

## **c.LOGiC lite-Interface**

### **C1-LR10**

## **for Landrover touch-screen navigation systems version 2**

### **Product features**

- Full plug and play multimedia interface
- 1 AV-input 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 CAB-LR10-R is necessary)
- automatic switching to rear-view camera input
- rear-view camera power (+12V max. 1A)
- 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.*

#### Interface-box

##### C1C-M15

HW \_\_\_\_\_ SW \_\_\_\_\_



#### CAN-box

##### TV-400/500

HW \_\_\_\_\_

SW \_\_\_\_\_



#### Harness C1C-LR10



#### Harness TV-LR



If remote function for the connected device shall be used, additional an IR-Remote cable and Y-adapter are needed, see chapter [AV-source](#) .

## 1.2. Check compatibility of vehicle and accessories

Requirements	
<i>Vehicle</i>	Range Rover (Vogue) L322 (2010-2012), Range Rover Sport L320 (2010-2011), Discovery3 L319 (2010-2011)
<i>Navigation</i>	Touch-Screen navigation version 2
Limitations	
<i>Factory-TV-tuner</i>	Must NOT be installed. If uninstalled, optical ring must be closed.
<i>After-market rear-view cam.</i>	Compatible with NTSC cameras only. Optionally available adapter CAB-LR10-R is necessary to connect.

## 1.3. Setting the dip switches of the CAN-box TV-400/500

### TV-400

With rear-view camera	dip 1 ON, dip 2 ON, dip 3 ON	
Without rear-view camera	dip 1 OFF, dip 2 ON, dip 3 ON	

**Note:** Setting dip 1 to ON codes the factory rear-view camera input which is located on the 6pin male connector of the factory monitor. When reverse gear is engaged, the navigation will automatically switch to this input. On vehicles with factory rear-view camera set Dip 1 to ON, too.

### TV-500

Vehicle/ navigation	Dip 1	Dip 2	Dip 3	Dip 4	Dip 5	Dip 6
Vehicles <b>without</b> rear-view camera	ON*	OFF	ON	OFF	ON	ON
Vehicles <b>with</b> rear-view camera	ON*	ON	ON	OFF	ON	ON

\* With dip1 to OFF the included green cable is used to activate the video-in-motion function.

