

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

### **C1-LR**

## **Compatible with Landrover touch-screen navigation systems version 1**

### **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-TVAS20 is necessary)
- automatic switching to rear-view camera input (only from c.LOGiC mode)
- 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 \_\_\_\_\_



**Harness**

**C1C-MBN2**



**CAN-box**

**TV-400/500**

HW \_\_\_\_\_

SW \_\_\_\_\_



**Harness**

**TV-LR**



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

## 1.2. Check compatibility of vehicle and accessories

### Requirements

**Vehicle** Range Rover (Vogue) L322 (2005-2009), Range Rover Sport L320 (2005-2009), Discovery3 L319 (2004-2009)

**Navigation** Touch-Screen navigation version 1

### Limitations

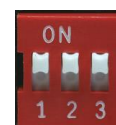
**Factory-TV-tuner** Must NOT be installed. If uninstalled, optical ring must be closed.

**After-market rear-view cam** Automatic switching to camera only from c.LOGiC mode.  
Optionally available adapter CAB-TVAS20 is necessary to connect.

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

### TV-400

With factory rear-view camera Dip 1 ON, Dip 2 ON, Dip 3 ON



Without rear-view camera or with after-market rear-view cam. Dip 1 OFF, Dip 2 ON, Dip 3 ON



### TV-500

Vehicle/ navigation	Dip 1	Dip 2	Dip 3	Dip 4	Dip 5	Dip 6
Vehicles <b>without</b> rear-view camera or with after-market rear-view camera	ON*	OFF	ON	OFF	ON	ON
Vehicles <b>with</b> factory 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 – factory rear-view camera existing

