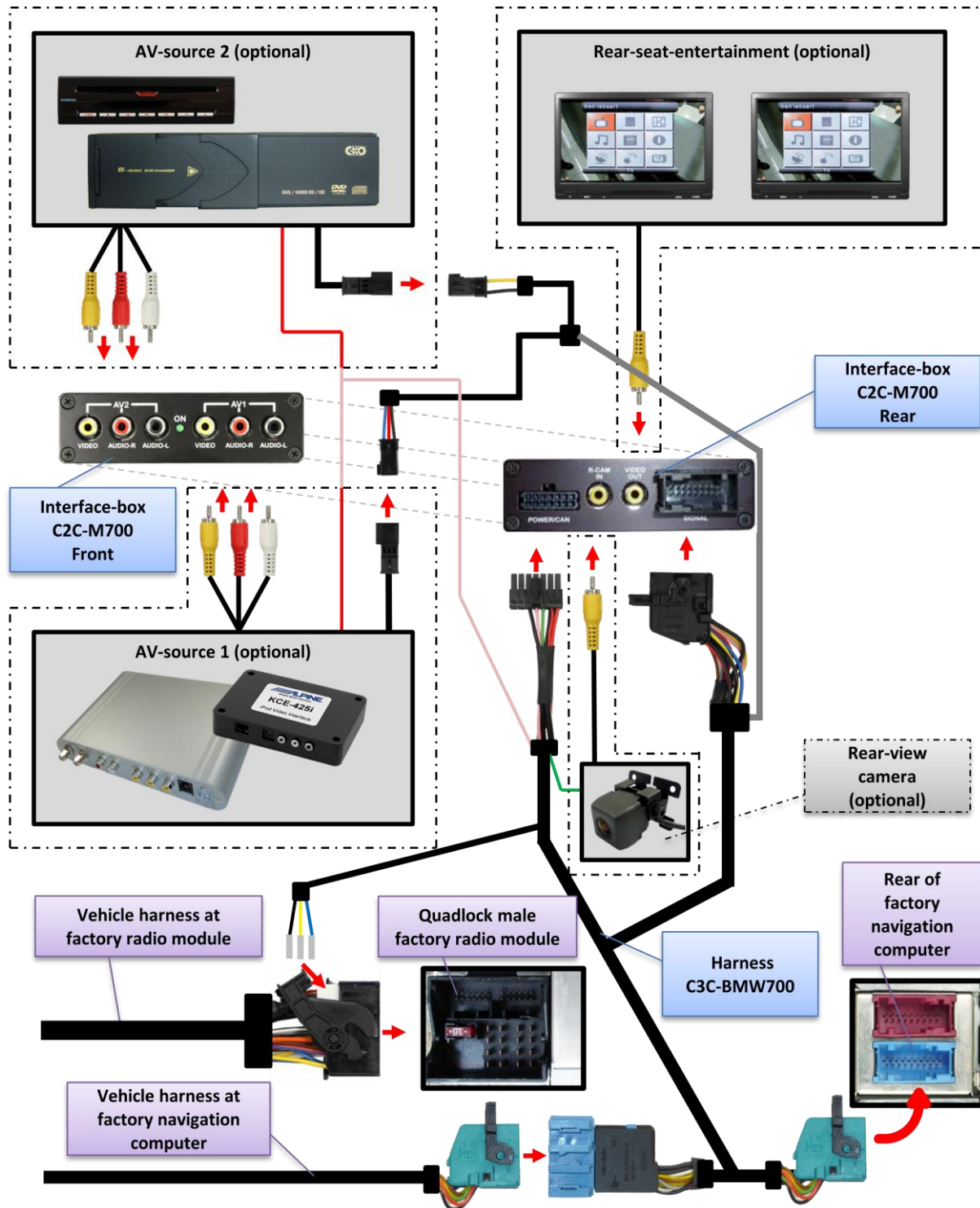
Navigation Navigation system Professional without iDrive (MK2-MK4)

Limitations

Factory-audio-AUX-input The factory audio-AUX-input is used for audio-insertion by the c.LOGiC. Alternative use of the AUX-input is only possible by additional switch-box integration.

