

# NAV-TV

INTERFACING THE FUTURE

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## BMW09N-DYNAMIC KIT

NTV-KIT725

### BMW Infotainment System Variants



CCC System: BMW56-N, P/N NTV-KIT724

**NOT COMPATIBLE WITH THIS KIT !**



CIC System: BMW09-N, P/N NTV-KIT725

**COMPATIBLE WITH THIS KIT**



NBT System: BMW12-N, P/N NTV-KIT717

**NOT COMPATIBLE WITH THIS KIT !**



EVO System: BMW EVO V2, P/N NTV-KIT978

**NOT COMPATIBLE WITH THIS KIT !**

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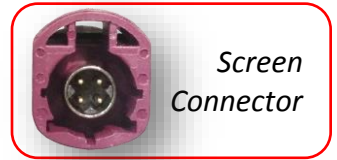
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TY  
11/22/21  
NTV-DOC254

## BMW09N-DYNAMIC Kit

NTV-KIT725



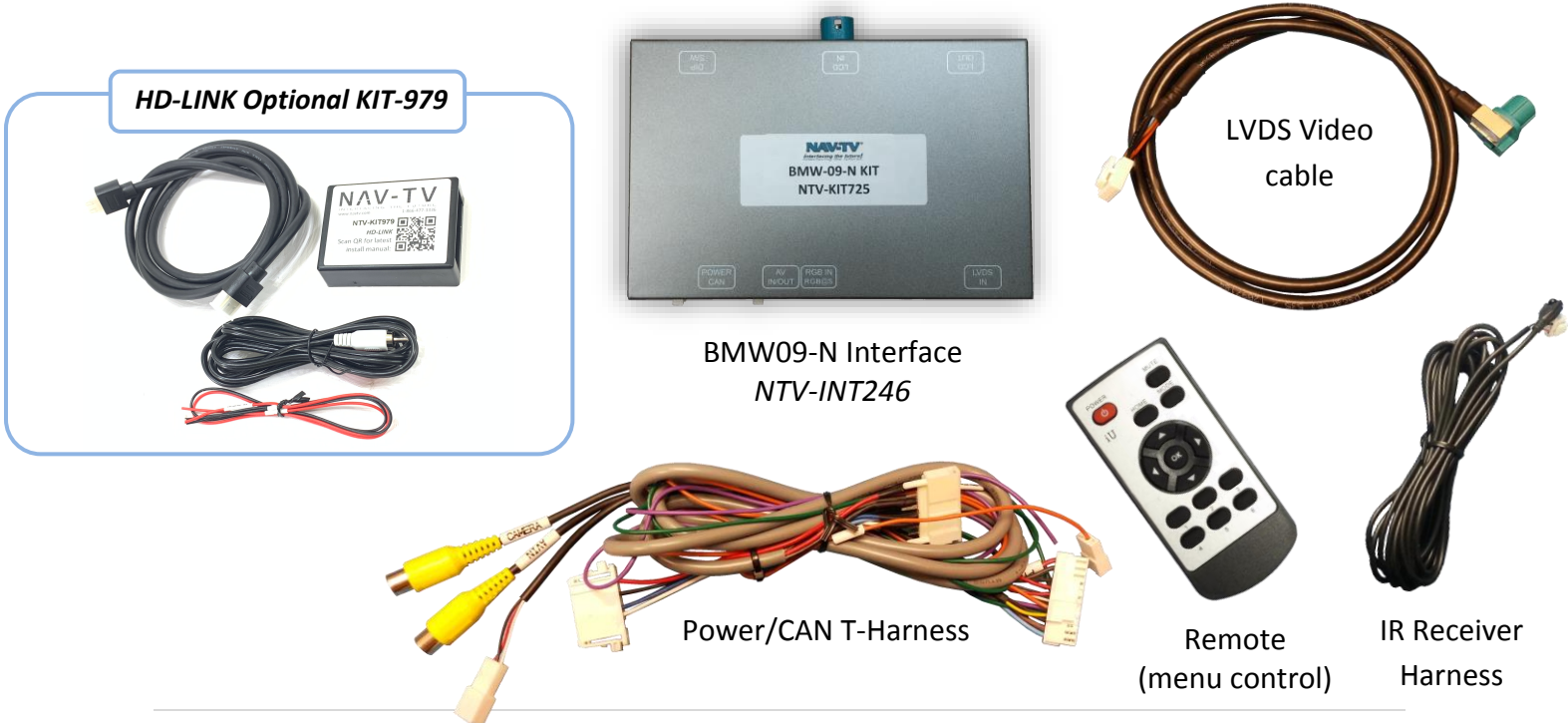
Screen  
Connector

Quick Reference
(LVDS) Video Cable connects at <b>Screen</b>
Power/CAN T-Harness connects at <b>Screen</b>
Unit requires <b>Constant 12v</b>
<b>Do not power camera with reverse light.</b> Use ACC or purple wire (through relay)

### Overview

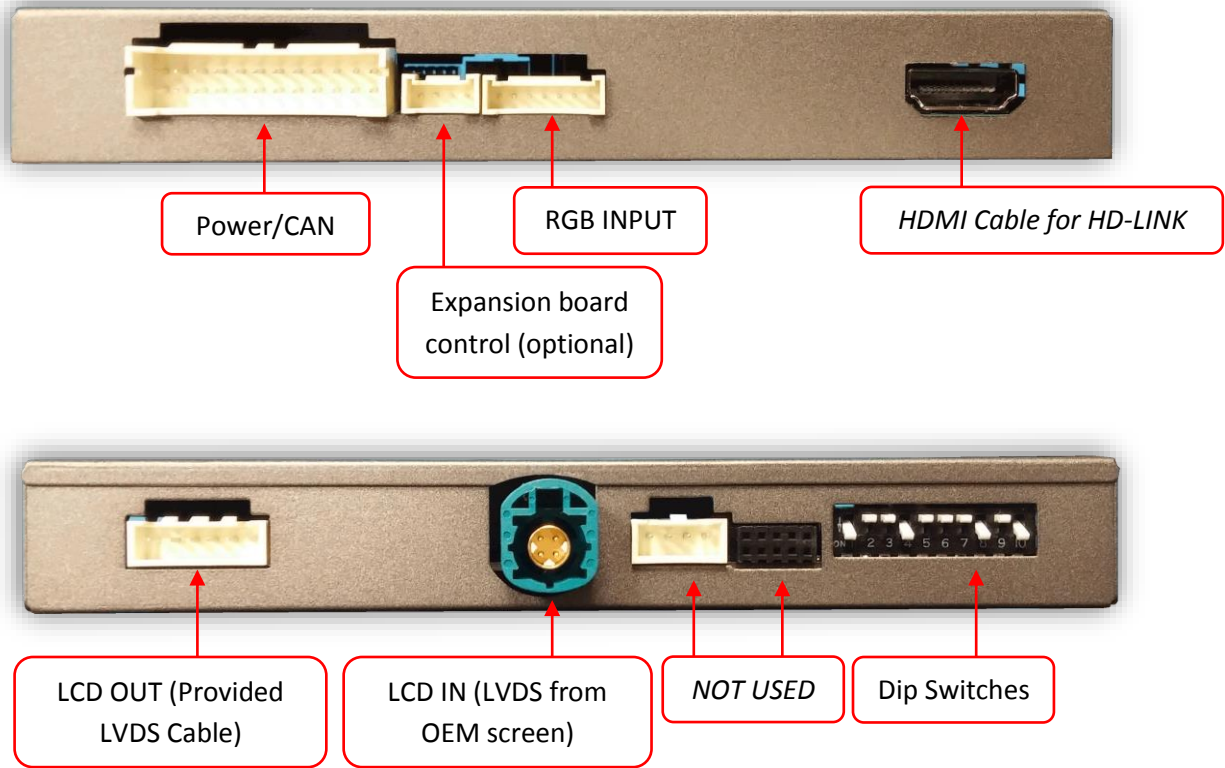
The BMW09-N kit interfaces 2 video inputs (including a backup camera) to the factory media screen in select '09-'14 BMWs. This fully plug and play kit connects behind the factory screen.

