

BMW56CAN

Video integration and source switching for BMW 3, 5, 6 & New X5 (E60, E63/64, E90 & E70)
 Certain features are intended for passenger and off-road use only. User must obey all State and Federal regulations

Overview – Components

The BMW56 provides a video input to the LCD display screen as well as the ability to select from multiple video sources. These sources can all be selected by holding down the Steering Wheel *Down Arrow* or directly via the included IR remote control. When switching video sources, the corresponding audio source is also selected and can be output to the BMW's Aux-In option.

Notes:

- 1) The included remote control is not necessary for the basic operation of the unit. However, the remote control does allow for adjusting the picture properties and switching to **Split Screen** view.
- 2) Though this module contains audio inputs and outputs, they are only there for the purpose of switching the corresponding audio to the video. The BMW56CAN only provides a video interface to the BMW's screen.

What's in the box	Fig. 1 - Package Contents
1. Nav-TV BMW56 module. 2. LCD cable. 3. Extension/Adaptor cable. 4. Power cable. 5. AV harness. 6. CAN cable. 7. IR receiver. 8. Remote control. 9. RGB In cable. (Not used)	

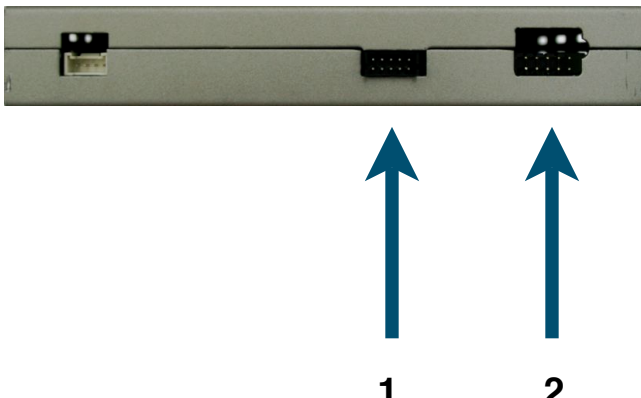
Optional Connections

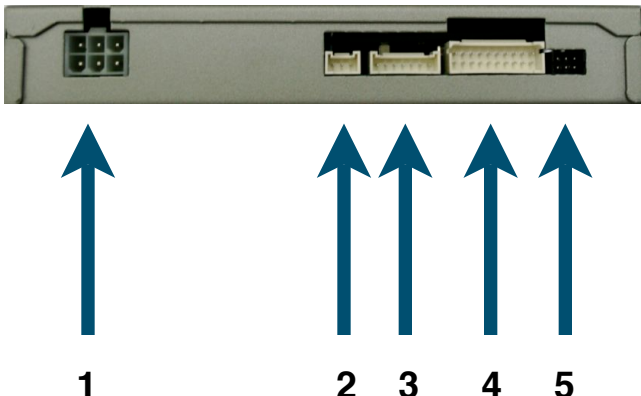
1. IR Receiver (1-7) & Remote control (1-8). These are not required for a basic installation, as the module can be fully controlled by the steering wheel Down Arrow. Depending on the type of screen and available video sources, the remote may be necessary during installation to properly set up the device.
2. RGB In cable (1-9). This cable can be used to provide an additional input. The difference between this input and the other 3 is that this input is for RGB based, rather than regular composite video.

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Overview – Connections

Connections	Fig. 2 - Front of module
<ol style="list-style-type: none"> 1. LVDS OUT: Connect LCD cable (1-2) to screen. 2. LVDS IN: Connect factory cable to module using Extension/Adaptor cable (1-3). <p>NOTE: The factory LCD cable, as well as the LCD cable (1-2) and the Extension/Adaptor cable (1-3) all employ a key for proper orientation. Pay close attention to the installation instructions for proper connections.</p>	 <p>1 2</p>

