

NAV-TV

INTERFACING THE FUTURE

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PCM3.1 XG-CAM

NTV-KIT375/383/384/385



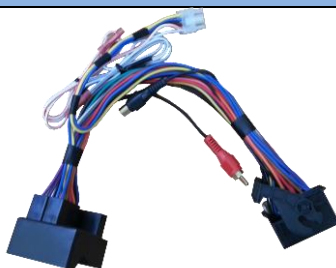
Overview

The PCM3.1 XG-CAM integrates an aftermarket camera into specific Porsche PCM3.1 model radios (*MUST have radio firmware 4.0+ for this kit to be compatible*). Forced camera (front and rear) is also an option if desired.

Kit Contents:



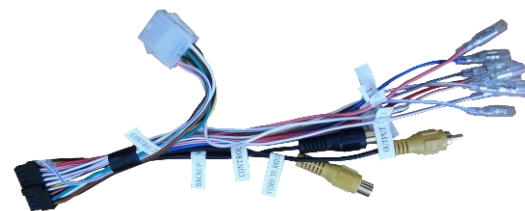
USB Cable (updates)
NTV-CAB009



Plug & Play Harness
NTV-HAR111



PCM3.1-CAM module
NTV-ASY166



CAN Adapter Harness
NTV-HAR058

Optional Camera Packages:

NTV-KIT383 Includes
Panamera Light-CAM



NTV-KIT384 Includes
Cayenne Handle-CAM

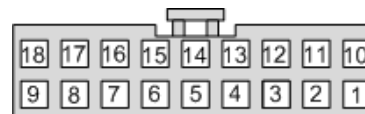


NTV-KIT385 Includes
Panamera Handle-CAM



PCM3.1 XG-CAM Pinout (CAN Adapter Harness)

PIN #	Description	Color
1	Constant 12v (+)	Yellow
2	Input 1 (Wire Program)	Red
3	Input 2 (Force Rear Cam)	Blue
4	Input 3 (Force Front Cam)	Pink
6	RCA Signal	Yellow
7	RCA Shield	Black
8	CAN HI (Radio Side)	White/Green
9	CAN HI (Car Side)	Brown/Black
10	Ground (-)	Black
11	Output 1 (12v + ACC OUT)	White/Red
12	Output 2 (12v out w/ F-Cam)	White/Blue
15	RCA Signal	White
16	RCA Signal	Red
17	CAN LO (Radio Side)	Green
18	CAN LO (Car Side)	Brown



Wire Side

Note: All other wires not mentioned here are not used for this install.

Panamera Radio Removal

Removal Images

It is recommended to tape off and cover surrounding panels, use a plastic pry tool, as to not damage or scratch them.

Panamera:

1. **Passenger side**; Insert the tool into the bottom of the panel above the glove box, gently pry. When prying by the outside AC vent, be careful as to not damage the cover, this clip is very difficult.
2. **Driver's side**; Insert pry tool into the bottom of the panel between the steering column and AC vent, gently pry. Disconnect the wiring, set panel aside.
3. Once these panels are removed you will see 2 retention clips holding the AC vent in place. Using the plastic pry tool or a small flat head screwdriver, depress these clips and gently work the vent out. Disconnect vent harness. This procedure is repeated for the other side.
- Once removed, there will be 4) T27 TORX screws. Remove these and pull out the radio. NOTE: The radio has a plastic guide on the bottom. Be careful when removing the radio from the dash, as this guide will hit the center console and possibly damage it if caution isn't taken.