### Kit Content



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Interface Connectors

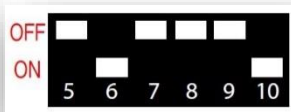


Dip Switch Settings

Dip SW:	1	2	3	4	5	6	7	8	9	10
UP	KEEP UP	SKIPS V1	SKIPS V2	RVC OFF	KEEP UP	CAN (OLD)	VEH SETTING	HIGH RES	VEH SETTING	KEEP DOWN
DOWN	KEEP UP	Skips V1	Skips V2	RVC ON	KEEP UP	CAN (NEW)	VEH SETTING	LOW RES	VEH SETTING	KEEP DOWN



Typical setting for 8.8" or 10.2" screen



2013 5 series, GT 10.2" screen



Typical setting for 6.5" screen (no MINI)



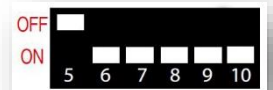
MINI 6.5" screen



Z4 8.8" or 10.2" screen



*\*Note: Disconnect power to the interface before adjusting dip switches or the change will not be implemented.*



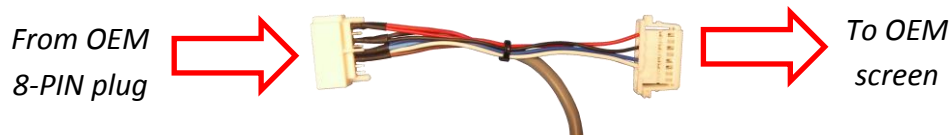
Z4 (v2) (must use Green wire for reverse)

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## BMW09-N Installation

1. The BMW09-N intercepts the **OEM screen video cable and power harness**, both are located at the screen. You must gain access to behind the screen for proper installation.
  - a. Remove any dash panels secured to the sub-dash to access the Torx screws which secure the screen. Remove the screen and set aside.
2. Connect the provided 8-PIN T-Harness (located on the main power harness) in between the OEM screen harness and the screen.

\*Note that on the Z4, the screen doesn't have the 8-pin plug, and you must hard-wire the Power/CAN connection to the factory plug. The factory wires are in the same order (Power, Ground, CAN) as they are on the 8-pin plug, so just splice the BMW09 wires to the 4 factory wires (DO NOT use T-Taps or quick connectors!)



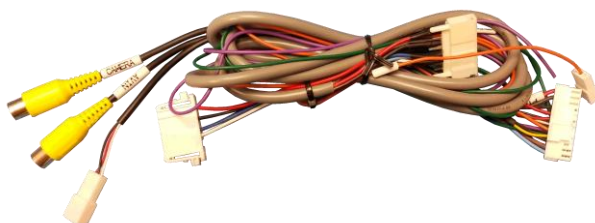
3. Connect the provided LVDS video cable to the port on the BMW09-N interface labeled 'LCD OUT' and the other end back to the screen at the LVDS port.



4. Connect the OEM LVDS video cable (originally connected to the screen) to the port on the BMW09-N interface labeled 'LCD IN'.



5. Install and run the reverse camera power and signal to the BMW09-N interface location and connect to the RCA labeled 'CAMERA'. Power your camera with an ACC source or use the **violet wire** for reverse 12v (+) only. *NOTE: this wire outputs 500 mA MAX use this wire to trigger a relay for proper operation, but an Accessory/Ignition source is still preferred.*
6. **Optional:** If installing a secondary camera or AUX video source, connect signal RCA to the RCA on the BMW09-N interface labeled 'AVIN'.
7. After DIP switch settings have been set (see page 3), connect the 24-PIN power connector to the BMW09-N interface labeled 'POWER CAN'. Proceed to **Menu Options** section if necessary (front camera settings, etc) or to **BMW09-N Operation**.



## Menu Adjustments

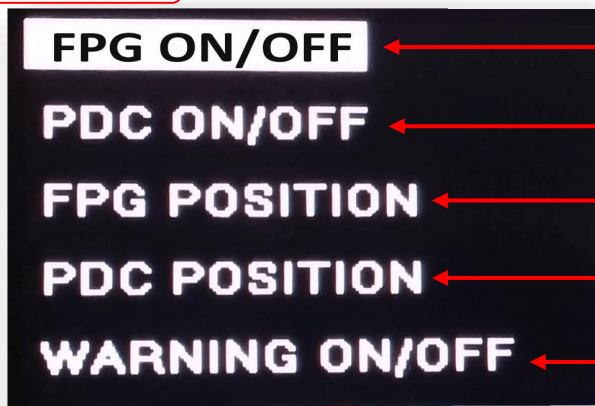
Before you start:

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



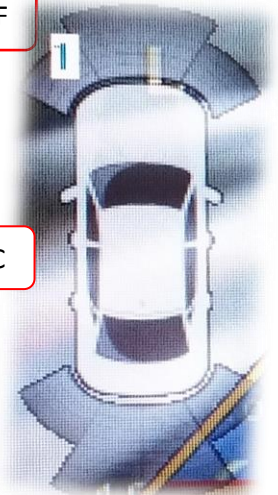
Functional Parking Guidelines ON/OFF

Parking Distance Control  
ON/OFF (while in reverse)

Adjust FPG Position

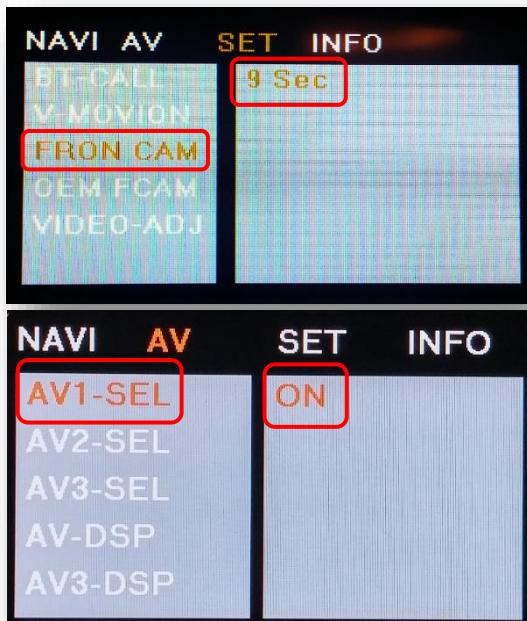
Adjust PDC Position

'Safe to move?' ON/OFF



PDC

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 and hold the iDRIVE knob '**MENU**' to activate the AUX screen
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 shifted 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.

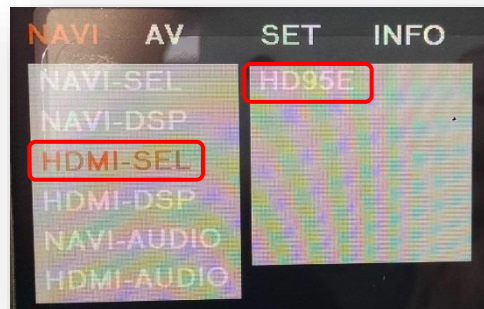
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### Adding HD-LINK Adapter (HDMI Input)

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



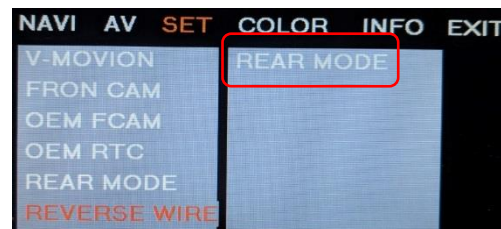
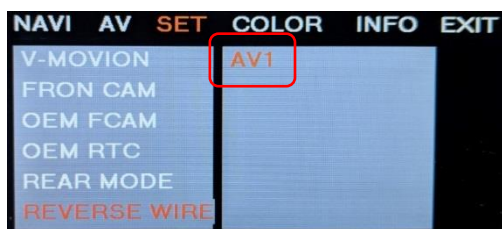
1. Put dip switch #1 in the DOWN position.
2. Activate the 'NAV INPUT' by holding the 'MENU' button on the iDRIVE knob.
3. Once 'NAV INPUT' shows on the screen, on the remote press the OK BUTTON 4 times, then press POWER.
4. Navigate to the 'NAVI' section.
  - a. Select 'HDMI-SEL'
  - b. Choose 'HD95E'
  - 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 holding the 'MENU' button on the iDRIVE knob.
3. Once 'NO GPS INPUT' shows on the screen, on the remote press the OK BUTTON 4 times, then press POWER.
4. Navigate to the 'SET' section.
  - a. Select 'REVERSE WIRE'
  - b. Choose 'AV1', 'REAR' or 'REAR MODE' (explanations below)
  - c. Press MODE on the remote to return and exit the OSD menu (or let it time out).
  - d. Test by sending temporary power (12v +) to the green wire labeled reverse.



