BCI-CH41 (R.2)

Reverse Camera Input and Navigation Unlock Interface for Chrysler / Dodge / Jeep / RAM Vehicles

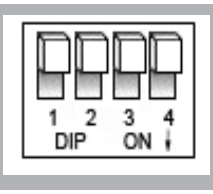
Introduction & Features

The BCI-CH41 will program your Chrysler / Dodge / Jeep / RAM radio to allow the addition of a reverse camera input if the vehicle is not equipped with one from the factory (reverse camera sold separately). The BCI-CH41 will allow the factory navigation features of your radio to be used by the passenger at anytime. The interface also offers extra features such as: Blind Spot Cameras, Front Camera, Rear Media Mode, Eco Mode Memory, Auto Start / Stop Memory, Sport Mode Memory, Remote Start Climate Restore, Steering Wheel Control (SWC) swap, EQ Presets and three programmable 12v outputs.

Important Notes

1. Vehicles without audio SWC, located on the back of the steering wheel, will not support the Navigation Unlock or SWC Swap features.
2. RAM trucks equipped with a manual transmission will not support the forced Reverse Camera or Reverse Output Trigger features.
3. The Jeep Cherokee and Chrysler 200 will not support the addition of Reverse Camera input or Rear Media Mode.
4. Vehicles equipped with the 5” screen do not support the addition of Rear Media Mode.

Installation Steps



Set DIP switches to the ON position to activate the corresponding features.
Set DIP switches to the OFF position for any features that are not desired.

Reverse Camera	Rear Media	Navigation Unlock	Feature Settings Menu
1	2	3	4

1. Set DIP switches to the ON position that correspond with the features you want to add. Feature DIP switches (1-3) must be set before connecting the interface to the vehicle harness.
   a. DIP switch 4 - Turning ON DIP switch 4 will allow you to access the Feature Settings Menu to turn additional features On / Off.
   b. Please see Page 6 titled “BCI Feature Menu Table” for a full list and description of each of the BCI features.
2. Remove the factory radio and disconnect the factory harness(es).
3. Connect the factory harness into the female connector on the BCI-CH41 harness.
4. Connect the aftermarket reverse camera’s video output to the female camera input located on the radio side of the BCI-CH41 harness. If you are also adding blind spot and / or a front camera, the VS41 must be used (sold separately). See page 4 for VS41 wiring. You can also use any universal video switcher and utilize the programmable outputs to trigger as necessary.
5. Connect the trigger wire(s) as needed. Please see chart for trigger wire colors and functions.
6. If you are adding an additional A/V input: Connect the A/V outputs from the source to the Rear Media inputs on the radio side of the BCI-CH41 harness. If you have more than one source, the AVS21 must be used (sold separately).
7. Connect the male connector on the BCI-CH41 harness to the factory radio.
8. Turn the key to the ON position.
9. Plug the interface connectors on the BCI-CH41 harness into the BCI-CH41.
10. Both LEDs will blink green while the module is initializing. Once initialized, one LED will begin to blink green. If the LED blinks red, there is a problem with the data connection to the factory radio.
11. At this point you will need to turn the ignition off and wait one minute for the vehicle to go to sleep. After one minute, turn the ignition back on and proceed to the next step.
12. Once the module has initialized you can access the Feature Settings Menu to turn on the features you want and set the programmable outputs. Please note that DIP switch 4 must be turned on in order to access the Feature Settings menu.
    See page 6 entitled “BCI Feature Menu Table” for a full list and description of each of the features and programmable outputs.
13. The module can be reset to factory default settings by pressing and holding the Programming button (on the side of the module) for 5 seconds. When pressing and holding the button, both LEDs will blink red while the module is resetting. Once reset, both LEDs will blink green, this indicates the module is initializing, release the programming button.

