

NAV-TV

INTERFACING THE FUTURE

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NTV-DOC243

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AUDI DYNAMIC-EXT

NTV-KIT701



Overview

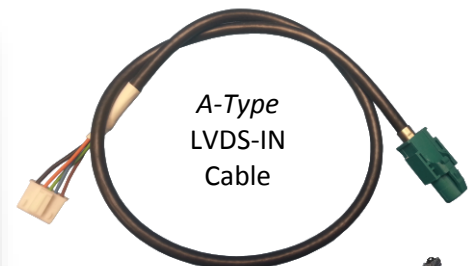
The AUDI-DYN EXT Kit interfaces a backup camera (with dynamic guidelines) and one additional video input (front cam, etc) to the factory media screen in select Audi vehicles with the **external MMi media system** (MMi controls on the console, not vertical radio face).

Kit Content

HD-LINK Optional KIT800



AUDI-DYN EXT Interface



A-Type
LVDS-IN
Cable



Power/CAN Harness



OSD Menu
Remote



IR-Eye
Cable

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Interface Connectors



HDMI Cable from **HD-LINK** Not Used Expansion Board Control Not Used Dip Switches

Dip Switch Settings

| Dip SW: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|-------------------------------------|-------------|-------------|----------------|----------------|-----|---------|-----------|
| UP | AUX MENU OFF (leave UP normally) | CAN TYPE | CAN TYPE | RVC OFF | CAN SPEED 1 | N/A | HI RES | KEEP DOWN |
| DOWN | AUX MENU ON (leave UP normally) | CAN TYPE | CAN TYPE | RVC ON | CAN SPEED 2 | N/A | LOW RES | KEEP DOWN |

| YEAR | VEHICLE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------------|--------------------------|---|---|---|---------|---|-----|----------|---|
| Up to 2010 | A4, A5, A6, Q5 | X | X | | RVC OFF | X | N/A | HIGH RES | |
| | | | | X | RVC ON | | N/A | LOW RES | X |
| 2011+ | A4, A5, Q5 | X | X | X | RVC OFF | X | N/A | HIGH RES | |
| | | | | | RVC ON | | N/A | LOW RES | X |
| Up to 2010 | Q7 | X | | X | RVC OFF | X | N/A | HIGH RES | |
| | | | X | | RVC ON | | N/A | LOW RES | X |
| 2011+ | Q3, Q7 | X | | | RVC OFF | | N/A | HIGH RES | |
| | | | X | X | RVC ON | X | N/A | LOW RES | X |
| 2011+ | A6, Touareg, Lamborghini | X | X | X | RVC OFF | | N/A | HIGH RES | |
| | | | | | RVC ON | X | N/A | LOW RES | X |



Note: You must remove power to the unit prior to making adjustments to the dip switches.

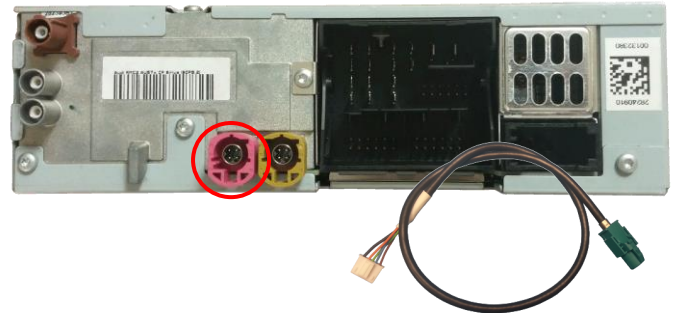
AUDI-DYN-EXT Installation (A4, A5, A6, Q5)

ATTENTION INSTALLER: All connections (including CAN) must be made BEFORE connecting the power harness to this unit for proper startup operation.