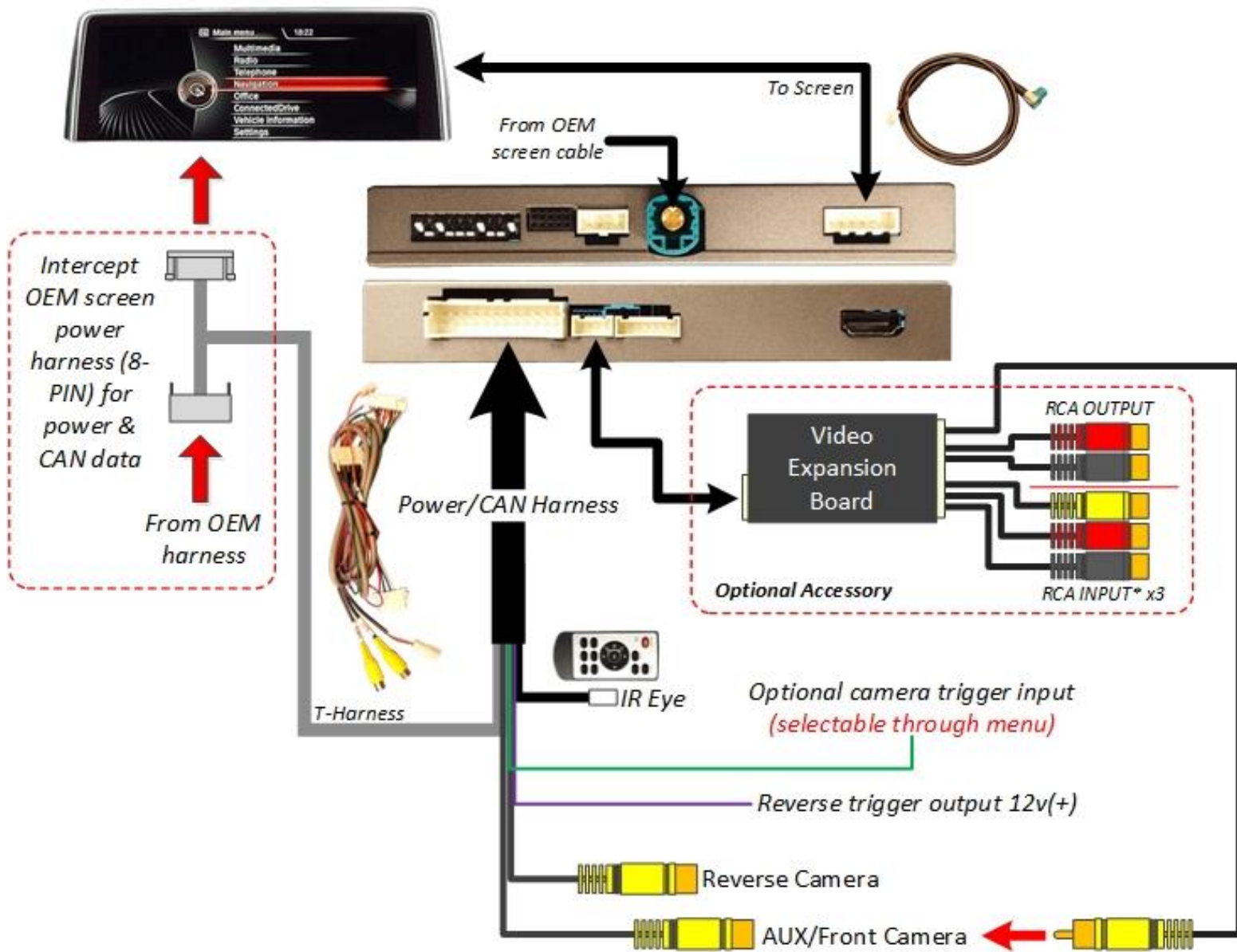
AV1 shows the 'AVIN' RCA when the green reverse wire is triggered.