Trigger Wires			
Wire	Color	Function	Note
Prog. Output 1	Blue	12v+	10 Amp positive output when user programmed feature is activated
Prog. Output 2	Blue/White	12v+	1 Amp positive output when user programmed feature is activated
Prog. Output 3	Blue/Red	12v+	1 Amp positive output when user programmed feature is activated
Left Camera	Red	12v+	1 Amp positive output when left blind spot camera is activated
Left Camera	Black	Ground	Negative output when left blind spot camera is activated
Right Camera	Red	12v+	1 Amp positive output when right blind spot camera is activated
Right Camera	Black	Ground	Negative output when right blind spot camera is activated

Feature Settings Menu

Fig. A

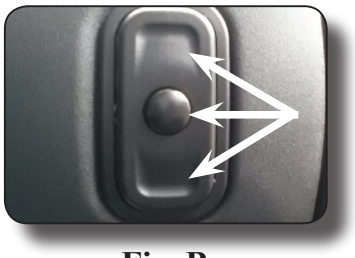


Fig. B

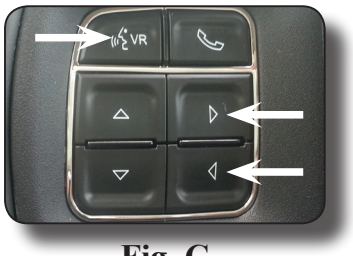


Fig. C

PLEASE NOTE:

- **DIP switch 4 must be on in order to access the BCI Feature Settings Menu.**
- **Please see page 6 entitled "BCI Feature Menu Table" for a full list and description of each of the BCI-CH41 features.**

To Access the Feature Settings Menu

1. Place the Multi Function Display into the mode that displays radio text.
2. Press and hold the Lock button on the driver door for approximately 5 seconds (see Fig. A). "BCI-CH41 Menu" followed by the product revision number will be displayed on the MFD in the gauge cluster.
3. Use the up / down buttons on either side of the back of the steering wheel to scroll through the features in the menu. Press the center button to scroll through options within the feature (Fig. B).
   a. If the vehicle is not equipped with SWC on the back of the steering wheel, you can use the forward and back arrows on the front of the steering wheel to navigate through the menu and use the VR button to change selections and turn features off / on (Fig.C).
4. Once all settings have been made, scroll to Exit & Save and press the selection button. The MFD will display "Saving".
5. You can now either flip DIP switch 4 OFF to disable access to the menu, or leave it in the ON position to access the menu later.

Operation

Reverse Camera

If you have DIP switch 1 in the ON position, the factory screen will switch to the reverse camera whenever the vehicle is placed into reverse. You can also force the reverse camera at anytime by pressing and holding the center button on the back left side of the steering wheel for at least 4 seconds (Fig. D). If your vehicle does not have SWC on the back of the steering wheel, you can use the back button on the front of the steering wheel (Fig. E).

PLEASE NOTE: The OEM reverse camera will turn off when the vehicle exceeds 5 MPH. This is a limitation of the vehicle, not the BCI-CH41.

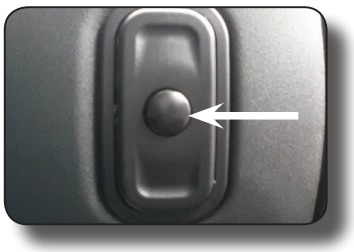


Fig. D

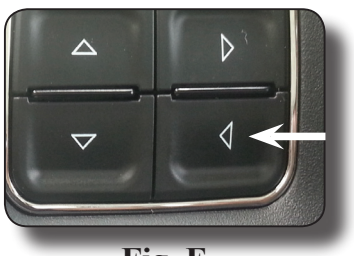


Fig. E

Operation (cont.)

Rear Media Mode

If you have DIP switch 2 in the ON position, it will activate Rear Media mode on the factory screen (8.4" screens only).

PLEASE NOTE: In order to access Rear Media mode for the first time, you will need to turn the key ON, then OFF and let the vehicle go to sleep (about 1 minute), then turn the key ON again, then OFF again and let the vehicle go to sleep a second time (about 1 minute).

