

# NAV-TV

INTERFACING THE FUTURE

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**FOR GM**



**'07 and up Cadillac, Chevrolet, GMC vehicles (29-Bit GMLAN)**

## **Barracuda Features:**

- **Control in Motion:**
  - XM Category Scrolling**
  - ONSTAR Phone Keypad**
  - DVD Menu control**
  - Navigation Programming**
- **Video in Motion**
- **FLIR control**
- **Front camera input\***
- **Rear camera input/control\***
- **Programmable inputs/outputs**

## User Interface

**Attention:** All Functions of the Barracuda are controlled through the vehicle's power mirror direction pad. The Barracuda controls are only available when the left and right mirror buttons are NOT selected (LEDs OFF). Example: if the Left Mirror button is illuminated, press the illuminated Left Mirror button again to turn the LED off.



**Video In Motion:** Momentarily pressing the left arrow will enable/disable video in motion. This function will allow the user to view DVD video or AUX video (if available) while the vehicle is in motion.



**Control In Motion:** Momentarily pressing right arrow will enable/disable Control in motion. Control in Motion allows the user to access radio functions that are normally blocked while the vehicle is moving.

**Note:** When activated, Control in Motion (CIM) will remain ON for 1 or 5 minutes (user selectable) and then deactivate itself.



**Forced Rear Camera:** Momentarily pressing down arrow enables/disables forced rear camera (if applicable). This will allow the user to view the back-up camera video regardless of speed or gear.

\*Requires Factory Rear Camera, Dealer programming of Radio for Rear Camera, OR NAV-TV GMLANCAM module for compatible radios. See Glove Compartment for a silver sticker with one of the following markings UV8, UV9, UVA, or UVB to determine radio compatibility.



**Front Camera:** Momentarily pressing up arrow enables/disables front camera (if applicable). This will allow the user to view the front camera video regardless of speed or gear.

\*Requires Factory Rear Camera, Dealer programming of Radio for Rear Camera, OR NAV-TV GMLANCAM module for compatible radios. See Glove Compartment for a silver sticker with one of the following markings UV8, UV9, UVA, or UVB to determine radio compatibility.

**Note 1:** Chevrolet and GMC vehicles require Vehicle Speed Sense to be interrupted for **VIM** to work. This causes the **Control in Motion** features to also be available when VIM is ON.

## Barracuda Settings:

The Barracuda Settings Menu supports GM's 4 Line, 2 Line, and 1 Line instrument cluster displays. To access the Barracuda Settings Menu, press and hold the left arrow mirror button for 2 seconds.

The following instructions will appear on the instrument cluster display.

- a. Use the remote mirror Down "↓" key to cycle through the features (VIM, CIM, etc.).
- b. Use the remote mirror Right "→" key to change the current setting for the selected feature.
- c. Use the remote mirror Left "←" key to exit the menu.

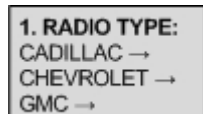
The module stores your selection(s) into memory upon exiting the menu.

**NOTE 2:** Menu items 9, 10, and 11 are only available if you have item 8, FRONT CAMERA, set to FLIR.

**Please verify the following settings before starting, paying special attention to Radio Type, connected accessories and Ant. interrupt:**

- |                                 |   |
|---------------------------------|---|
| 1. RADIO TYPE = <b>CADILLAC</b> | 5. PROGRAMMABLE OUTPUT A = <b>ACCESSORY</b> |
| 2. VIM DEFAULT = <b>OFF</b>     | 6. PROGRAMMABLE OUTPUT B = <b>ACCESSORY</b> |
| 3. BEEP = <b>ON</b>             | 7. FORCE REAR CAM = <b>OFF</b>              |
| 4. CIM TIMEOUT = <b>1 MIN</b>   | 8. FRONT CAM = <b>OFF</b>                   |

1. **RADIO TYPE:** Used to accommodate the different configurations of stock GM radios.



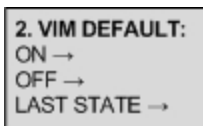
**CADILLAC:** Select this when vehicle is a Cadillac.