Retention clips

Cayenne Radio Removal

Removal Images

Cayenne:

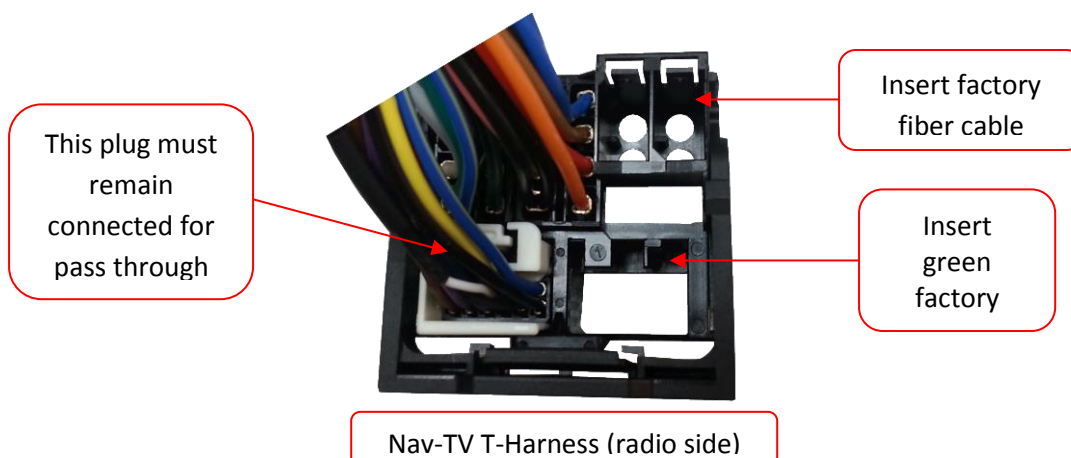
To remove the vents you will need a pair of Ford radio removal keys.

1. Inside the vent you will see 4 plastic clasps holding the vents in place. There will be 2 on either side of the vent.
2. Insert the ford keys into the vent. 1 top, 1 on the bottom. The clasps have an open back, so when the key is inserted, be sure that it goes through the clasp.
3. Once both keys are in place, squeeze the keys together to release the clasps. You may need to insert a plastic tool under the vent to help 'work' out the vent.



Module Installation

1. Once the radio is removed, disconnect all harnesses and set the radio aside.
2. On the factory 40-pin plug, it helps greatly to remove any and all factory tape so that you can separate plugs (which you'll need to do).
3. Remove the fiber optic cable and the factory green connector (directly beneath the fiber) from the factory plug. These 2 connectors must be reconnected into the male end of the supplied NAV-TV T-harness. These plugs are keyed, and will only fit in one location, and one direction.



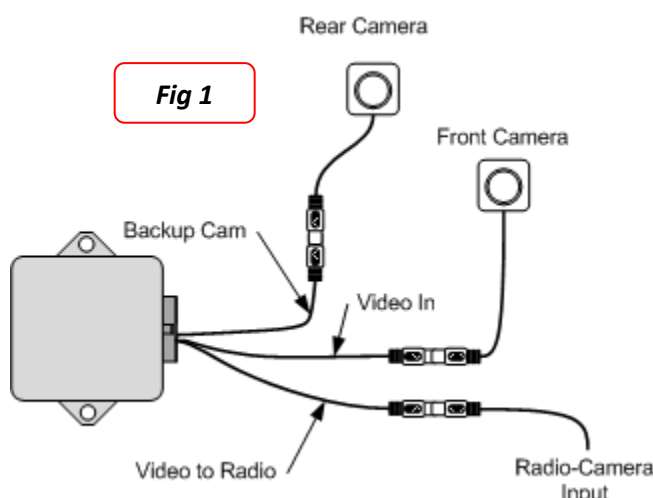
4. Plug in the white, 8-pin connector from the CAN Adapter harness to the white 8-pin connector on the Nav-TV T-Harness.

5. Plug the PCM3.1-CAM module into the black 18-pin connector. *The LED on this module emits when CAN is active in the vehicle.*
6. From the PCM3.1-CAM module, the **white/red** 'OUTPUT 1' wire supplies 12v with accessory. **Using a relay to power your reverse camera is highly recommended as the white/red wire only supplies a 1 amp output MAX.**
7. **Optional:** If you're installing KIT385 (which includes Panamera Handle-CAM), remove the jumper to **add lines to the camera's image**. By default, the jumper will be connected and no lines will be generated.
8. **If adding only a rear camera, your camera's signal wire (RCA) must connect to the RCA on the T-Harness, NOT to any other RCAs from the PCM3 module. If adding a front and rear camera, proceed to optional step 9.**



