v.LOGiC Interface

V3-MMI3G

compatible with Audi with MMI3G High navigation system and monitor 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)
- Adjustable parking guide lines for front- and rear-view camera, activation by OSD
- Picture-in-picture mode combining after-market rear-view and front camera picture(s) with factory parking sensor graphics (soon)
- 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)
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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.

1.1. Check compatibility of vehicle and accessories

<table>
<thead>
<tr>
<th>Requirements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle</td>
<td>A4 (8K), A5 (8T), A6 (4F), A7 (4G), A8 (4E/4H), Q5 (8R), Q7 (4L)</td>
</tr>
<tr>
<td>Navigation</td>
<td>MMI 3G High with 4pin HSD LVDS connector on the factory monitor</td>
</tr>
<tr>
<td></td>
<td>With Joystick on the knob</td>
</tr>
<tr>
<td>Limitations</td>
<td></td>
</tr>
<tr>
<td>Audio-AUX</td>
<td>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 or to refit it with our optionally available AUX-In Interface AUX-110.</td>
</tr>
</tbody>
</table>
1.2. Setting the dip switches of the interface-box V3C-M655

Dip 1 and 2 on the back of the interface-box V3C-M655 are used to set the monitor type. The default setting is:

<table>
<thead>
<tr>
<th>Vehicle/ navigation</th>
<th>Dip 1</th>
<th>Dip 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audi MMI3G</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

If this setting is incorrect, set dip 1 to ON. It is rarely possible that other combinations of dip 1 and 2 causes the correct setting of the monitor type.

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 V3C-M655
2. Connection schema
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 in 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

Connect female 18pin Micro-Fit connector of harness V3C-AU05 to the male 18pin Micro-Fit connector (POWER) on the front of the interface-box V3C-M655.

Connect female 14pin Micro-Fit connector of the video-harness V3C-VIDEO to the male 14pin Micro-Fit connector (VIDEO) on the rear of the interface-box V3C-M655.

Connect female 16pin Micro-Fit connector of the audio-harness V3C-AUDIO to the male 16pin Micro-Fit connector (AUDIO) on the rear of the interface-box V3C-M655.
3.2. Connection to the factory monitor

1. Connect the straight female 4pin HSD LVDS connector of the LVDS cable V3C-LVDS04 to the male 4pin HSD LVDS connector (LVDS-OUT) on the rear of the interface-box V3C-M655.

2. Remove the female 4pin HSD LVDS connector of the vehicle harness at the bottom side of the factory monitor and connect it to the male 4pin HSD LVDS connector (LVDS-IN) on the front of the interface-box V3C-M655.

3. Connect the angulated female 4pin HSD LVDS connector of the LVDS cable V3C-LVDS04 to the male 4pin HSD LVDS connector of the factory monitor.
3.3. Connection to the CAN-bus

Connect the CAN-bus to the connector shown on the picture which is located in the power distributor at the right edge of the dashboard.

1. Connect the loose blue cable (CAN-low) of harness V3C-AU05 to the orange-brown cable of the vehicle. Connect the loose yellow cable (CAN-high) of harness V3C-AU05 to the orange-purple cable of the vehicle.

Note: The orange cable in the vehicle is always CAN-bus. The cable colour orange-brown is always CAN-low, the additional cable colour of orange for CAN-high can vary.
3.4. Quadlock connector

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

2. Connect female Quadlock connector of vehicle harness to the male Quadlock connector of harness V3C-AU05.

3. Connect female Quadlock connector of harness V3C-AU05 to the male Quadlock connector of the navigation computer.

3.5. Connection to the vehicle-AUX-input

1. Connect the audio-RCA of harness V3C-AU05 to the female RCA-connectors AUDIO OUT of the audio-harness V3C-AUDIO.

Note: If connecting a rear-set-entertainment an optional RCA Y-cable is plugged in between, see chapter “Rear-seat-entertainment”
3.6. Optional IR-remote control set

The optional IR-remote control set C3-IRSET consists of the external C3C-SENSOR IR-sensor and the C3C-RC IR-remote control and can be used to control the v.LOGiC’s functions (see appendix B) additionally to the control through the navigations buttons.

1 Connect the IR-sensor C3C-SENSOR to the female black/red/green 3pin AMP connector of harness V3C-AU05 and locate the sensor in an accessible place.

Note: Connected after-market devices (e.g. DVB-T tuner, DVD-player, usbLiNK) can be controlled with their own IR remote-control (if NEC standard) using the IR-sensor C3C-SENSOR. All IR-signals with exception of longpresses will be forwarded to the corresponding device.