**CHEVROLET:** Select this when vehicle is a Chevrolet.

**GMC:** Select this when vehicle is a GMC.

**NOTE 3:** When either Chevrolet or GMC is selected, turning VIM ON also enables the Control in Motion features. However, when Control in Motion is turned on, VIM is not enabled.

2. **VIM DEFAULT:** Stores the default setting for Video In Motion.



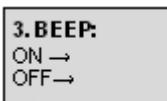
**ON:** VIM is Always ON until the user turns it off.

**OFF:** VIM is Always OFF until the user turns it on.

**LAST STATE:** Instructs the module to store the last state VIM was set when the car was turned off.

**NOTE 4:** To enable VIM in Chevrolet or GMC vehicles select "ANT. INTERRUPT" for the Programmable Output A or B, connected to the external antenna relay board.

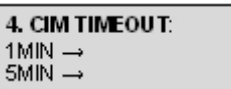
3. **BEEP:** Enables or disables the audible tones the Barracuda uses to signal the user a state has changed.



**ON :** Audible beeps, generated by the Barracuda, are ON.

**OFF:** Audible beeps, generated by the Barracuda, are OFF.

4. **CIM TIMEOUT:** Sets the amount of time that CIM stays active after being turned on.

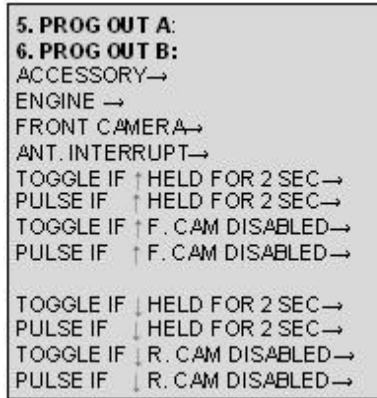


**1 MIN:** Control in Motion is enabled for 1 Minute.

**5 MIN:** Control in Motion is enabled for 5 Minutes.

**5. and 6. PROG. OUTPUT A and B:** Two +12V DC outputs controlled by the Up and Down mirror buttons, or automatically.

**NOTE 5:** The Barracuda menu for PROG OUTPUT A and B are identical. They operate independently of each other, but can share the same control button (Up/Down).



**Accessory:** +12V is output from port A or B when the Accessory power is on.

**Engine:** +12V is output from port A or B when the Engine is on.

**Front Camera:** Provides +12V DC to the Front camera, when installed and enabled.

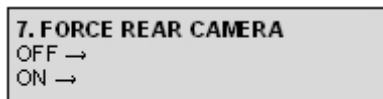
**Ant. Interrupt:** Select Antenna Interrupt to enable VIM in Chevrolet or GMC vehicles.

**Toggle if "Up Arrow" is held for 2 seconds:** Press and Hold "UP Arrow" for 2 seconds turns on/off +12V output from port A or B.

**Pulse if "Up Arrow" is held for 2 seconds:** Press and Hold "Up Arrow" for 2 seconds enables a +12V pulse for 300mS.

**NOTE 6:** Select "FRONT CAMERA" for the programmable output connected to the camera and select "ANT. INTERRUPT" for the output connected to the external relay board.

**7. FORCE REAR CAMERA:** Enables/disables Forced Rear Camera mode and the Rear Camera output on pin 11. Selecting OFF disables the forced rear camera function.

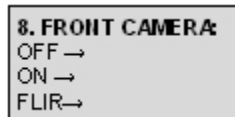


**OFF:** Disables force rear camera.

**ON:** Enables Force Rear Camera. The Down Arrow key will activate/deactivate the rear camera image.

**Note:** In order to use this function with the factory camera, pin 11 of the Barracuda needs to be connected to the Rear Camera Module (see Page 8.) This is not necessary for an aftermarket camera.

**8. FRONT CAMERA:** This option enables Front camera support. If a front camera (regular or FLIR) is to be controlled then select **Front Camera = ON** or **FLIR**. The default setting is Front Camera = OFF.