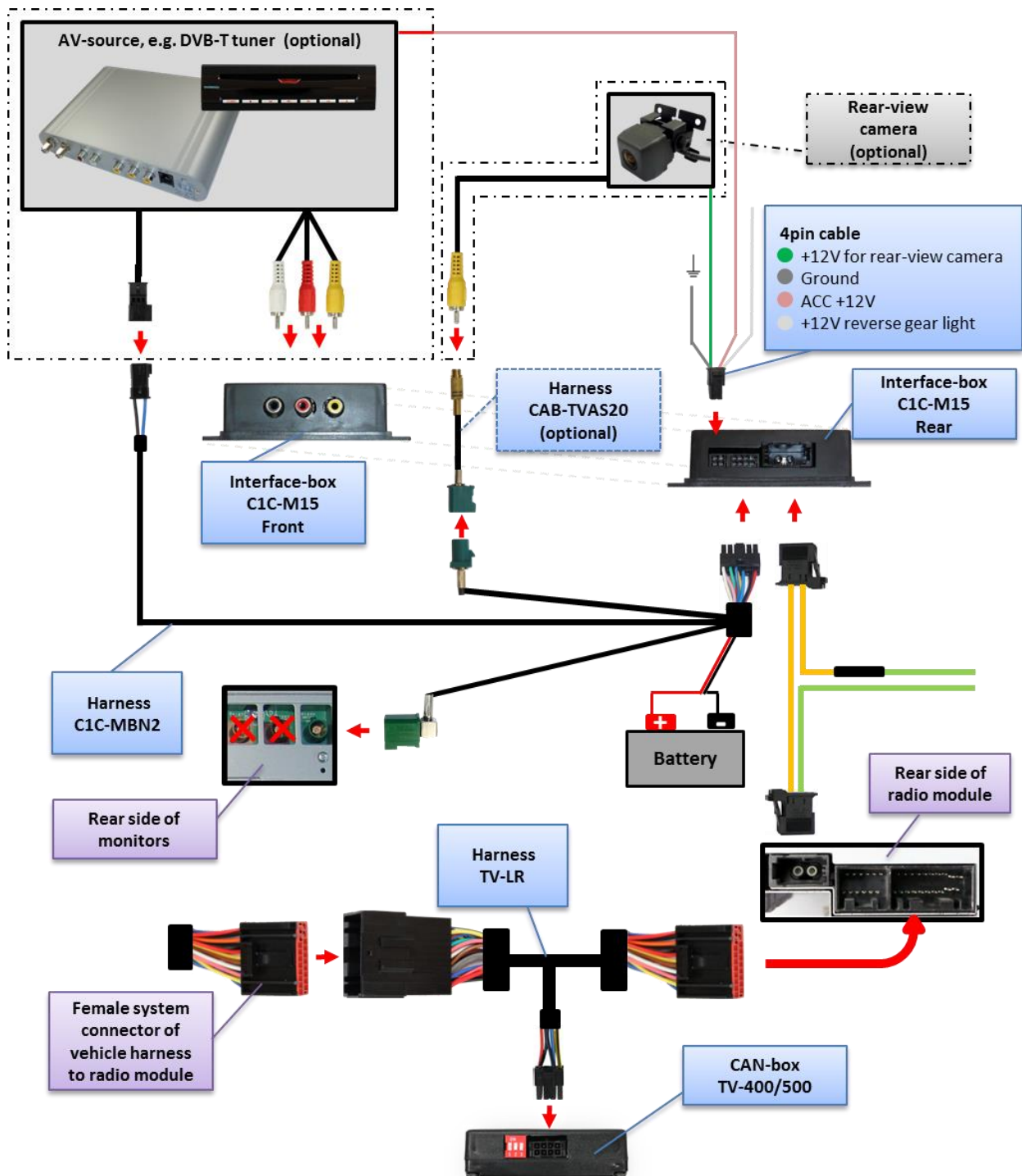
Dip 3 – TV icon simulation

Dip 4 – no function

Dip 5 – termination resistor CAN-Bus

Dip 6 – termination resistor CAN-Bus

## 2. Connection schema

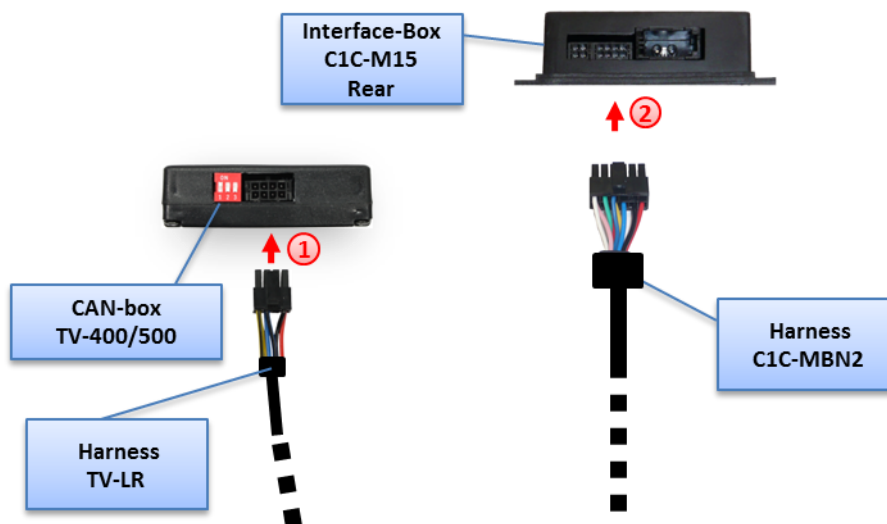


## 3. Installation

**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.

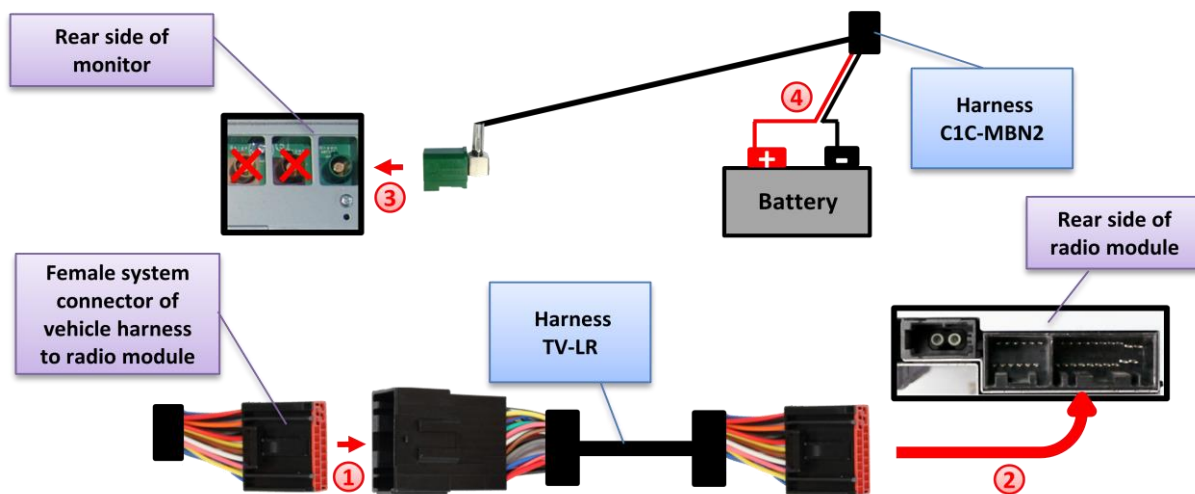
### 3.1. Interconnecting Interface-box, CAN-box and harnesses



- ① Plug harness TV-LR into 8pin Molex of CAN-box TV-400/500.
- ② Plug harness C1C-MBN2 into 8pin Molex of Interface-box C1C-M15.