To access Rear Media mode follow these steps:
Press the "Media" icon in the bottom left corner of the screen (Fig. F).

1. Press the down arrow on the middle left of the screen (Fig. G).
2. Press the "AV1" icon on the middle left of the screen (Fig. H).
3. Press the "Full" icon on the right middle of the screen to view the video (Fig I).

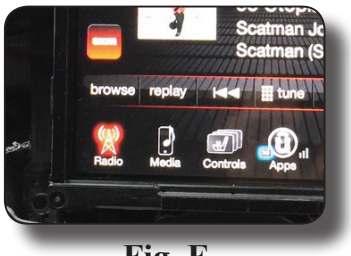


Fig. F

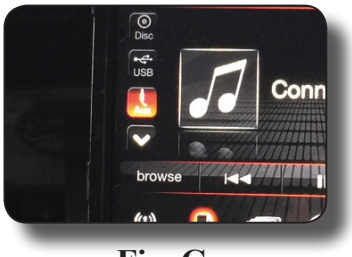


Fig. G

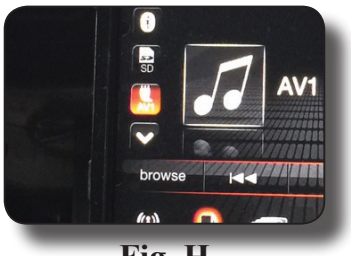


Fig. H

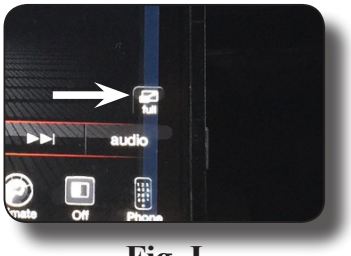


Fig. I

Nav Unlock

If you have DIP switch 3 turned ON, you can activate the navigation unlock which will enable any features that are normally locked out while the vehicle is in motion.
To activate the navigation unlock, follow these steps:

1. Place the MFD in the mode that displays radio text.
2. Press and hold the center button on the back right side of the steering wheel for at least 4 seconds, then release (Fig. J).
3. The MFD in the cluster will display "Confirm Safe Passenger Use".
4. Press the same button again within 5 seconds to acknowledge "safe use", **agreeing that use will be performed only by the passenger whenever the vehicle is in motion**, and activate the navigation unlock.
5. The MFD will display "Acknowledged".
6. To de-activate the navigation unlock simply press and hold the same button for at least 4 seconds and then release.
7. The MFD will display "NU Deactivated".

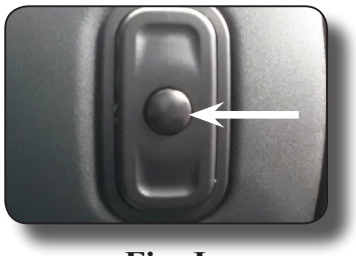


Fig. J

Preset EQ

- **This feature is only available in vehicles equipped with a factory amplifier.**
- **If you are using preset 1, 2 or 3 and not "P", the EQ shown on the radio may not be what you are hearing. The interface cannot force EQ settings that the user has stored onto the factory radio.**

This feature can be enabled in the Feature Settings menu outlined on Page 2.
Presets can be viewed on the MFD when it is set to audio mode and the Mute button is pressed.

To access / store presets follow the procedure below.

1. Presets can be recalled by simply pressing the Mute button located in the center of the volume knob (Fig K). Repeatedly pressing this button will scroll through the presets and the pass through. The pass through is the one labeled "P" and will set the EQ to whatever is displayed on the radio screen.
2. To store a preset, press the Mute button until you get to the desired location. Next, go to the equalizer screen by pressing Audio > Equalizer and set it to the desired sound. Now press and hold the Mute button (Fig I) until the MFD displays "Storing EQ".