**OFF:** No front camera.

**ON:** Used when a front camera is being installed.

**FLIR:** FLIR camera present.

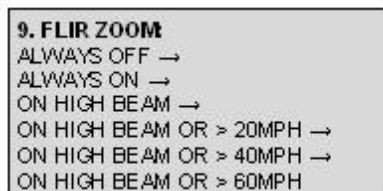
**NOTE 7:** Front Camera OFF disables the Front camera function.

**NOTE 8:** Select "FRONT CAMERA" for the Programmable Output A or B that will provide power to the camera (see 5 & 6).

**NOTE 9:** Selecting "FLIR" enables menu items 9, 10, and 11. If not selected, then the settings Menu cycles back to item 1, RADIO TYPE, after item 8.

**NOTE 10:** FLIR Camera communication requires Pin 5 and Pin 14 of the Barracuda Wire Harness to be tied together and connected the controller wire of the FLIR Harness. (See diagram below.)

**9. FLIR ZOOM:** 2X zoom is available for the FLIR camera and can be set as follows:



**Always OFF:** Zoom is normally disabled.

**Always ON:** Zoom is always on.

**On High Beam:** Zoom on when high beams are active.

**On High Beam or > 20MPH:** Zoom is enabled on High Beam or when the speed is greater than 20MPH. The zoom function turns off at 15MPH.

**On High Beam or > 40MPH:** Zoom is enabled on High Beam or when the speed is greater than 40MPH. The zoom function turns off at 30MPH.

**On High Beam or > 60MPH:** Zoom is enabled on High Beam or when the speed is greater than 60MPH. The zoom function turns off at 50MPH.

**10. FLIR COLORS:** The Barracuda module allows you to modify the colors the FLIR camera outputs to the radio LCD.

**10. FLIR COLOR:**  
 WHITE HOT →  
 BLACK HOT →  
 SEPIA →  
 RAINBOW →

**White Hot:** Black and white image, with White indicating hot.  
**Black Hot:** Black and white image with Black indicating hot.  
**Sepia:** Brown and black image.  
**Rainbow:** Color image with Red indicating hot.

**11. FLIR MOUNT:** The FLIR Camera can be mounted 1 of 2 ways, upright or up-side down. This setting allows you to configure the image on the screen to the mounted position of the FLIR camera.

**11. FLIR MOUNT:**  
 NORMAL →  
 INVERTED →

**Normal:** Select when the FLIR camera is physically mounted right side up.  
**Inverted:** Select when the FLIR camera is physically mounted up side down.

**INSTALATION INSTRUCTIONS**

**What's in the box:**

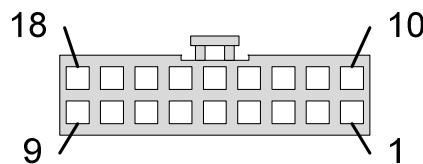
- 1. Barracuda interface
- 2. Plug-n-Play harness
- 3. USB cable
- 4. Relay Board and GPS antenna cable (for Chevrolet/GMC use only)



**Wiring pin out of Barracuda harness (wire colors are subject to change without notice)**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1. 12v constant (RED)</li> <li>2. No Connect/Reserved (WHITE)</li> <li>3. No Connect/Reserved (PINK)</li> <li>4. No Connect/Reserved (ORANGE)</li> <li>5. RX (BROWN)</li> <li>6. Camera Video to Radio (WHITE)</li> <li>7. Camera shield common</li> <li>8. VSS out to radio (BLUE)</li> <li>9. GMLAN out to radio (PURPLE)</li> </ul> | <ul style="list-style-type: none"> <li>10. Ground (BLACK)</li> <li>11. Backup Camera Power (BLUE)</li> <li>12. OUTPUT A/ FRONT CAMERA POWER (WHITE/BLUE)</li> <li>13. OUTPUT B (ORANGE/WHITE)</li> <li>14. TX (BROWN/RED)</li> <li>15. Front Camera INPUT (RED)</li> <li>16. Rear Camera INPUT (BLACK)</li> <li>17. VSS in from vehicle (BROWN)</li> <li>18. GMLAN in from vehicle (GREEN)</li> </ul> |
|---|---|

**Wire side of connector of Barracuda**



**Escalade**

1. Using a soft plastic pry tool, remove the trim panel on the passenger side just over the glove compartment. This will allow removal of radio trim.
2. Gently pry up on center console trim, and disconnect cigarette lighter plug.
3. Remove the trim panel around the radio and HVAC controls to expose radio mounting.
4. Remove the (6) 7mm screws.
5. Remove the radio. Once the radio is removed, unplug the radio and set to the side.
6. Plug the factory connectors into the supplied T-harness (not all connectors will be plugged into the supplied T-harness.)
7. Once all Barracuda connections have been made, reconnect the radio. Verify the operation of the radio and all enabled features.
8. The GPS Antenna Relay Board is not needed for the Escalade.
9. Reinstall in reverse order.