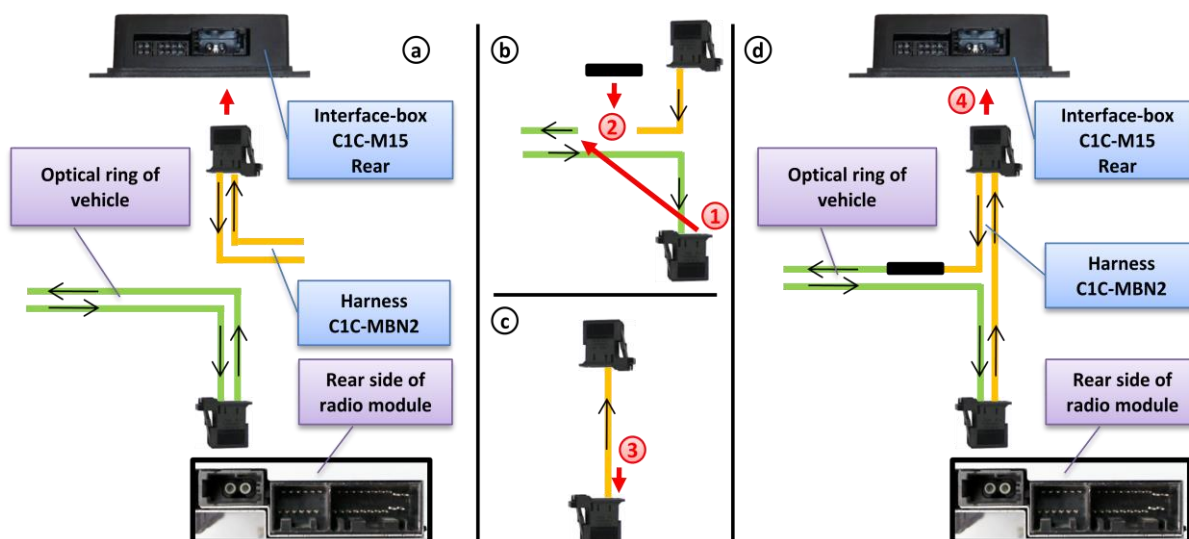
## 3.2. Connections to the factory navigation

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 Plug female Fakra-connector of C1C-MBN2 into male Fakra-socket of monitor.
- ④ Connect red wire of harness C1C-MBN2 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-MBN2 (see arrows on MOST®-connector).
- ③ Plug the optical input lead of harness C1C-MBN2 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-MBN2 into female MOST®-connector of the interface-box C1C-M15.

## 3.4. Connecting peripheral devices

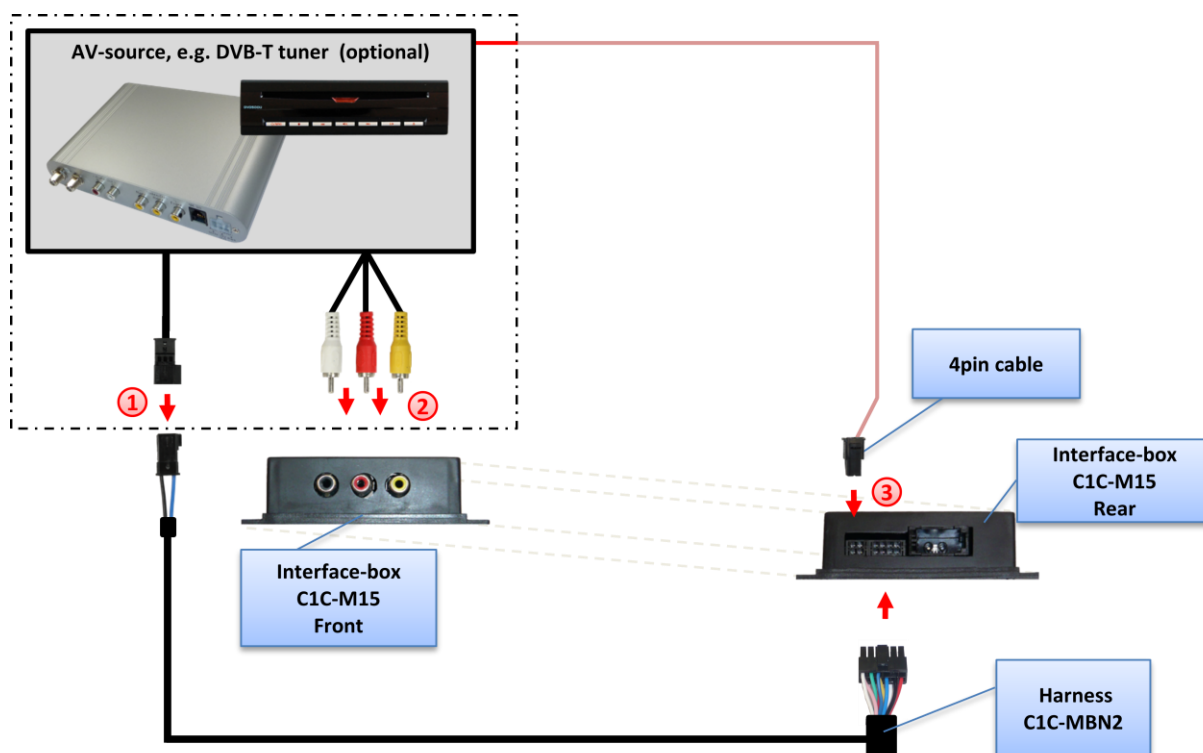
It is possible to connect one after-market AV-source and an after-market rear-view camera to the c.LOGiC Interface.