1. Remove the factory radio (CD). Depending on the vehicle, this will require EURO tools or just prying the climate control panel from the sides (use plastic tools!). Disconnect all harnesses and set the radio aside.
2. Remove/drop the glovebox. This requires removing multiple 8mm bolts which secure it to the dash. *In some vehicles the pocket or single DIN media-gateway must be removed to access a bolt for removal.*
 - a. Remove this beauty panel **before dropping glove box** (newer AUDI's, beneath glove box):



3. Connect the provided **LVDS-IN Cable** to the OEM radio at the **pink** connector (no nav) or **gray** connector (with nav). This connector is keyed and will only fit in one direction. Run the other end of this cable out to the glove box area and connect to the interface plug labeled 'VIDEO IN'.



4. Connect the OEM pink (or gray) circular HSD connector previously connected to the radio (removed in step 1) to the green port on the interface labeled 'VIDEO OUT'. *You may need to unwrap/cut factory tape for it reach the module with proper slack.*



5. Reconnect remaining plugs to the radio and carefully place it back into the dash. Don't secure the radio until fully tested.

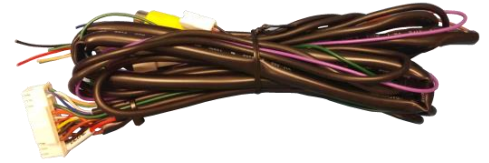
6. **Optional:** If this car is **not** equipped with OEM rear parking sensors, you may turn the PDC off in the OSD menu system (see page 7 for menu information).

Note: If adjusting any RVC or AUX Video menu settings, temporarily connecting the provided IR-Eye is **required**. The IR connector is located among the main power harness (2-pin & 3-pin). See menu settings on page 7 for more info.



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7. Grab the provided **Power/CAN Harness** from the AUDI-DYN-EXT kit. Use the chart below to locate and solder (splice, don't cut) the following wires to the car (*you may have to extend a pair of CAN wires for Q7*):



| Vehicle | Interface wires | Connect to AUDI Wire: | Wire Location |
|-------------------------------|-----------------|--------------------------------------|--|
| ALL | GROUND (Black) | Brown (-) | Can Gateway or Radio |
| | POWER (Red) | Black/White (ACC +) | Passenger side fuse box (extend) |
| A4/A5/ Q5 | CAN HI (Blue) | CAN HI (Orange/Green) | CAN Gateway (Right side of radio. Must remove glove box for access.) |
| | CAN LO (White) | CAN LO (Orange/Brown) | CAN Gateway (Right side of radio. Must remove glove box for access.) |
| A6 or Lamborghini* | CAN HI (Blue) | CAN HI (Orange/Blue) | Climate Control (Beneath radio) |
| | CAN LO (White) | CAN LO (Orange/Brown) | Climate Control (Beneath radio) |
| Q3/Q7 | CAN HI (Blue) | CAN HI (Orange/Black) | CAN Gateway (High in drivers dash to the left of steering wheel) |
| | CAN LO (White) | CAN LO (Orange/Brown with blue dots) | CAN Gateway (High in drivers dash to the left of steering wheel) |
| VW Touareg | CAN HI (Blue) | CAN HI (Orange/Green) | CAN Gateway (High in drivers dash to the left of steering wheel) |
| | CAN LO (White) | CAN LO (Orange/Brown) | CAN Gateway (High in drivers dash to the left of steering wheel) |

**For Lamborghini, the CAN wires may need to be extended to reach the climate control module.*

AUDI A4, A5, Q5 CAN Wires Location



CAN Gateway location (A4, A5, Q5)