After-market rear-view camera Compatible with NTSC-cameras only.

2. Connection schema



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 at the navigation computer and at the radio module.

The radio module and navigation computer are located at the rear end for the **3series (E46)**, **5series (E39)** and **7series (E38)** on the left hand side the radio module of the 7series is located behind lining in the car wing).

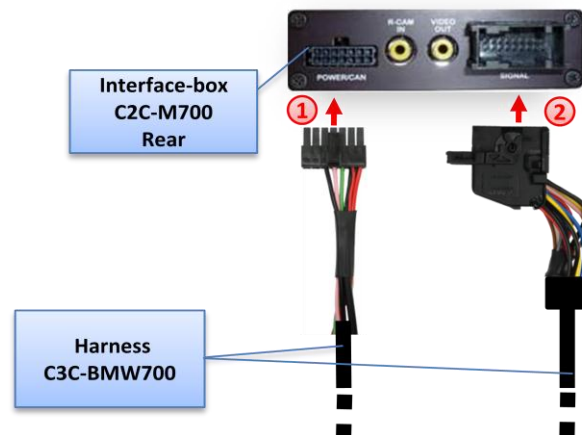
The **X5 (E53)** radio module is located underneath the boot lining, next to the battery.



The navigation computer is located on the left hand side behind the boot lining.

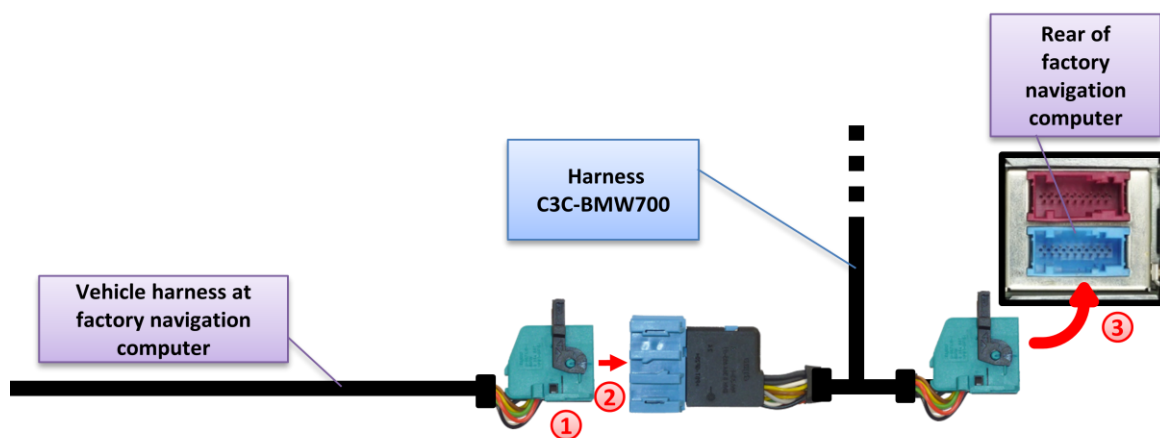


3.1. Interconnecting interface-box and harnesses



- ① Plug harness C3C-BMW700 into 14pin of interface-box C2C-M700.
- ② Plug female 18pin AMP connector of C3C-BMW700 into male 18pin AMP connector of interface-box C2C-M700.

3.2. Connections to navigation computer



- ① Disconnect blue female 18pin connector of vehicle harness from the back of the navigation computer.
- ② Plug blue male 18pin AMP connector of harness C3C-BMW700 into blue female 18pin AMP connector of vehicle harness.
- ③ Plug blue female 18pin AMP connector of harness C3C-BMW700 into blue male 18pin AMP connector of navigation computer.

The diagram shows a vehicle harness (left) connected to a factory radio module (right) via a C3C-BMW700 harness (top). Red arrows indicate the signal flow from the vehicle harness to the radio module. A red dotted line highlights the connection path. A close-up inset shows the Quadlock male connector on the factory radio module.