Connections	Fig. 3 - Rear of module
<ol style="list-style-type: none"> 1. POWER: Connect Power cable (1-4) to module. 2. REMOTE: Connect IR receiver (1-7) to module.. 3. RGB/NAVI IN: (Optional) Connect RGB cable (1-9) to module to utilize an RGB based video source. 4. AV IN/OUT: Connect A/V harness (1-5) to module for AV1, AV2, Rear camera in and AV OUT. 5. CAN: Connect CAN cable (1-6) from module to vehicle's CAN wires. <p>NOTES:</p> <ol style="list-style-type: none"> 1) The Remote (1-8) should be used for initial setup, but is not necessary for normal operation. 2) The CAN connections need to be soldered to insure reliability. 	 <p>1 2 3 4 5</p>

NOTE ON IMAGES IN THIS DOCUMENT

All references to illustrations will be in the format of (x-y) where **x** is the number of the Figure and **y** is the item in that figure. For example: (3-2) is the Jack for the IR receiver. It's the 2nd item in the 3rd picture box.

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Operation

Once the BMW56CAN has been installed and set up in the vehicle, the video on the screen can be switched between the default display and up to 2 (3, if one of them is an RGB source) additional video inputs. Additionally, a backup camera can be connected that will automatically be displayed when the vehicle is in reverse. The module will also switch audio sources that correspond to the selected video source.

Note: There is no audio source input that corresponds to the RGB based, Navigation input.

Programming / Set-Up

Once the unit is installed, there are 2 things that must be set via the remote control:

1. **Screen size.** Press the MENU button until the **FACTORY** submenu is displayed. Use the Down Arrow on the remote to highlight **Panel Select**, press OK and use the arrows to select the screen type that matches the vehicle. Confirm your selection with the OK button.
2. **Available video source selection.** Press the MENU button until the **SETUP** submenu is displayed. Use the Up/Down arrows and OK button to select the status of AV 2, NAVI and REAR inputs. Only select the inputs which will be connected to video sources. Note that the REAR input will only be displayed when there is power (+12v) on the REAR (Gray) wire of the Power cable (1-4). Also note that only AV1 and AV2 will switch audio to the Audio Out plugs.

The PICTURE and INSTALL settings are optional and can be customized for specific video sources.

Remote Operation

Button	Function
PBP	Toggle <i>Split Screen</i> on and off.
AV	Toggle between available (enabled) video sources.
MENU	Activate the on-screen menu for various options.
EXIT	Exit the on-screen menu mode.
Directional Arrows	Move the cursor to select options in the menu.
OK	Confirm and set the currently highlighted option.

Steering Wheel Operation

Holding the **Down Arrow** on the steering wheel for 2-3 seconds will toggle between available video (and audio) sources in sequence: Normal ⇨ AV1 ⇨ AV2 ⇨ RGB/NAVI ⇨ Normal.

This functions the same way as the **AV** button on the remote.

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Installation

Notes:

- The BMW is an extremely sophisticated vehicle and we highly recommend having this module professionally installed.
- Please read all instructions carefully before the installation to get an idea of how to plan the install, then refer to the instructions as you go.
- Make sure that the ignition is completely off in the vehicle during the entire installation. Verify sources for accessory and constant power prior to disassembly. Try to use the same grounding point for all applications.
- Make sure you are using good quality tools and connecting wires.
- Solder all connections to avoid having to re-disassemble the vehicle to repair a faulty connection. Bad connections can cause intermittent problems that are very difficult to diagnose!

Screen Removal

1. Remove 2 Torx T10 screw at the top of the screen unit as shown circled in the accompanying photo.
2. Once the screws are removed, there will be a gap between the top of the screen unit and the dashboard. Push a small screwdriver gently into this gap and the screen should come out of its mounting with virtually no force.
3. Place a soft covering over the face of the screen and turn it over.
4. Remove the 2 harnesses from the back of the screen as shown circled in the accompanying photo. The harness with the plastic connector is the Power and CAN harness and the one with the metal connector is the LVDS (video) harness.