CAN Gateway

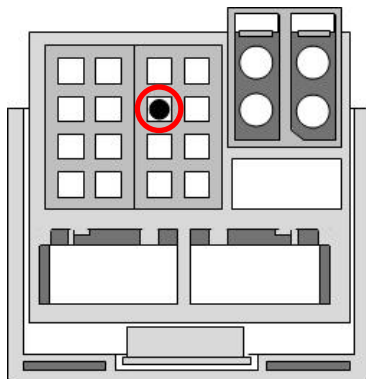
With
MOST
Fiber



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8. Install your reverse camera and run signal, power and ground wires up front to the AUDI interface.
9. Power your camera with an ACC source, not a reverse lamp trigger (the **purple** wire from the main power harness labeled 'REAR12VOUT' provides 12v (+) when in reverse only, if you want to use a reverse signal).
10. Connect the signal for your camera to the yellow RCA among the **Power/CAN Harness** labeled 'CAMERA'.
11. **Optional:** If adding an auxillary video in or front camera, connect the signal to the RCA among the **Power/CAN Harness** labeled 'CVBSIN'. If automatic front camera switching is desired, the setting must be activated in the OSD Menu system. See page 8.
12. Connect the 24-pin white plug from the **Power/CAN Harness** to the port on the AUDI 09 interface labeled 'Power/CAN'.

13. **UPDATE:** For older AUDI's (only) that do **not** have the 'iNAV' button on the steering wheel and adding AUX Video/Front Camera, connect (solder) the **White wire** labeled 'MMI' to the **MMI** data wire located behind the OEM radio at the Euro-style plug, at **pin 10**. This wire color will vary by vehicle, but the **pin location** will remain the same.



Wire side view



Press the **NAV** button near the MMi command knob for switching to the AUX video/front camera source at any time.

14. Start the car and test for proper functionality before replacing dash pieces. If menu adjustments are needed (to remove sensor overlay, etc.), proceed to 'Menu Adjustments'