Vehicle female 12pin connector

Vehicle female 12pin connector

The diagram shows a 16-point grid with points numbered 1 through 16. A horizontal line with a bridge connects points 6 and 7. A vertical line with a fuse connects points 12 and 13. The grid is divided into four quadrants by a horizontal line between points 8 and 9, and a vertical line between points 4 and 5. The top-left quadrant contains points 1, 5, 9, 13, 4, 8, 12, and 16. The top-right quadrant is empty. The bottom-left quadrant contains points 1, 6, 12, and 7. The bottom-right quadrant contains points 1, 6, 12, and 7. A yellow circle is at point 1 in the bottom-right quadrant, and a black circle is at point 7 in the bottom-right quadrant.

Quadlock Steckplatz Radiomodul



Vehicle female
12pin connector

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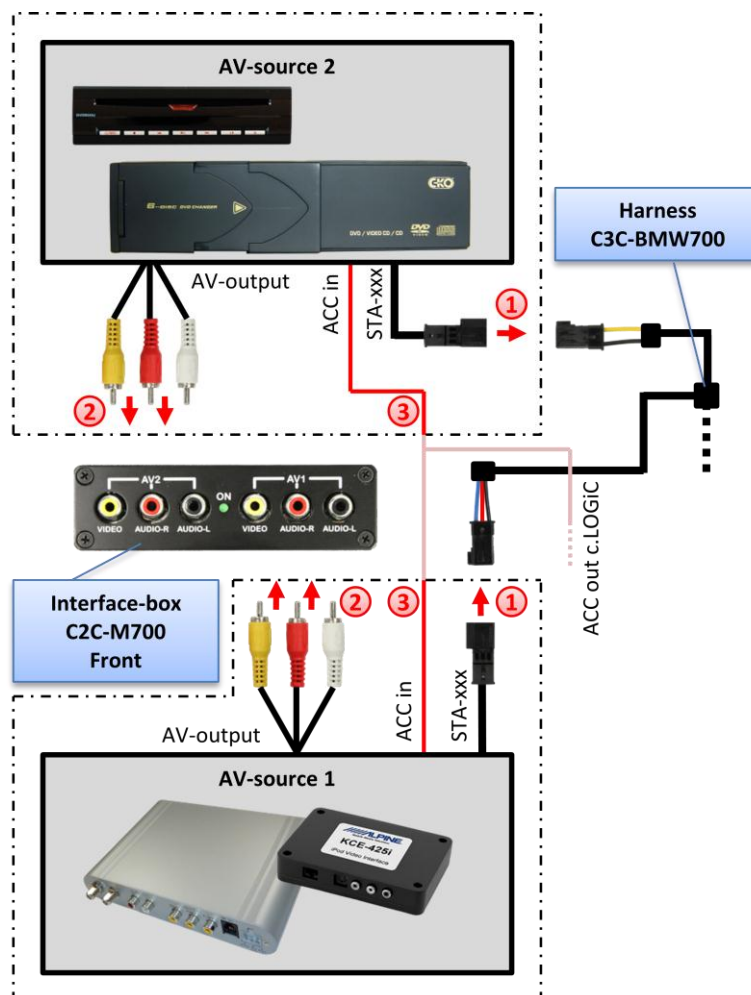
3.4. Connecting peripheral devices

It is possible to connect up to 2 after-market AV-sources, after-market rear-view camera and rear-seat-entertainment to the c.LOGiC.

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.

3.4.1. AV-source(s)

The c.LOGiC interface has the possibility to connect and remotely control by navigation buttons up to 2 pre-programmed devices. The device list in the device control table 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.