**Note:** Dip switch functions of the TV-500

Dip 1 – activation TV-free

Dip 2 – rear-view camera existing

Dip 3 – TV icon simulation

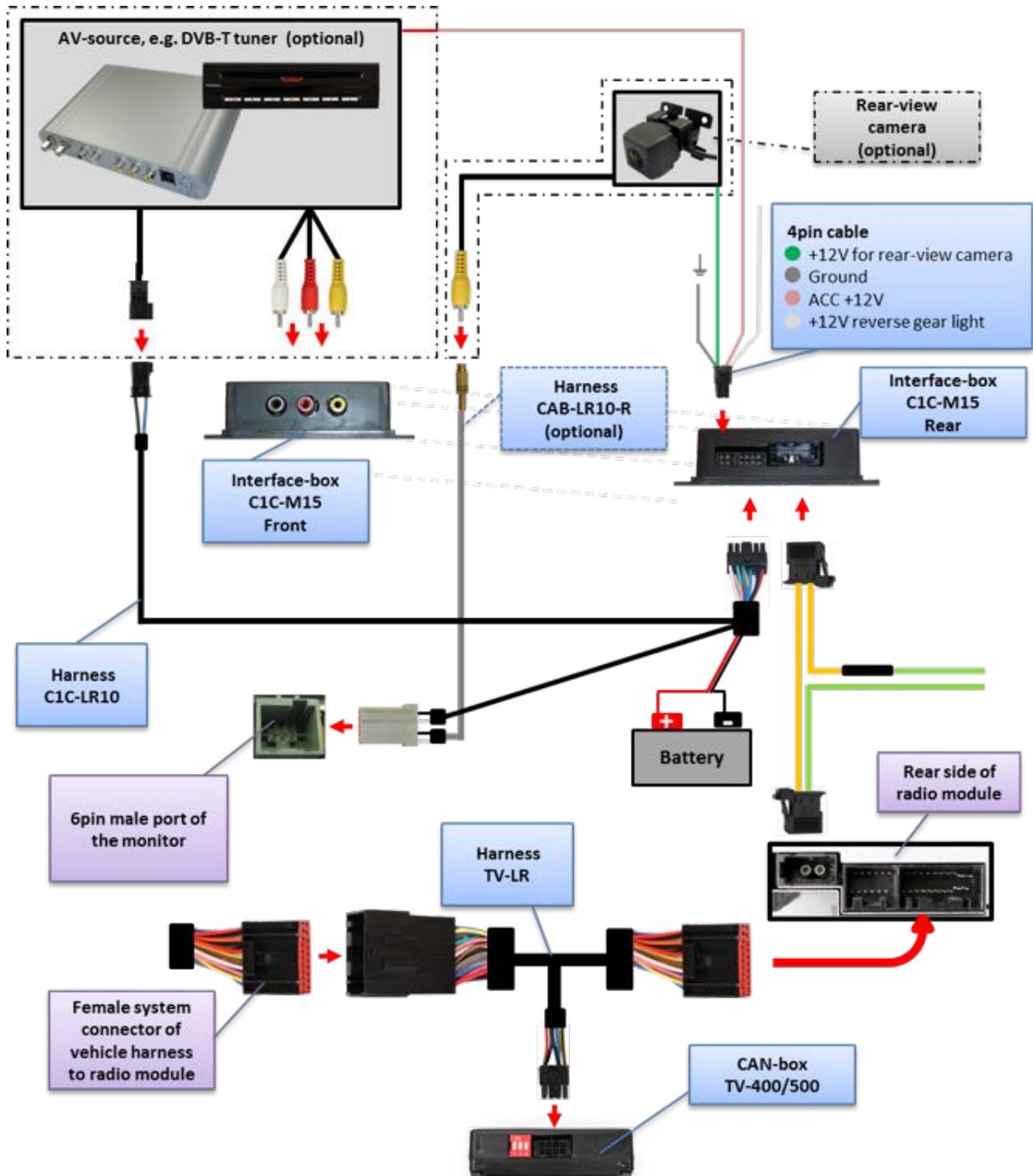
Dip 4 – no function

Dip 5 – termination resistor CAN-Bus

Dip 6 – termination resistor CAN-Bus

Setting dip 2 to ON codes the factory rear-view camera input which is located on the brown Fakra male connector of the factory monitor. When reverse gear is engaged, the navigation will automatically switch to this input. On vehicles with factory rear-view camera set Dip 2 to ON, too.

## 2. Connection schema

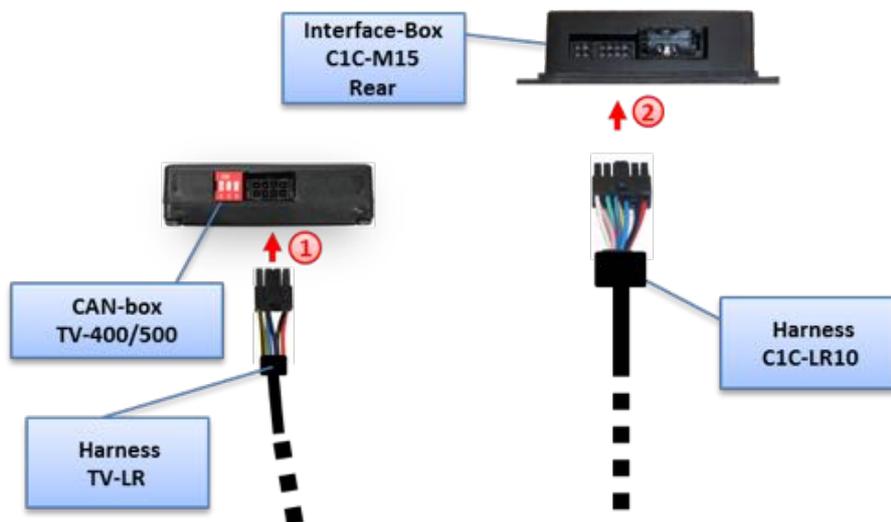


## 3. Installation

**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 behind the factory navigation monitor and on the rear of the radio module. On Range Rover (Vogue) the radio module is a hide-away box which is located behind the glove box.