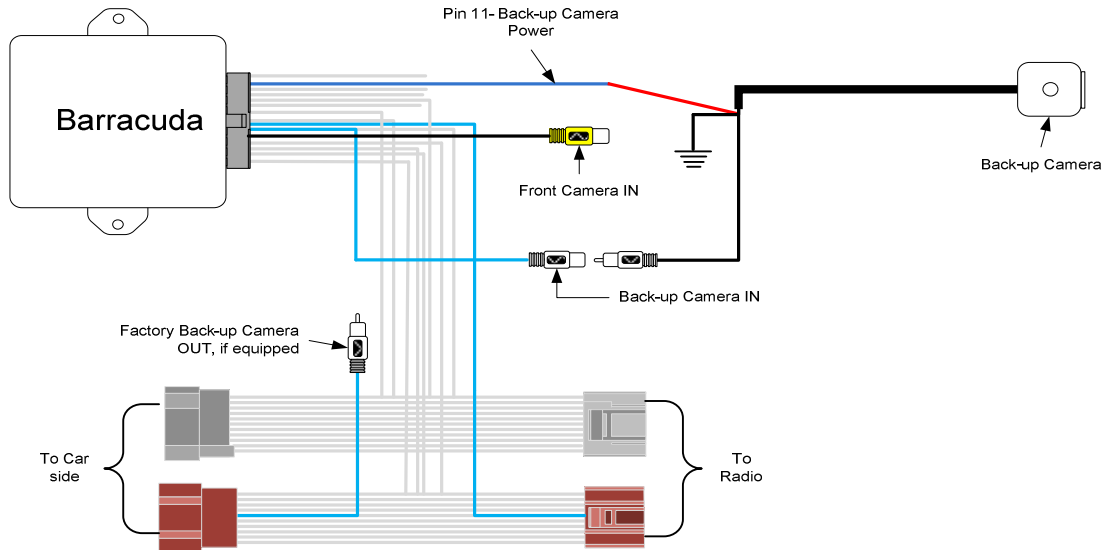


**Full size SUV and Trucks**

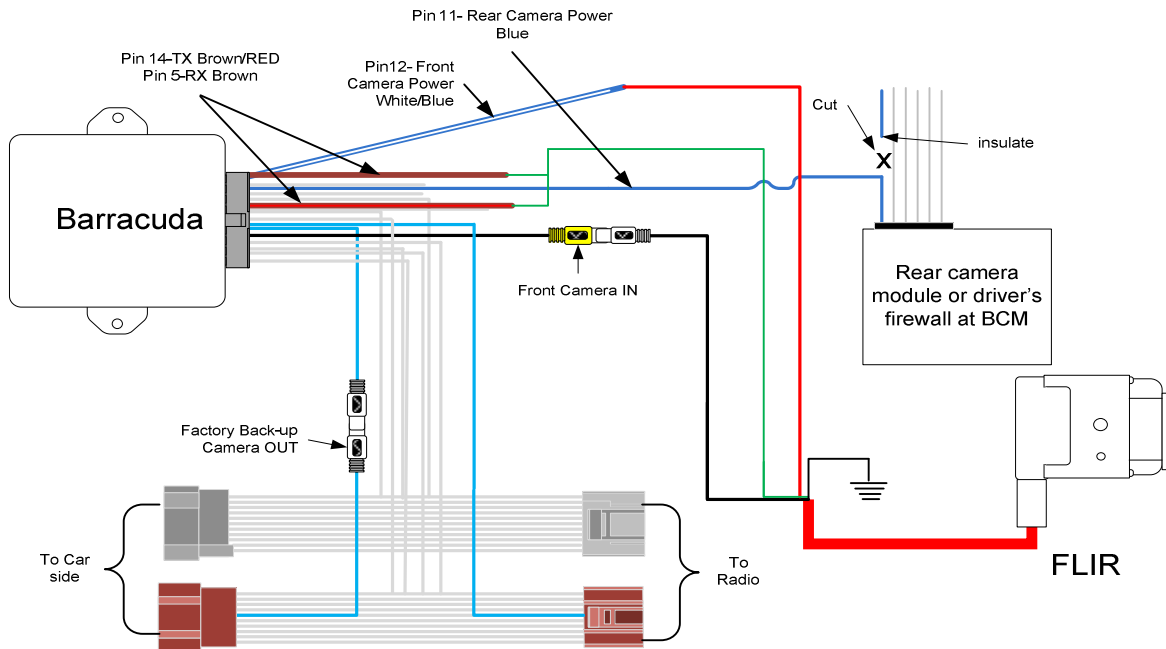
1. Using a soft plastic pry tool, remove the trim panel from around the radio and HVAC.
2. Remove the (4) 7mm screws holding the radio in place.
3. Remove the radio. Once the radio is removed, unplug the radio and set to the side.
4.
  - a. Connect the car's GPS antenna to the Blue connector of the relay board.
  - b. Connect the GPS antenna cable included with the Barracuda Kit between the Yellow connector of the relay board and the Blue connector on the back of the radio.