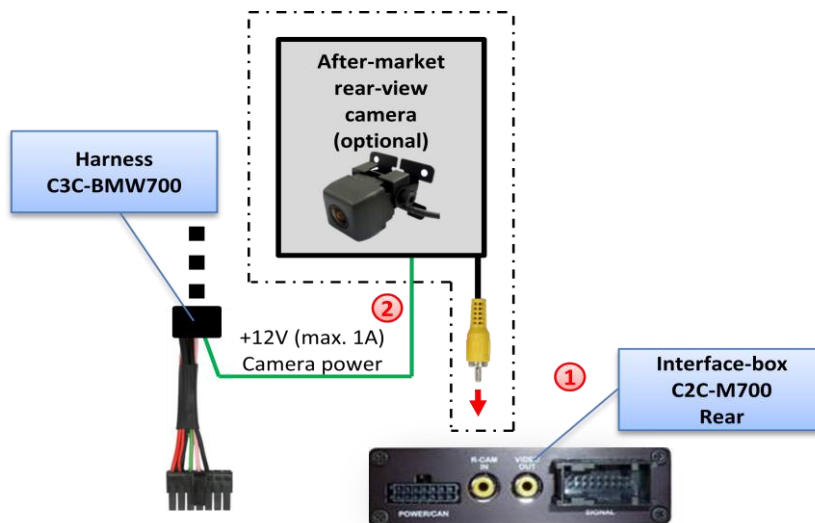


- ① Using the respective STA-xxx IR-control cable, interconnect the blue (yellow) female 3pin AMP connector of harness C3C-BMW700 and the IR-port of the AV-source 1 (AV-source 2).
- ② Using an RCA-cable, interconnect the female RCA-port AV1 (AV2) of the interface-box C2C-M700 with the AV-output of the AV-source 1 (AV-source 2).
- ③ The pink ACC-output wire (+12V max. 1A) of harness C3C-BMW0x can be connected to the ACC-input wires of the connected devices to switch it on. It carries +12V when the navigation computer is running.

3.4.2. 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.

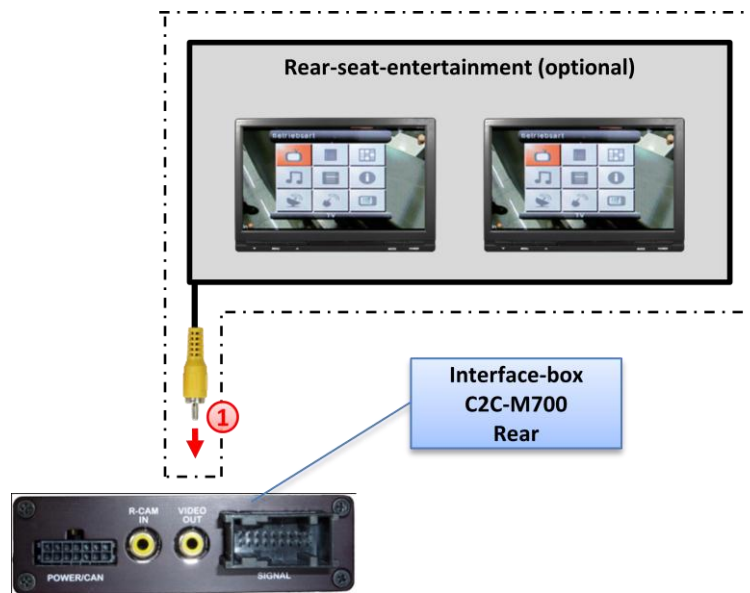
3.4.3. After-market rear-view camera



- ① Connect the video RCA of the after-market rear-view camera to the female RCA connector R-CAM IN of interface-box C2C-M700.
- ② Connect the green wire of C3C-BMW700 to the camera power supply (+12V max. 1A) The green wire is high (+12V) when reverse gear is engaged.

Note: Compatible with NTSC cameras only.