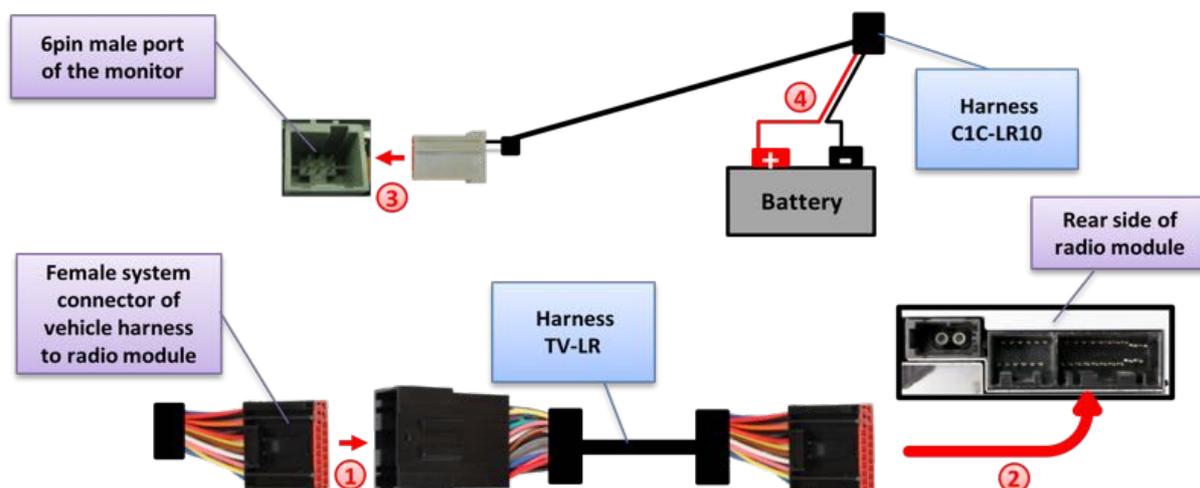
### 3.1. Interconnecting Interface-box, CAN-box and harnesses



- ① Plug harness TV-LR into 8pin Molex of CAN-box TV-400/500.
- ② Plug harness C1C-LR10 into 8pin Molex of Interface-box C1C-M15.

## 3.2. Connections to the factory navigation

Access to rear side of the factory navigation monitor and the rear of the factory navigation radio module is necessary.

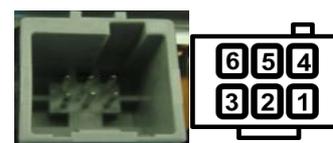


- ① Transfer female system-connector of vehicle harness from rear of radio module into harness TV-LR.
- ② Plug female system-connector of TV-LR into male socket of radio module.
- ③ C3C-LR10, pin coloured video-signal (black video-signal ground) wire with bare contact into pin 3 (pin 6) of the supplied female grey 6pin connector. Use red front is to lock the pins in the connector (read below note and chapter after-market rear-view camera first). Plug female grey-red 6pin connector of C3C-LR10 into 6pin male port of monitor.

**Note:** If the factory rear-view camera or factory Adventure-camera is installed, there is already a female grey-red 6pin connector on the factory vehicle harness which is connected to the male 6pin port on the backside of the factory monitor. In this case pin the two bare contacts into the female grey-red 6pin connector of the vehicle harness instead of the supplied one.