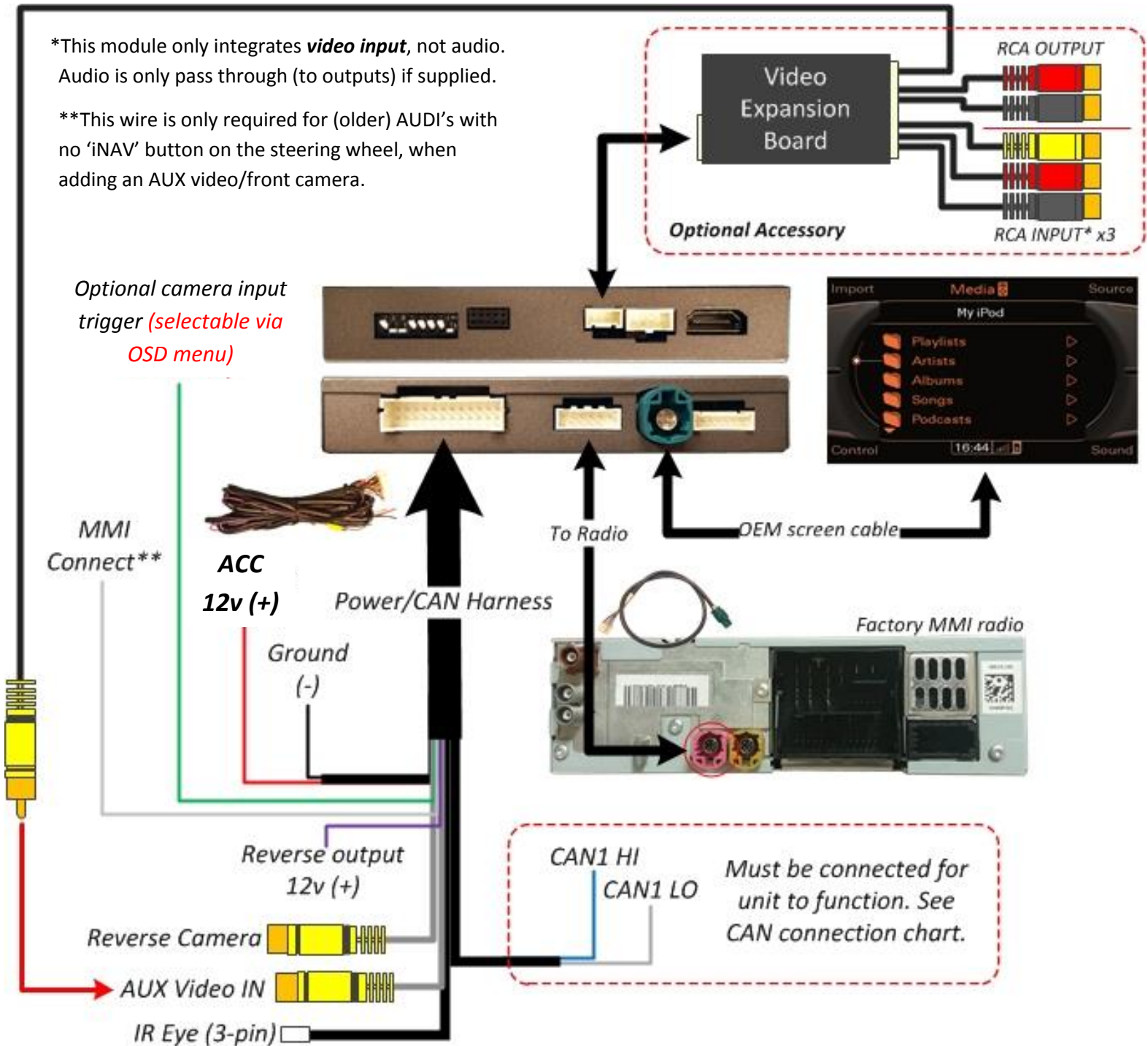
Installation Diagram

Remove the RADIO, not the screen for EXT MMI

*This module only integrates **video input**, not audio. Audio is only pass through (to outputs) if supplied.

**This wire is only required for (older) AUDI's with no 'iNAV' button on the steering wheel, when adding an AUX video/front camera.

Optional camera input trigger (selectable via OSD menu)



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Menu Adjustments

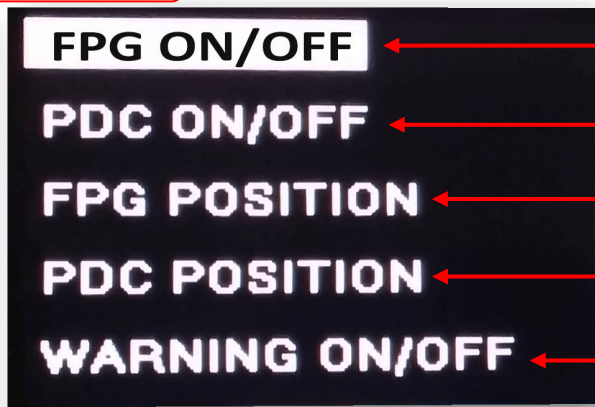
Before you start:

1. The IR-Eye must be connected
2. Make sure the car's ignition is on and radio is on
3. You must be in **Reverse Camera** mode **OR** **AUX Video** mode (see below):
 - **Reverse Camera Mode** adjusts Reverse Camera Settings
 - **AUX Video Mode** adjusts AUX Video Settings
4. Press the **OK BUTTON 4 times** (numbers will display per press), then press **POWER**.
5. The **OSD Menu** will appear on screen (auto-time out in about 5 seconds if no action occurs).



Return
(AUX VID menu control)