Fig. K

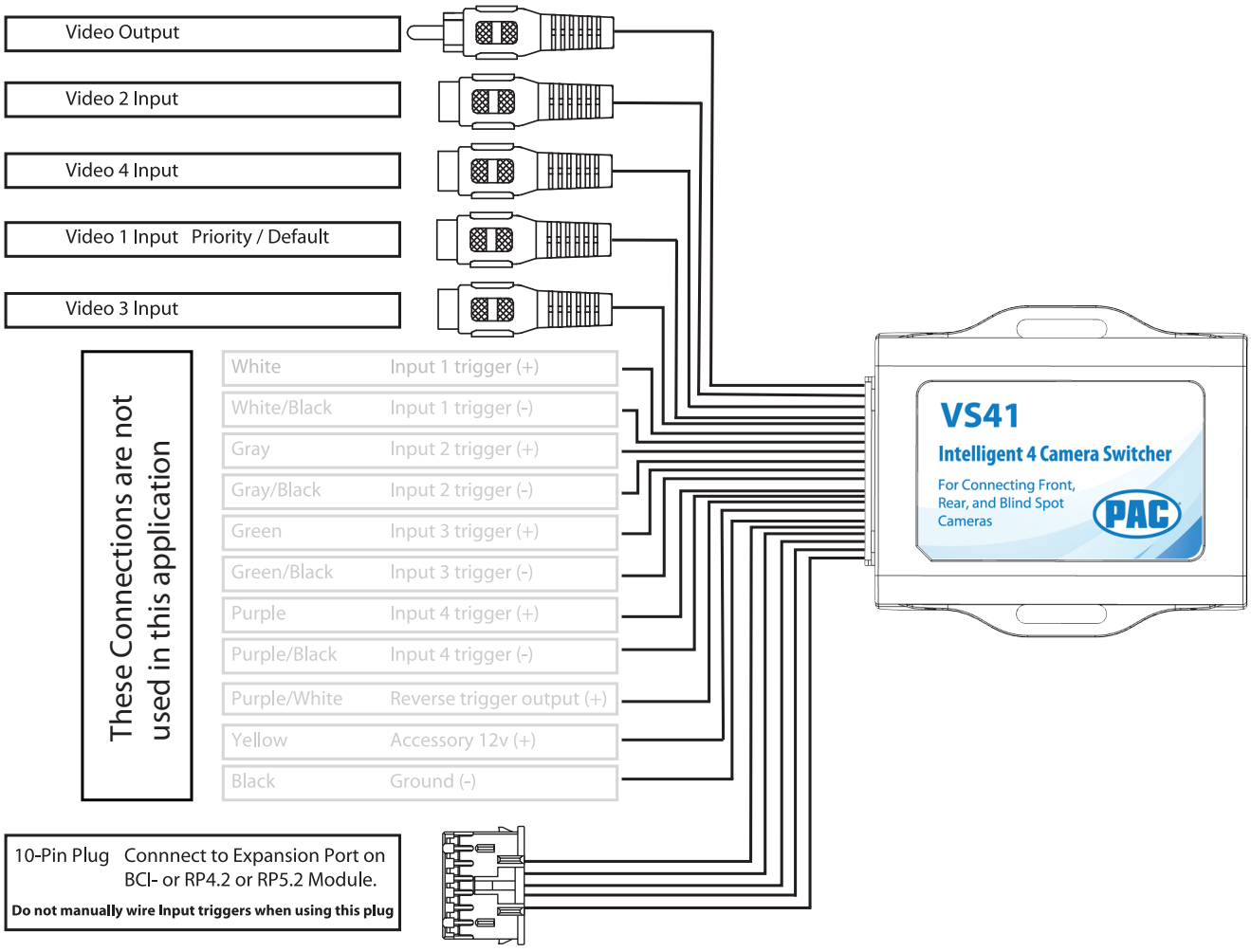
Connecting a VS41 (Sold separately)

If you are adding a front camera and two blind spot cameras, or any combination of the three, to the factory radio, a VS41 is needed (sold separately). Follow the example below to make all inputs work accordingly through the one camera input on the factory radio.