Female plug of vehicle harness



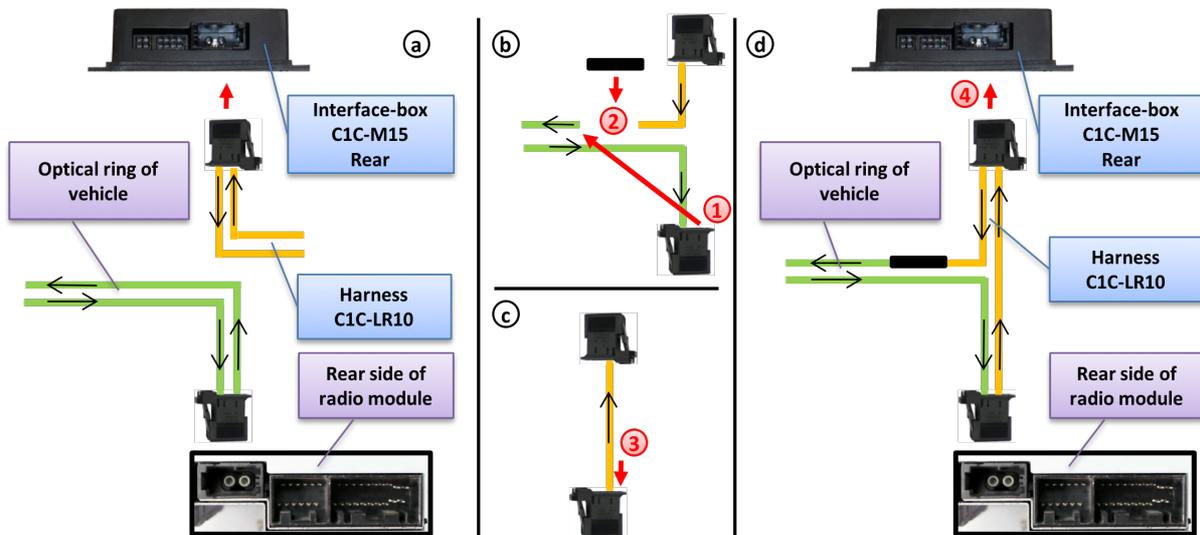
male port on monitor

### 6pin male port of the monitor

Pin 3: Video-signal  
Pin 6: Video-signal ground

- ④ Connect red wire of harness C1C-LR10 to +12V permanent and the black wire to ground.

### 3.3. Connecting optical ring



- ① Remove the black MOST®-connector which contains the optical leads from the rear of the radio module. Remove the optical insert from the black connector. Remove the vehicle harness' optical output lead (see arrows on MOST®-connector).
- ② With the included optical bridge, connect the removed vehicle harness' optical output lead to the optical output lead of the C1C-LR10 (see arrows on MOST®-connector).
- ③ Plug the optical input lead of harness C1C-LR10 into the free connector of the male MOST®-connector on the rear side of the radio module.
- ④ Plug male MOST®-connector of harness C1C-LR10 into female MOST®-connector of the interface-box C1C-M15.