3.7. 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.
3.7.1. 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 V3C-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 V3C-AUDIO.

3. Using the respective STA-xxx IR-control cable, interconnect the blue-black (yellow-black) female 3pin AMP connector of harness V3C-AU05 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.
3.7.2. After-market front camera

3.7.2.1. 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 V3C-VIDEO.

2. The green wire of harness V3C-AU05 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.
3.7.2.2. 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”).

<table>
<thead>
<tr>
<th>OSD-menu</th>
<th>Menu item</th>
<th>Setting</th>
<th>Explication</th>
</tr>
</thead>
<tbody>
<tr>
<td>INPUTS</td>
<td>AV3</td>
<td>OFF</td>
<td>The front camera is connected to AV3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF</td>
<td>No front camera connected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ON</td>
<td>Switches to front camera if parking process is enabled and reverse gear is released</td>
</tr>
<tr>
<td></td>
<td>LINES</td>
<td></td>
<td>As per ON + Display of lines</td>
</tr>
<tr>
<td></td>
<td>PDC PIP*</td>
<td></td>
<td>As per ON + Display of front camera combined with PDC-display</td>
</tr>
<tr>
<td></td>
<td>PIP + LINES*</td>
<td></td>
<td>As per ON + Display of front camera combined with PDC-display and lines</td>
</tr>
<tr>
<td></td>
<td>ReverseLogic</td>
<td>Intelligent</td>
<td>The front camera only works with this setting! Enabled while parking process and up to 20 km/h or together with PDC if existing</td>
</tr>
<tr>
<td>MISC</td>
<td>OEM PDC CAR</td>
<td>Horizontal</td>
<td>PDC-display of the vehicle is horizontal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vertical</td>
<td>PDC-display of the vehicle is vertical</td>
</tr>
</tbody>
</table>

*soon

**Note:** You can adjust the displayed lines by pressing the Joystick to north and south. You can deactivate the enabled parking process by pressing the knob or by enabling other modes (e.g. radio). After deactivation you can’t enable the parking process again until the vehicle is diving faster than 20km/h, the ignition is switched off and on or the PDC will be disabled and enabled again, if existing.
3.7.3. After-market rear-view camera

3.7.3.1. 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 V3C-VIDEO.

2. The green wire of harness V3C-AU05 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 V3C-AU05 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).
3.7.3.2. 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”).

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”).

<table>
<thead>
<tr>
<th>OSD-menu</th>
<th>Menu item</th>
<th>Setting</th>
<th>Explication</th>
</tr>
</thead>
<tbody>
<tr>
<td>INPUTS</td>
<td>REAR CAM</td>
<td>OFF</td>
<td>No rear-view camera connected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SOURCE</td>
<td>Rear-view camera only manually selectable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OEM</td>
<td>If a factory rear-view camera is existing! v.LOGiC turns off, if PDC or reverse gear is enabled and it displays factory rear-view camera and/or PDC-display</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NORMAL</td>
<td>Switches to rear-view camera if reverse gear is engaged and/or PDC-display is displayed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LINES</td>
<td>As per NORMAL + Display of lines</td>
</tr>
<tr>
<td></td>
<td>PDC PIP*</td>
<td></td>
<td>As per NORMAL + Display of rear-view camera combined with PDC-display</td>
</tr>
<tr>
<td></td>
<td>PIP + LINES*</td>
<td></td>
<td>As per NORMAL + Display of rear-view camera combined with PDC-display and lines</td>
</tr>
<tr>
<td></td>
<td>ReverseLogic</td>
<td>Intelligent</td>
<td>Enabled while reverse gear is engaged and up to 20 km/h or together with PDC if existing</td>
</tr>
<tr>
<td></td>
<td>Gear only</td>
<td>Vertical</td>
<td>Enabled while reverse gear is engaged</td>
</tr>
<tr>
<td>MISC</td>
<td>OEM PDC CAR</td>
<td>Horizontal</td>
<td>PDC-display of the vehicle is horizontal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vertical</td>
<td>PDC-display of the vehicle is vertical</td>
</tr>
</tbody>
</table>

*soon

Note: You can adjust the displayed lines by pressing the Joystick to north and south. You can deactivate the enabled parking process by pressing the knob or by enabling other modes (e.g. radio). After deactivation you can’t enable the parking process again until the vehicle is diving faster than 20km/h, the ignition is switched off and on or the PDC will be disabled and enabled again, if existing.
3.7.4. Rear-seat-entertainment

1. Connect the video RCA of the rear-seat-entertainment to the female RCA connector VIDEO-OUT of video-harness V3C-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 V3C-AUDIO.