RVC Menu



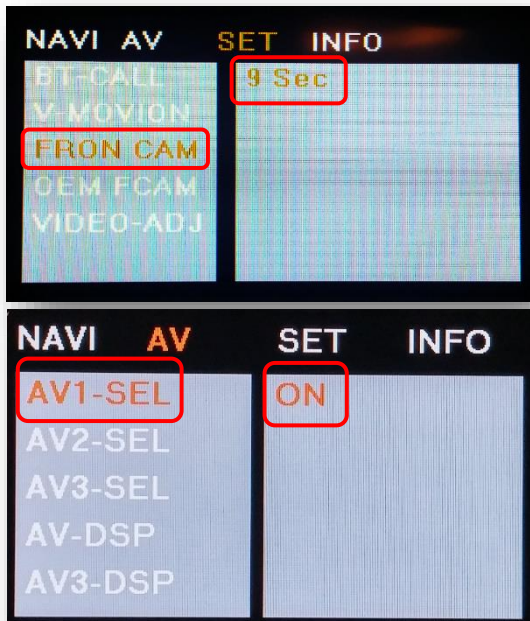
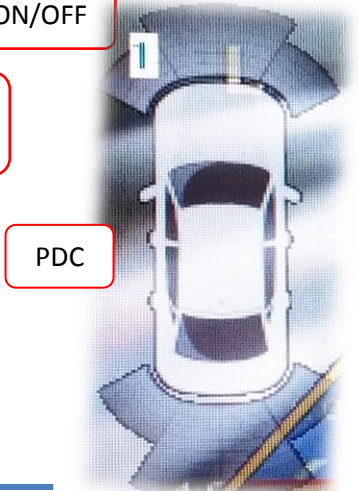
Functional Parking Guidelines ON/OFF

Parking Distance Control ON/OFF (while in reverse)

Adjust FPG Position

Adjust PDC Position

'Safe to move?' ON/OFF



AUX VIDEO Menu

If adding a front camera OR Aux Video source:

1. Disconnect POWER/CAN Harness from interface
2. Place DIP SWITCH 1 in the DOWN position, reconnect power
3. Press the **iNAV** button on the steering wheel to activate 'NAV input'
4. Press **OK** button on remote 4 times, then press **POWER**

SET – FRON CAM must be turned on if adding a *front camera* **and the user wishes for automatic front camera switching**. Options for 5, 7, 9 or 11 seconds are user-selectable for the length of time the front camera input stays active once the vehicle is placed out of reverse.

If the user wants only an AUX video input **without front camera**, set **AV1-SEL** to **ON**

Once finished with settings, place DIP SWITCH 1 back into the **UP position** and reset power to interface.

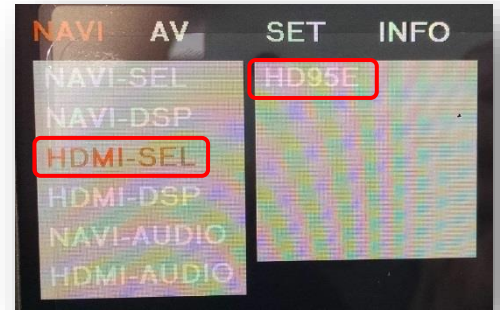
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Adding HD-LINK Adapter (HDMI Input)

Follow the instructions below when adding the HDMI adapter (HD-LINK) to enable HDMI input to the OEM screen:



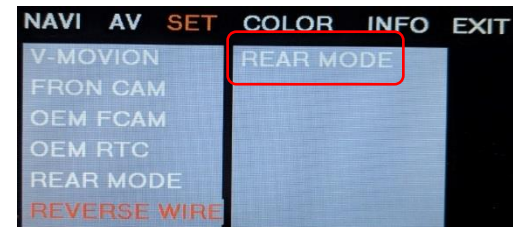
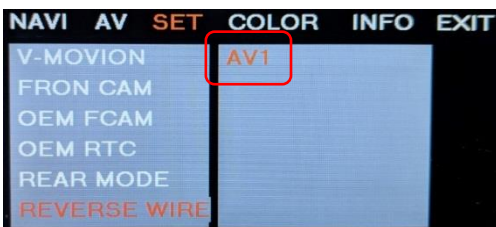
1. Put dip switch #1 in the **DOWN** position.
2. Activate the 'NAV INPUT' by pressing the 'iNAV' button on the steering wheel.
3. Once 'NAV INPUT' shows on the screen, on the remote press the **OK BUTTON 4 times**, then press **POWER**.
4. Navigate to the 'NAVI' section.
 - a. Select 'HDMI-SEL'
 - b. Choose 'HD95E'
 - c. Press **MODE** on the remote to return and exit the OSD menu (or let it time out).
5. Replace dip switch #1 to the **UP** position.
6. Connect the **black wire** to ground (-) and the **red wire** to ACC power (+) from the main power connector on the HD-LINK adapter. The RCA's on this plug provide audio from the HDMI source.