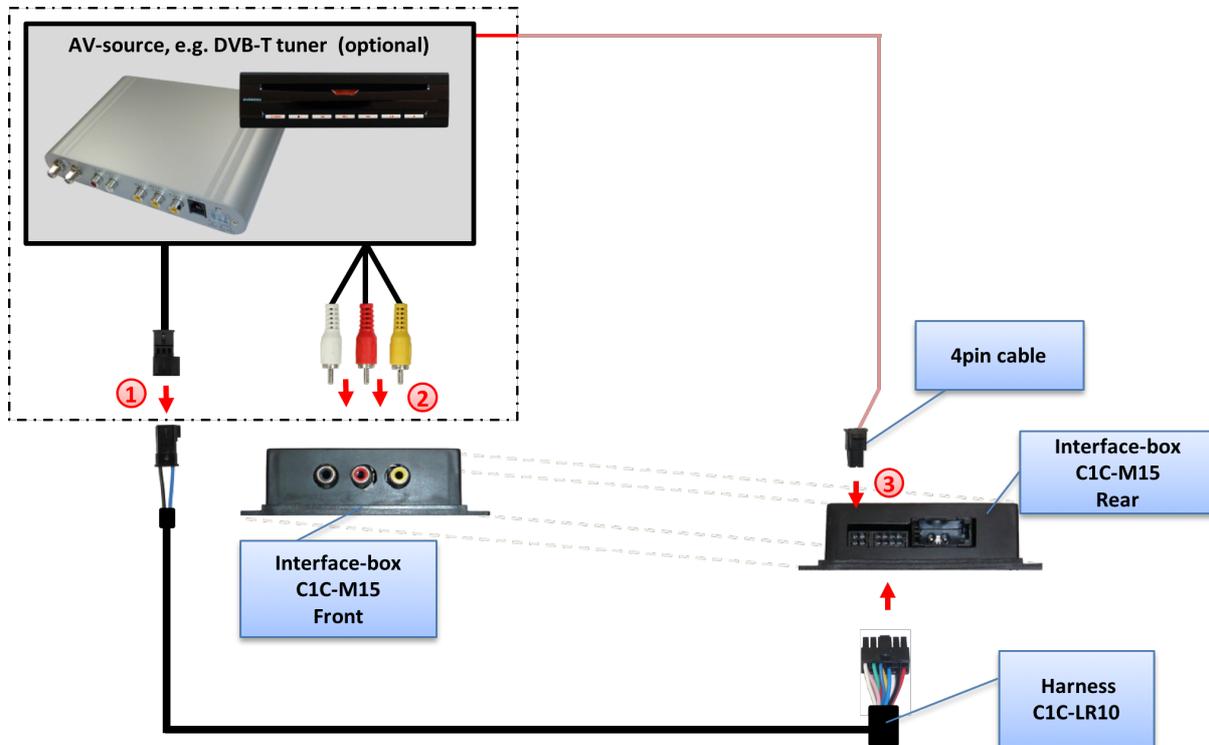
### 3.4. Connecting peripheral devices

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.**

## 3.4.1. 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.

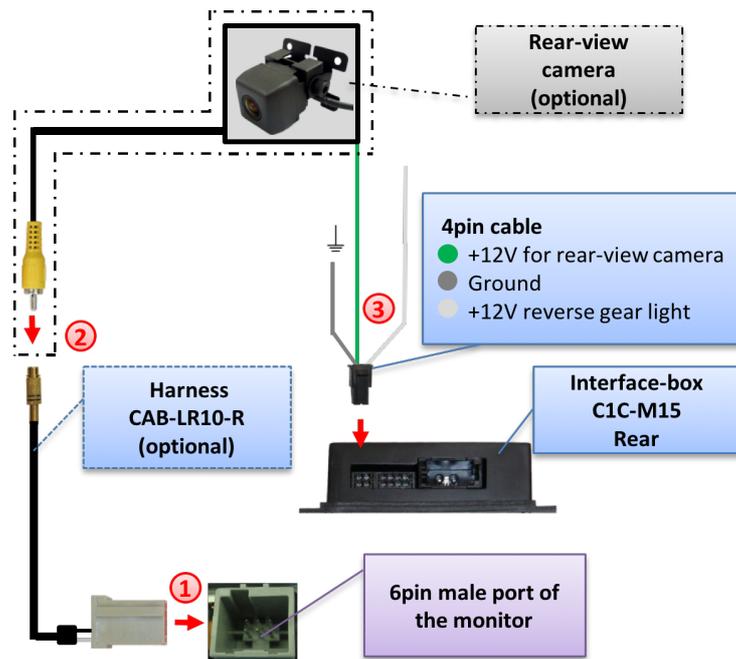


- ① Using the respective STA-xxx IR-control cable, interconnect the blue female 3pin AMP connector of harness C1C-LR10 and the IR-port of the AV-source.
- ② Using RCA-cables, interconnect the female RCA-ports of the interface-box C1C-M15 with the AV-outputs of the AV-source.
- ③ The pink ACC-output wire (+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.