  - c. Connect the Red (Power) wire to either Output A or B of the Barracuda harness. You will need this information during programming.
  - d. Connect the Black wire to Ground.
5. Plug the factory connectors into the supplied T-harness (not all connectors will be plugged into the supplied T-harness).
6. Once all Barracuda connections have been made, reconnect the radio. Verify the operation of the radio and all enabled features.
7. Reinstall in reverse order.



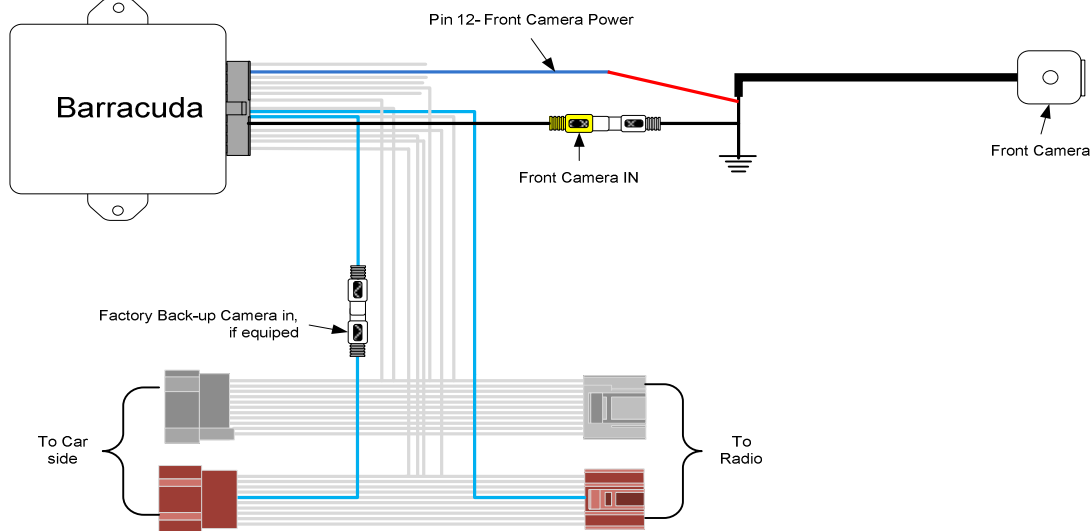
## Aftermarket Back-up Camera connections