3.4.4. After-Market rear-seat-entertainment



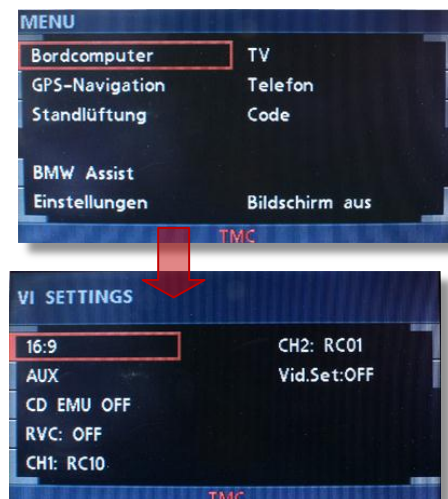
- ① Using RCA-cables, connect the rear-seat-entertainment to the female RCA-connector VIDEO OUT of interface-box C2C-M700.

Note: As the output is a full output, not shared with the video signal for the navigation system, splitting the video with an RCA Y-cable might give a good enough picture for two rear-seat-entertainment monitors. If not, or if connecting more than two monitors, use a video splitter.

3.5. System settings/VI SETTINGS

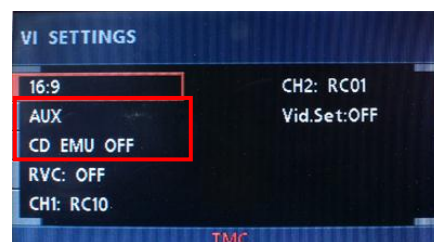
You must make some settings in the “VI SETTINGS” menu to enable the c.LOGiC’s functions.

Press 3x the “MENU” key to access the “VI SETTINGS” menu of the c.LOGiC.
Use the right knob to make changes within the “VI SETTINGS” menu.
Press 1x the “MENU” key to exit the “VI SETTINGS” menu.



3.5.1. Audio settings

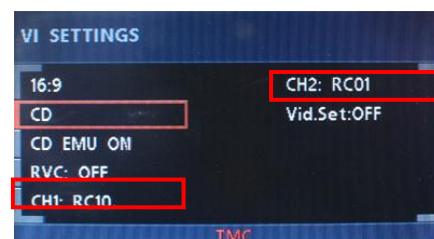
It is necessary to set the audio settings to "AUX" and "CD EMU OFF" to enable the c.LOGiC's functions.



3.5.2. Assigning device control for connected AV-sources

Select control levels setup "CH1:RCxx" for AV1 and "CH2: RCxx" for AV2 in the "VI SETTINGS" menu and assign related IR-codes as described in device control table by turning the right knob.

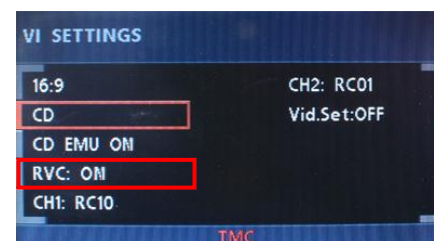
Note: The IR-control channel CH1 is preset to RC-Code 41 compatible DVB-T tuners and CH2 is preset to RC-Code 09 for the usbLiNK.



3.5.3. Rear-view camera function

Set the rear-view camera setting to "RVC: ON" to use the rear-view camera input of the c.LOGiC. After the setting the automatic switching to rear-view camera input is activated when reverse gear is engaged.

Note: After the reverse gear is disengaged, the monitor stays on camera video until the vehicle reaches a speed of 10 km/h. To leave the camera video press the right knob.



4. Operation

4.1. Activation of the video-in-motion function

The video-in-motion function is permanently active without disturbing the navigation performance.

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

Selecting the c.LOGiC as current AV-source is activated by pressing the "MODE"-button (depending on the current mode of the system, it has to be pressed several times). After the first activation the system will switch the picture after a few seconds from c.LOGiC-video to factory-video by itself, the audio will still stay on c.LOGiC-audio. Use the picture switch button to select between factory-video and c.LOGiC-video. You can leave the c.LOGiC mode by pressing the "FM" or the "MODE" button.