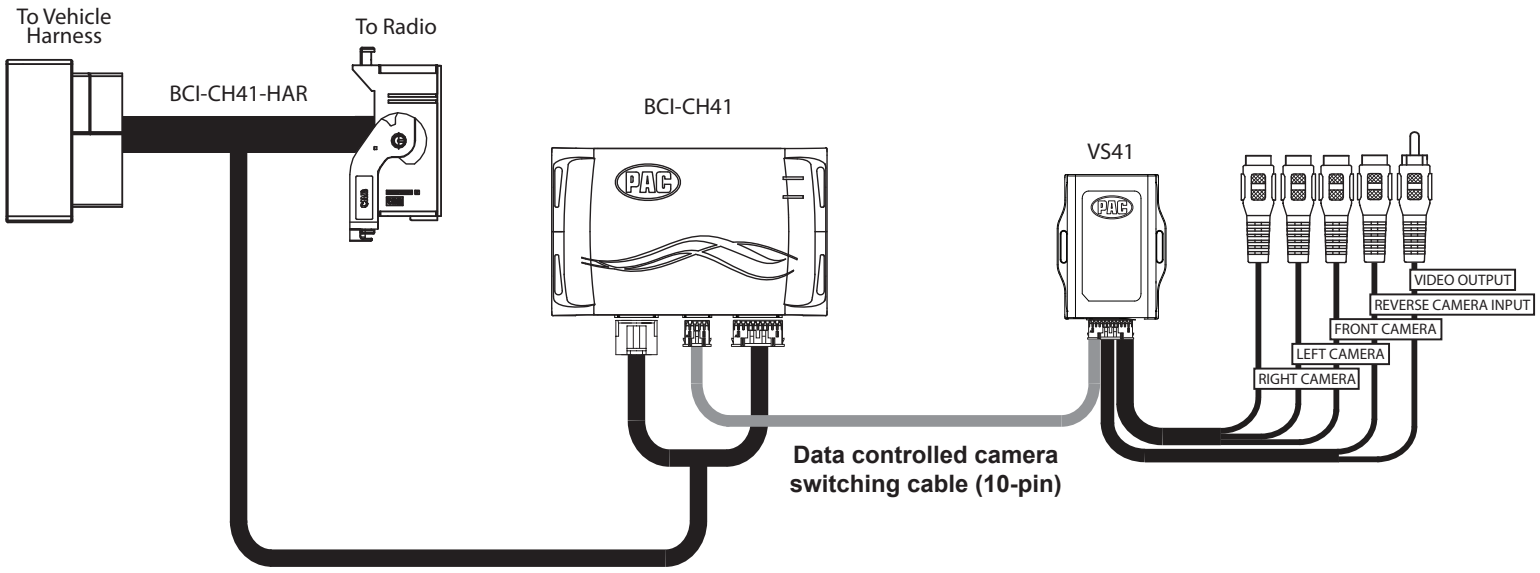
Connect the 10-pin harness from the VS41 harness into the Expansion Port on the BCI-CH41.
Do not manually wire the trigger wires, or power and ground leads, when using the Expansion Port connector.

See the illustration on the next page for an overview of the BCI-CH41 and VS41 connections.

Wiring Connection Chart



BCI-CH41 and VS41 connections overview



Using a VS41 along with the BCI-CH41 will provide 4 camera inputs, with CAN-Bus data controlled switching. In this configuration, there is no need to manually wire the input triggers on the VS41. Simply connect your camera leads into the video inputs on the VS41, and connect the 10-pin harness into the Expansion Port on the BCI-CH41.

When the appropriate CAN-Bus signals are detected (ie. reverse, or turn signal) the corresponding camera input will be automatically selected, and it's video feed will be routed to the factory radio display.