## 3.4.2. Installing AV-source's IR-sensor additionally

Additionally to the control via OEM navigation, it is possible to install the original IR-sensor of the 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 Pin coloured video-signal (black video-signal ground) wire with bare contact into pin 2 (pin 5) of the female grey-red 6pin connector of C1C-LR10 or the factory harness.
- ② Connect the male Video RCA connector of the after-market rear-view camera to the female RCA connector of the optional available harness CAB-LR10-R.
- ③ Connect the green wire of the 4pin cable to the camera power supply (+12V max. 1A) of the after-market rear-view camera and the grey wire to ground of the vehicle. Connect the white wire to the reverse gear light (+12V). The green wire is high when reverse gear is engaged.

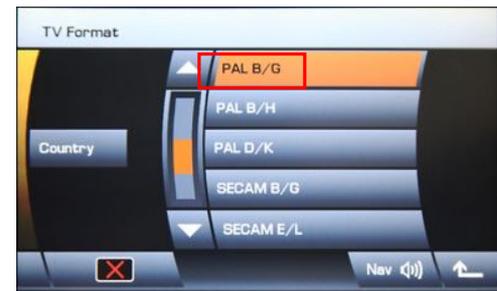
**Note:** Compatible with NTSC cameras only.

### 3.5. Activation of remote functions

To activate the remote functions, the following Procedure needs to be performed after installation:

- select **TV** from the navigations main menu
- open TV-layer menu (picture 1)
- select **TV** (system format menu)
- choose **PAL B/G**
- exit system format menu by ↵

**Note:** After loss of battery power, the activation has to be repeated.



## 4. Operation

### 4.1. Activation of the video-in-motion function

#### TV-400

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

**Note:** The loose white and green cable are not required and must be isolated.

#### TV-500

The video-in-motion can be activated and deactivated by Dip 1 or alternatively by the included loose green cable in connection with a switch (not included in delivery).

#### Video-in-motion permanent

With dip1 to ON the video-in-motion function is activated permanently without disturbing the navigation performance.

#### Video-in-motion selective

With dip1 to OFF the included green cable is used to activate the video-in-motion function.

Connect a switch to the green cable and connect the green cable to +12V ACC.

- +12V = TV-Free is activated
- 0V = TV-Free is not activated

**Note:** The loose white cable is not required and must be isolated.

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

Select **TV** from the navigation's main menu to choose the c.LOGiC as current AV-source.

## 4.3. Assigning device controls

- select **TV** from the navigations main menu
- Open TV-layer menu (picture 1)
- select **Auto** to enter RC-code menu (picture 2)
- select **RC1** for the AV-source ( not shown on picture)
- return to number pad by 
- **within 10 seconds**, enter the device-related IR-code as described in device control table (appendix A) and wait another 15 seconds

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



## 4.4. Button assignment table

The button assignment table shows which functions of the connected device can be executed by touch-screen buttons. Once the AV-input is activated, the touch-screen number pad 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 Landrover from 2010					
Touch-screen button	DVB-T	USB-LiNK	DVD-Player	DVD-Wechsler	iPod®-Steuerung
1	AUTO	POWER	PLAY	PLAY	PLAY/PAUSE
2	↑	↑	↑	↑	↑
3	EPG	EXIT	STOP	STOP	POWER
4	←	←	←	←	←
5	OK	OK / PLAY	OK	OK	ENTER
6	→	→	→	→	→
7	EXIT*	MEDIA	PBC	DISC	SHUFFLE
8	↓*	↓	↓	↓	↓
9	MENU*	SETUP	SETUP	SETUP	LIGHT
<	CH -	TRACK -	TRACK -	TRACK -	TRACK -
>	CH +	TRACK +	TRACK +	TRACK +	TRACK +

Additionally to the touch-screen buttons, the steering-wheel buttons UP and DOWN can be used for remote functions. DOWN-button has the same function as “|<” on the touch-screen and UP-button has the same function as “>|” on the touch-screen.

\*For IR-control channel RC-41 compatible DVB-T tuners the button assignment for button 7 is “MENU” and for buttons 8 and 9 is “↓”.

## 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

CE  12V DC

## 6. Technical Support

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