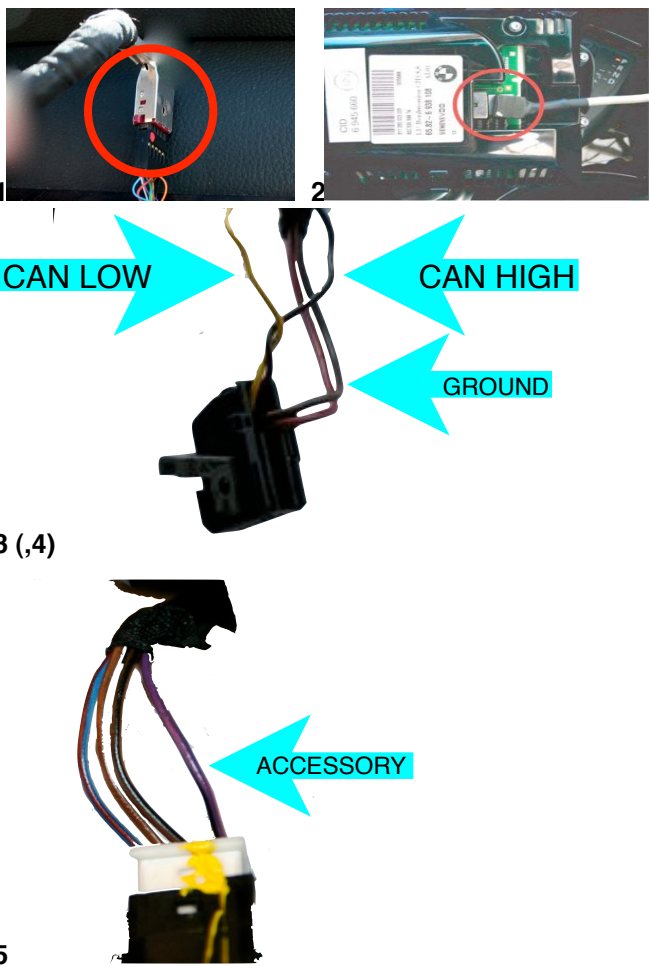
Fig. 4 - Display screen



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Connections in vehicle	Fig. 5 - Factory harnesses
<ol style="list-style-type: none"> 1. Connect factory video harness to supplied Extension/Adaptor cable (1-3), paying close attention that the position of the protrusion on the factory cable matches the location of the red mark on the BMW56 cable as shown. 2. Connect the end of the LCD cable (1-2) to the screen, again paying attention to the white dot on the LCD cable to make sure it is visible from the back of the screen as shown. 3. Connect the CAN High (Red) and CAN Low (Yellow) wires on the CAN harness (1-6) to the CAN High (Black) and CAN Low (Yellow) wires in the 12-pin harness from the back of the screen as shown. 	
<p>NOTE: DO NOT CUT the CAN wires! The wires must be tapped and soldered to ensure reliable operation.</p>	
<ol style="list-style-type: none"> 4. Connect the Ground on Power cable (1-4, Black wire) to a suitable source of ground. The best method is to screw the ground loop directly into a metallic, unpainted part of the vehicle body, however, the Brown wire in the 12-pin harness can also be used as ground. 5. Connect the Accessory on Power cable (1-4, Red wire) to a switched power source. One preferred method is using the Purple wire in the plug for the brake pedal (5-5) to trigger a relay that provides direct +12v to the red wire. 	
<p>NOTE: DO NOT USE the Purple wire to provide power to the BMW 56. You must use a relay to supply the power.</p>	

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Installation

Connections on module

1. Connect Extension/Adaptor cable (1-3) to LVDS IN (2-2) on module, paying careful attention to the location of the red mark as shown.
2. Connect the LCD cable (1-2) to LVDS OUT (2-1) on module.
3. Connect Power cable (1-4) to POWER (3-1) on module.
4. Connect IR receiver (1-7) to REMOTE (3-2) on module. (This can be removed later.)
5. Connect AV harness (1-5) to AV IN/OUT (3-4) on the module.
6. Connect CAN cable (1-6) to CAN (3-5) on the module.

Other connections

1. Connect all desired AV sources to AV harness (1-5).
2. If using a backup cam, connect REAR on Power cable (1-4, Gray wire) to reverse light power.
3. Connect the Audio out of the AV harness (1-5) to the Aux In jack in the back of the console or in the glove compartment, using a 1/8" phono male to stereo RCA male adaptor. (Not included)

Fig. 6 - Other connections