**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.

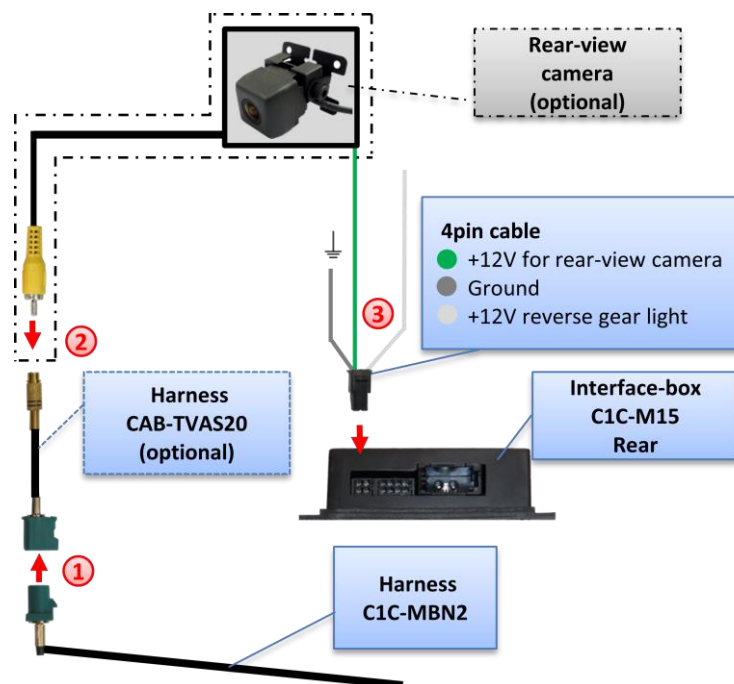


- ① Using the respective STA-xxx IR-control cable, interconnect the blue female 3pin AMP connector of harness C1C-MBN2 and the IR-port of the AV-source.
- ② Using RCA-cables, interconnect the female RCA-ports of the interface-box C1C-M15 with the AV-outputs of the AV-source.
- ③ The pink ACC-output wire (+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 Connect the male Fakra-connector of harness C1C-MBN2 to the female Fakra-connector of the optional available harness CAB-TVAS20.
- 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-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 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.

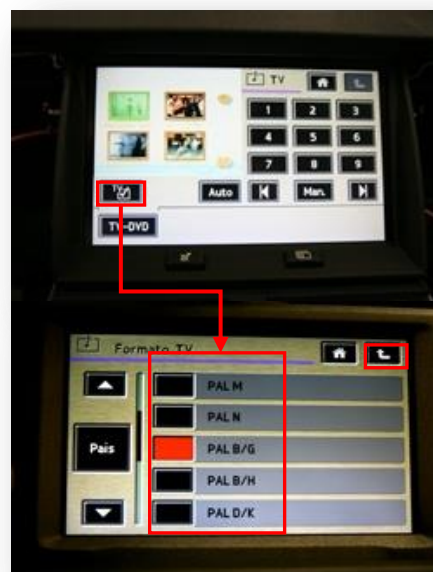
**Note:** Automatic switching on reverse gear to after-market rear-view camera works only from c.LOGiC mode.

## 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						
Touch-screen 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 -
5	OK	OK / PLAY	OK	OK	ENTER	MODE
6	→	→	→	→	→	CH +
7	EXIT	MEDIA	PBC	DISC	SHUFFLE	ADJUST
8	↓	↓	↓	↓	↓	VOL -
9	MENU	SETUP	SETUP	SETUP	LIGHT	MODE
<	CH -	TRACK -	TRACK -	TRACK -	TRACK -	CH -
>	CH +	TRACK +	TRACK +	TRACK +	TRACK +	CH +

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.

## 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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