BCI Feature Menu Table

Feature	Option	Description	Notes
Blind Spot Camera	Double tap turn signal	This will activate the camera input when you double tap either the left or right turn signal within 2 seconds.	
	When turn signal on	This will activate the camera input whenever a turn signal is on.	
	>10-40 mph	This will activate the camera input when a turn signal is active and the vehicle is going more than the designated number.	
Front Cam	Manual Only	This will allow you to activate the camera input manually by pressing the forward arrow button on the SWC.	This feature is not available in the Chrysler 300, Dodge Challenger, Dodge Charger, 2016 Dodge Durango & 2016 Jeep Cherokee.
	MPH >0 & <3-7	This will activate the camera input whenever the vehicle is going more than 0 mph or less than the designated number. You can also activate the camera input manually by pressing the forward arrow button on the SWC.	
	Front Park Assist	This will activate the camera input whenever the front park assist warning system is activated. You can also activate the camera input manually by pressing the forward arrow button on the SWC.	You must trigger the front park assist before this feature will show up in the menu. This feature is not available in the Chrysler 300 or Dodge Charger.
Prog Out 1	Reverse	This will provide a 12v+ trigger whenever the vehicle is placed in reverse.	
	Accessory	This will provide a 12v+ trigger whenever the key is in the accessory or run position.	
	Force Camera	This will provide a 12v+ trigger whenever the reverse camera is forced on using the SWC.	
	Reverse or Force Camera	This will provide a 12v+ trigger whenever the vehicle is placed in reverse or the reverse camera is forced on using the SWC.	This is the default setting for Prog Out 1.
	Any Camera	This will provide a 12v+ trigger whenever any camera input is activated.	
Prog Out 2 & 3	Accessory	This will provide a 12v+ trigger whenever the key is in the accessory or run position.	This is the default setting for Prog Out 2 & 3.
	Reverse	This will provide a 12v+ trigger whenever the vehicle is placed in reverse.	
	Force Camera	This will provide a 12v+ trigger whenever the reverse camera is forced on using the SWC.	
	Reverse or Force Camera	This will provide a 12v+ trigger whenever the vehicle is placed in reverse or the reverse camera is forced on using the SWC.	
	Blind Spot	This will provide a 12v+ trigger whenever the blind spot camera is activated.	
	Front Camera	This will provide a 12v+ trigger whenever the front camera is activated.	
	Rear Media	This will provide a 12v+ trigger whenevr the radio is placed into rear media mode.	Rear Media mode must be enabled by turning on dipswitch 2.
Swap Source and Preset SWC	On/Off	This will allow you to swap the Source and Preset SWC around.	Vehicle must be equipped with audio SWC on the back of the steering wheel.
Swap Track and Volume SWC	On/Off	This will allow you to swap the Track and Volume SWC around.	Vehicle must be equipped with audio SWC on the back of the steering wheel.
Remote Start Restore Climate	On/Off	This will restore the climate controls to the last known setting on remote start.	Vehicle must be equipped with remote start.
Preset EQ	On/Off	This will give you 3 user programmable presets for the factory EQ.	See page 4 of instruction manual for operation.
Auto Start/Stop Memory	On/Off	This will force the vehicle to remember the Auto Start/Stop mode setting once the vehicles key has been cycled.	Only available in vehicles equipped with Auto Start/Stop system. Must turn Auto Start/Stop feature on/off before it will appear in the BCI menu.
Sport Mode Memory	On/Off	This will force the vehicle to remember the Sport mode setting once the vehicles key has been cycled.	Only available in vehicles equipped with Sport Mode. Must turn Sport Mode on/off before it will appear in the BCI menu.
ECO Memory	On/Off	This will force the vehicle to remember the ECO mode setting once the vehicles key has been cycled.	Only available in the 2014 Dodge Durango and Jeep Grand Cherokee.
Exit & Save		Saves settings and exits the menu.	