MODE - button picture switch button

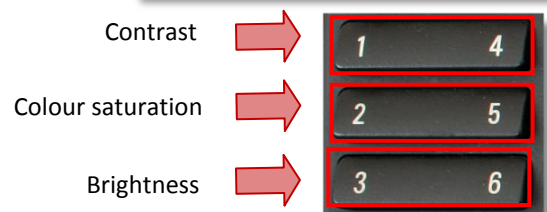
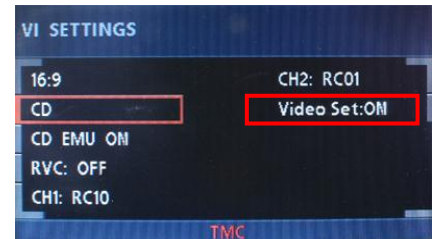
4.3. Switching to AV1 and AV2

In c.LOGiC mode longpress station button „1” to switch to AV1 or longpress station button „2” to switch to AV2.

4.4. Picture settings

The c.LOGiC has its own picture setting mode. In order to enter this mode, set to **“Video Set:ON”** in the **“VI SETTINGS”** menu. After switching to the Video/Audio level the keys **“1 <> 4”** , **“2 <> 5”** , **“3 <> 6”** can be used for picture settings. (each with short keypress).

You can deactivate the picture setting mode in the **“VI SETTINGS”** or by turning off ignition.



4.5. Button assignment table

The button assignment table shows which functions of the connected devices can be executed by navigation buttons. Once an AV-input is activated, the navigation 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 device's remote control. On the additional device the writing may vary (e.g. AV instead of Source).




Button assignment table c.LOGiC C2-MK-AUX

| Navigation button | DVB-T tuners | usbLiNK | DVD-player | DVD-changer | iPod®-control | Analog-tuner |
|-------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1 | | SOURCE | AV | AV | AV | Display |
| 1 long | Selection TV/ image format | Selection TV/ image format | Selection TV/ image format | Selection TV/ image format | Selection TV/ image format | Selection TV/ image format |
| 2 | | OK / PLAY | PLAY | PLAY | PLAY | SCAN |
| 2 long | Selection AV2/ Image format | Selection AV2/ Image format | Selection AV2/ Image format | Selection AV2/ Image format | Selection AV2/ Image format | Selection AV2/ Image format |
| 3 | ← | ← | ← | ← | ← | CH - |
| 3 long | TEXT | EXIT | ZOOM | ZOOM | | |
| 4 | | POWER | POWER | POWER | POWER | POWER |
| 4 long | Interface On/Off | Interface On/Off | Interface On/Off | Interface On/Off | Interface On/Off | Interface On/Off |
| 5 | EXIT | MEDIA | >> | >> | >> | MUTE |
| 5 long | SCAN | VOL + | PBC | PBC | | |
| 6 | → | → | → | → | → | CH + |
| 6 long | EPG | VOL - | STOP | STOP | | |
| 7 | ↑ | ↑ | ↑ | ↑ | ↑ | VOL + |
| 8 | OK | OK / PLAY | PLAY | PLAY | PLAY/ENTER | SCAN |
| 8 long | MENU | SETUP | SETUP | SETUP | LAMP | ADJUST |
| 9 | ↓ | ↓ | ↓ | ↓ | ↓ | VOL - |
| 10 | CH - | TRACK - | TRACK - | TRACK - | TRACK - | CH - |
| 10 long | | | | DISC | | |
| 11 | CH + | TRACK + | TRACK + | TRACK + | TRACK + | CH + |
| 11 long | | | | DISC | | |
| 12 | | | TITLE | TITLE | | |
| 12 long | | | SUBTITLE | SUBTITLE | | |
| 13 | INFO | | DISPLAY | DISPLAY | | |
| 13 long | DTV/RADIO | | AUDIO | AUDIO | | |

5. Specifications

| | |
|-----------------------------------|------------------|
| Operation voltage | 10.5 – 14.8V DC |
| Stand-by power drain | <1mA |
| Operation power drain | 230mA |
| Power consumption | 3W |
| Temperature range | -30°C to +80°C |
| Weight | 202g |
| Measurements (box only) B x H x T | 90 x 30 x 105 mm |

CE  12V DC

6. Technical Support

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