4. Connect the audio RCA of harness V3C-AU05 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.
3.7.5. Configurable trigger outputs

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”).

<table>
<thead>
<tr>
<th>OSD-menu</th>
<th>Menu item</th>
<th>Setting</th>
<th>Explication</th>
</tr>
</thead>
<tbody>
<tr>
<td>MISC</td>
<td>POWER OUT1 (pink)</td>
<td>CAN</td>
<td>+12V when the v.LOGiC is on (red LED on)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ignition</td>
<td>+12V when ignition is on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RearCam</td>
<td>+12V when the rear-view camera input (AV4) is activated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ext. Navi</td>
<td>+12V when an after-market navigation is configured and its input is activated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reverse Gear</td>
<td>+12V when reverse gear is engaged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visible</td>
<td>+12V when v.LOGiC-picture is visible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Active</td>
<td>+12V when v.LOGiC-picture is visible and until you leave the v.LOGiC mode by pressing the RADIO-button</td>
</tr>
</tbody>
</table>

*Default setting pink = Ignition
*Default setting green = RearCam
3.8. Picture settings

3.8.1. Picture format

You can change the picture format by **long pressing** the **function-button top right** while in the respective AV-mode. The following options are available:

- **16:9** = 16:9 v.LOGiC full screen mode
- **4:3** = 4:3 v.LOGiC-picture central

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

3.8.2. Picture settings

You can change the picture settings in the OSD-menu **IMAGE** (Operation of the OSD: see chapter “OSD-Operation”).

<table>
<thead>
<tr>
<th>AV1</th>
<th>NTSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMAGE</td>
<td></td>
</tr>
<tr>
<td>INPUTS</td>
<td>BRIGHTNESS 50%</td>
</tr>
<tr>
<td>OSD</td>
<td>CONTRAST 50%</td>
</tr>
<tr>
<td>CAR</td>
<td>SATURATION 50%</td>
</tr>
<tr>
<td>TOUCH</td>
<td>HUE 0%</td>
</tr>
<tr>
<td>MISC</td>
<td>SHARPNESS 0%</td>
</tr>
</tbody>
</table>

- **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 control unit.

Note: You can leave the OSD by short pressing the Return button, too.

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”):

<table>
<thead>
<tr>
<th>OSD-menu</th>
<th>Menu item</th>
<th>Setting</th>
<th>Explication</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSD</td>
<td>TRANSPARENCY</td>
<td>0-100%</td>
<td>Transparency of the OSD-background</td>
</tr>
<tr>
<td></td>
<td>H POSITION</td>
<td>0-xxx</td>
<td>Horizontal position of the OSD</td>
</tr>
<tr>
<td></td>
<td>V POSITION</td>
<td>0-xxx</td>
<td>Vertical position of the OSD</td>
</tr>
<tr>
<td></td>
<td>COLOR SET</td>
<td>8 different</td>
<td>Colour setting of the OSD</td>
</tr>
<tr>
<td>MISC</td>
<td>VERSION</td>
<td>X.XX.XX</td>
<td>Displays the current SW-version</td>
</tr>
<tr>
<td></td>
<td>FACTORY RESET</td>
<td></td>
<td>Resetting to factory settings</td>
</tr>
</tbody>
</table>
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 media menu, activate AUX and after it **long press MEDIA-button** to choose the v.LOGiC as current AV-source.

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

*Factory-video → AV1 → AV2 → AV3 → AV4 (R-CAM) → RGB → factory-video →...*

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 09 for the usbLiNK.

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 control unit. Once an AV-input is activated, the control unit 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).

**Controlling of AV-sources:**

- **DVB-T / DVD / usbLInK / iPod®**

<table>
<thead>
<tr>
<th>Short</th>
<th>Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short =</td>
<td>Long = <strong>Menu</strong>/ <strong>PBC</strong>/ <strong>Exit</strong>/ Call the folder of the current track up</td>
</tr>
<tr>
<td>Short = <strong>VOL</strong>−/</td>
<td>Long = <strong>OK</strong>/ <strong>Enter</strong>/ <strong>OK/Play</strong>/ Enter</td>
</tr>
<tr>
<td>Short = <strong>AV</strong> / <strong>AV</strong>/ <strong>Source</strong>/ <strong>AV</strong></td>
<td></td>
</tr>
</tbody>
</table>

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

6. Connections (interface-box)

7. Technical Support

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manufacturer/distribution
In den Fuchslöchern 3
D-67240 Bobenheim-Roxheim

e-mail support@caraudio-systems.de

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