Green Trigger wire setup

This module includes a green *input* wire for analog triggering of either the Reverse camera input or the 'AVIN' input (yellow RCAs), selectable through the AV menu. This allows for adding multiple cameras through the use of an SVS-6 switcher, etc. Follow the steps below adjust this feature. **NOTE: by default, the green wire will trigger the Reverse camera input RCA.**

1. Put dip switch #1 in the **DOWN** position. When this section is complete, return switch #1 **UP**.
2. Activate the 'NAV INPUT' by pressing the 'iNAV' button on the steering wheel.
3. Once 'NAV INPUT' shows on the screen, on the remote press the **OK BUTTON 4 times**, then press **POWER**.
4. Navigate to the 'SET' section.
 - o Select 'REVERSE WIRE'
 - o Choose 'AV1', 'REAR' or 'REAR MODE' (explanations below)
 - o Press **MODE** on the remote to return and exit the OSD menu (or let it time out).
 - o Test by sending temporary power (12v +) to the **green wire** labeled reverse.



AV1 shows the 'AVIN' RCA when the green reverse wire is triggered.

REAR shows the 'CAMERA' RCA (with no lines) when the green reverse wire is triggered.

REAR MODE shows the 'CAMERA' RCA (with dynamic lines) when the green reverse wire is triggered.

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AUDI DYN-EXT Operation

- Once all connections have been properly made, placing the vehicle in reverse will show the connected rear camera image with Dynamic Guidelines which correspond with the steering wheel geometry.
- If a front camera was added and **Automatic front-camera switching** was turned on, whenever the vehicle leaves reverse (after showing reverse image once) the connected front camera will display for the user-set amount of time (5, 7, 9 or 11 seconds, see page 7 for menu settings).
- If AUX Video is wanted (**no front camera**), use the **iNAV** button on the steering wheel for AUX Video switching. The option for AUX Video must be turned on in the AUX VID Menu (see page7).



For vehicles without 'iNAV' button on the steering wheel, use the **NAV** button near the MMI command knob for switching to AUX/front camera (*MMi wire must be connected, see page 5, step 13*).



FAQs

Q. The unit will not power on, I have no indication of proper operation.

A. This module **will not** power on properly or display anything (reverse image or AUX video IN) until CAN is properly connected.

Q. All I see on the display is a black screen (no factory image pass-through).

- A. Verify the video cables (IN/OUT) are connected at the proper location (*at the radio*).
- B. Verify you're using the correct LVDS video connector (pink or gray).
- C. Verify Dip Switches are set correctly.

Q. Nothing happens on the media screen when I place the vehicle in reverse.

- A. Make sure DIP Switch 4 is the DOWN position (pull power from the interface first!). If still nothing, try placing DIP Switch 5 in the opposite position (pull power from the interface first!). Also, DIP Switch 8 must be DOWN, always.
- B. Try a different year setting (with same model) from the Dip Switch chart.
- C. Verify 12v (+) and ground to the interface.

Q. Rear camera image does NOT appear.

- A. Verify Dip Switch #4 is set **down** for aftermarket camera, or **up** for a factory camera.
- B. Verify the CAN wires and location of CAN connection.
- C. Make certain the camera is properly powered. Check voltage **at the camera itself**.
- D. Try an alternative video source, don't assume the power/ground is correct unless you've checked it **with a multi-meter!**
- E. If this is a CAN-connected module and you've connected the CAN wires, try using the green wire instead of the CAN connection for reverse activation.

Q. Unwanted A/V mode is displayed upon a toggle press (A/V source switching order: OEM->RGB->AV1->AV2->OEM).

- A. Check DIP Switch Settings. Refer to page 2.