9. **Optional:** If adding a front camera along with a rear camera, your signals must connect to the CAN-Adapter harness like shown (Fig 1):

'Video to Radio' RCA must connect to the **Black** RCA in the provided T-Harness (See Fig 2 below)

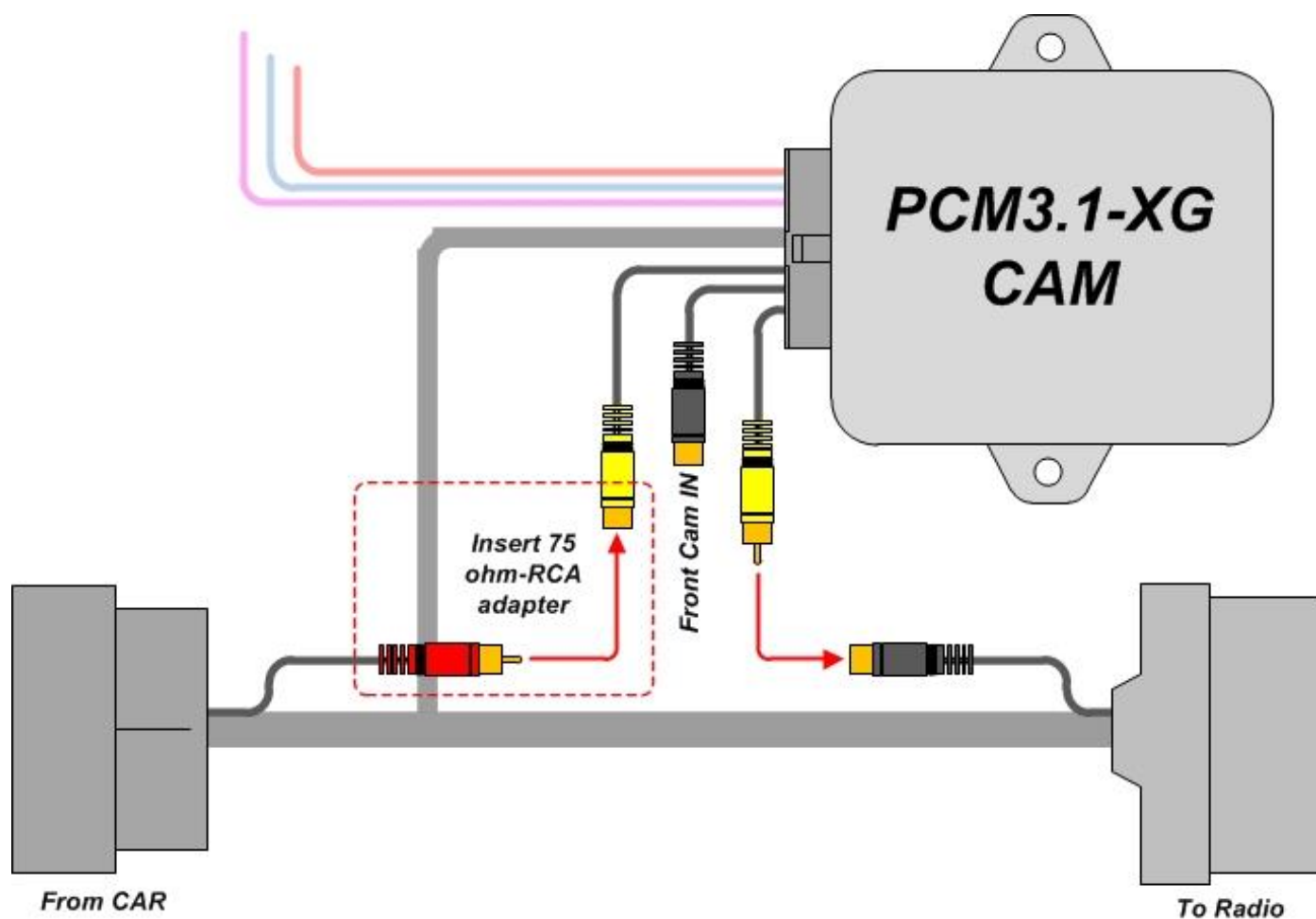


10. **UPDATE:** If the vehicle already has an OEM reverse camera and you're adding a front camera/AUX video source:

- a. The software on the pcm3.1-XG module must be updated with **'PCM3-1-special.enc'** which may be downloaded on the website KIT375 product page: <https://navtv.com/products/NTV-KIT375/pcm31-xg-cam.html>
- b. It may be necessary to add a 75 ohm resistor from the center (signal) to shield on the reverse camera RCA coax line (to avoid OEM video drop out from relay switching):

- It may be easier to do this with a modified RCA Y-Adapter, like shown here
- SOLDER all connections!
- Connect 75-ohm RCA adapter (from previous page) to location shown on next page

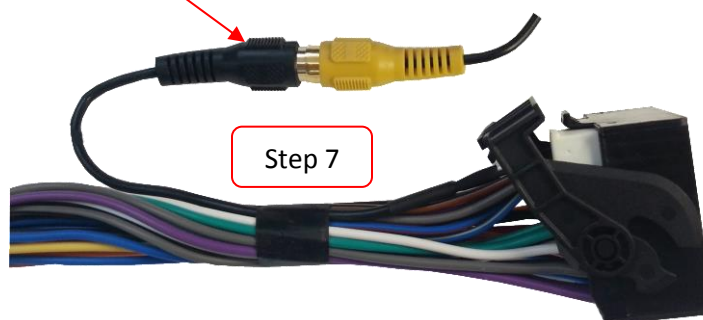






11. After you have connected the NAV-TV T-Harness from the car to the radio, reassemble and proceed to *Reverse Camera Programming* (next section).

Rev Cam signal connects here!
(If adding only 1 camera)

Fig 2



Reverse Camera Programming

Vehicles with steering wheel controls: Buttons to hold	Hold for 10 seconds (or until "Service" appears)
Diamond + Talk	Programs rear cam for vehicles that have factory parking assist.
Diamond + Mute	Programs rear cam for vehicles without factory parking assist.
Mute + Talk	Deprograms rear cam for vehicles that have factory parking assist.
Diamond + Hang Up	Deprograms rear cam for vehicles without factory parking assist.
	

- Once programming is accepted, the radio will reboot (this may take up to 1 full minute.. be patient).

Vehicles without steering wheel controls	Pulse INPUT 1 (Red wire) to 12v within 10 seconds
5 Pulses	Programs rear cam for vehicles that have factory parking assist.
6 Pulses	Programs rear cam for vehicles without factory parking assist.
7 Pulses	Deprograms rear cam for vehicles that have factory parking assist.
8 Pulses	Deprograms rear cam for vehicles without factory parking assist.

-The radio may take up to 3 minutes to reboot after programming.

Parking Assist/RVC Options

After programming, the backup camera may not transition when the vehicle is in reverse. Check the settings and verify that the **'Rear view camera'** option is checked.

- To access the **"OPTION"** screen, press the **"CAR"** button on the radio
- Once in this screen, touch the **"OPTION"** tab.
- In this screen, select the **"PARKASSIST"** icon to display **"SET parking"** options.
 - "RVC grid lines" have no function when an aftermarket camera is installed

NOTE: Back up camera will not be displayed if vehicle's **parking brake** is applied or if the **rear hatch** is open.



PCM3.1 XG-CAM Operation

After installation and programming is complete, **Rear Camera** will display on screen whenever the vehicle is running and is shifted into reverse.

Forced Rear Camera is activated by pressing the **MUTE** on the steering wheel 2 times within 1 second.

- Additionally, forced *rear cam* can be activated by supplying 12v to the INPUT 2 (Blue) wire.

Note: Vehicle must be running for cameras to be forced via the factory buttons!



Forced Front Camera (optional) is activated by pressing the **Rear Defrost button** 2 times within 1 second.

- Additionally, forced *front cam* can be activated by supplying 12v to the INPUT 3 (Pink) wire.

Note: Convertible Tops must be *Closed* for front camera activation **via factory button** (rear defrost is not active with the top down).



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