## Factory camera with FLIR connection

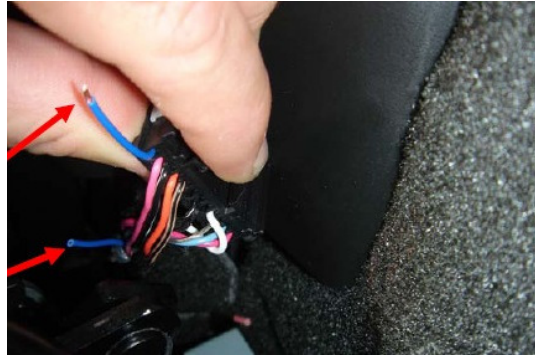


## Front Camera (CCD) connection

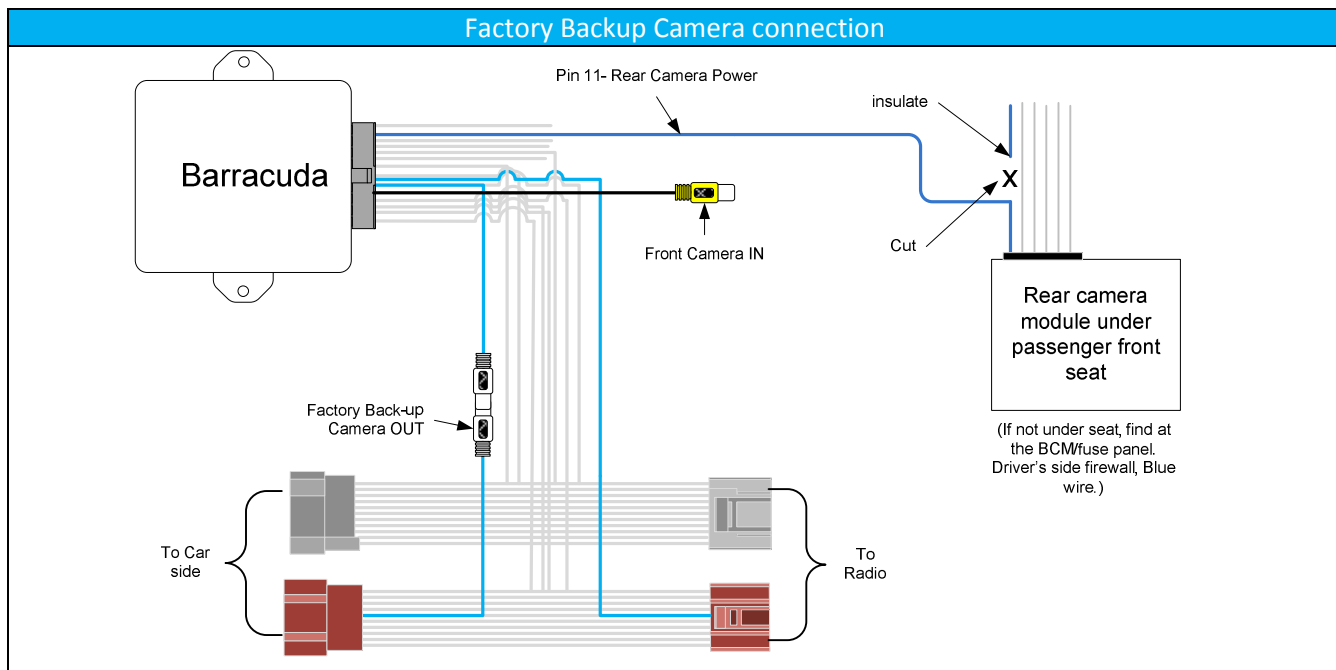


## Factory Rear Camera +12V control

1. Locate and cut the Blue wire of the Rear Camera control module harness. The Camera control module is located underneath the passenger front seat. In some models the Rear Camera control module is located in the rear section of the vehicle.
2. Strip the blue wire of the plug side.
3. Connect the stripped Blue wire to Pin 11 of the Barracuda Harness (Blue). Be sure to insulate the unused wire so it doesn't short out.



**Note 11:** If the vehicle has a factory back-up camera, it is required to make the connections to the Rear Camera module, otherwise, forced camera will not work. Also, be sure that the back-up camera RCAs stay connected together, otherwise you will lose the factory camera image.



## Barracuda Software

- **Programming software can be found at [www.NAV-TV.com](http://www.NAV-TV.com); go to the "downloads" page and select the Barracuda update.**