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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BMW09-N Install Diagram



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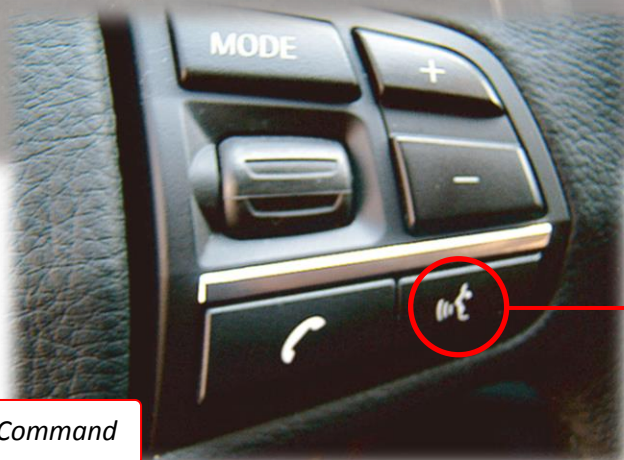
### BMW09-N Operation

- Once all connections are made and dip switches are set properly, placing the vehicle in reverse will display the connected camera with dynamic guidelines for convenience.
- Additionally, see below for AUX/Front camera activation using factory buttons.

*iDRIVE knob*



**Hold (3 sec):** Activate  
AUX/Front Camera  
video input



*Steering Wheel Voice Command*

**Hold (5 sec):** Toggle quick  
switch: this only needs to be  
done 1 time. After toggled on,  
pressing and releasing **once**  
will cycle through V1/V2/OEM  
screen display if active.

*\*NOTE: On some lower end 1 and 3-series vehicles, steering wheel data is not present, therefore the parking lines may not turn with the wheel.*

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**Problem:** When I connect power to the unit, I lose the factory screen image.

**Solutions:**

1. Verify that this kit is compatible with your vehicle, see cover page for photos of compatible screen menus.
  2. Flip Dip switch #9 to the opposite position.
  3. If steps 1 or 2 did not resolve the problem, and unplugging the power/CAN connector for the unit did not restore the factory image to the screen, please disconnect the vehicle battery for 1 minute to reset the system.
  4. Confirm the factory screen is displaying properly with Power/CAN unplugged but the LVDS cables connected. If not, suspect reversed LVDS connections, Bad LVDS cables or a defective unit.
- 

**Problem:** I am adding an aftermarket Rear View Camera but the screen does not change to the camera when in reverse

**Solutions:**

1. Verify Power and Ground to the interface, Confirm inline fuse (in fuse holder) is intact and seated properly.
  2. Make sure Dip switch #4 is DOWN
  3. If the vehicle is equipped with a manual transmission, the green reverse trigger wire (to +12V) must be used.
  4. Try switching dip switch #5 down or dip switch #6 down (but not both down) - power cycle and retest.
  5. If the vehicle is an Automatic transmission Mini Cooper, try dip switch #7 down.
  6. Verify Doors and trunk lid are all closed.
  7. Refer to page 6, Make sure that the menu item "REAR MODE" is set to ON.
  8. Suspect defective unit.
- 

**Problem:** I am adding an aftermarket Rear View Camera but the screen switches to black or black with parking lines when in reverse

**Solutions:**

1. If Parking lines are present, Video signal is not present at the CAM RCA input - verify video signal with a known working source. Possible causes would be bad camera, broken video cable from camera, no power / ground at the camera terminals.
  2. If parking lines are not present and the screen is fully black when in reverse, suspect reversed LVDS connections.
  3. Suspect defective wiring or defective unit.
- 

**Problem:** When triggered, I can see a rolling or scrolling camera image.

**Solutions:**

1. Backup camera problem - double check Power and Ground to the camera, replace camera.
- 

**Problem:** I can see a backup camera image but no Parking lines are visible

**Solutions:**

1. Set dip switch #8 down
  2. Refer to Page 5, Make sure "FPG" is set to ON.
- 

**Problem:** My vehicle has a factory rear view camera, I am adding a front camera or an AUX video source and I lost my Factory RVC when in reverse

**Solutions:**

1. Set dip switch #4 UP
- 

**Problem:** Preset #3 on my radio brings up the front camera or AV Source

**Solutions:**

1. This is normal and is designed in case of FM Modulators used in combination with an Auxiliary Video source, Program the FM modulator frequency to preset #3 and use this preset as a shortcut to both Audio and Video selection. Please note that selecting preset #3 via the steering wheel would not bring up the video source.
- 

**Problem:** When I hold the Menu or press the MAP/NAV button, I get a message "GPS No signal" on a black background

**Solutions:**

1. Set Dip switch #1 up.