

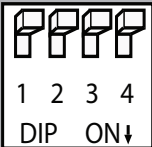
Introduction & Features

The BCI-CH21 will program your Chrysler / Dodge / Jeep 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-CH21 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: adding Blind Spot Cameras, Front Camera, VES activation & Audio/Video input capabilities.

Important Notes

1. It is very important to follow the exact sequence of installation steps as listed below. Failure to do so will result in the interface not working as intended.
2. If you change the dipswitch settings, you must disconnect and reconnect power for the change to take effect
3. To activate the Blind Spot Camera input, a VS41 (sold separately) must be connected.
4. To activate the Front Camera input, a VS41 (sold separately) must be connected in addition to turning on DIP switch 4
5. The navigation unlock feature must be activated every time the key is cycled.
6. The AVS21 A/V switcher must be used in order to use more than one video source with the BCI-CH21.
7. If the vehicle is equipped with an external VES Player, the RCAs labeled "Audio/Video To Head Unit" will not allow an additional input to the head unit. You must use the factory A/V aux in located in the rear of the vehicle.
8. If the vehicle's reverse lights come on when the reverse camera feature is engaged the diode is not wired properly. Please refer to "Fig. C" on page two for proper diode wiring.
9. If the factory radio does not come on or "flickers" off & on, the factory amplifier does not turn on or you are receiving audio on only one side of the vehicle, please make sure that the male pins in the BCI-CH21 plug are not bent or out of place.
10. In order to see the text generated by the BCI-CH21 on the multi-function display (MFD), it must be set to display audio text.

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.



| Aftermarket Reverse Camera | Navigation Unlock | VES | Front Camera |
|----------------------------|-------------------|-----|--------------|
| 1 | 2 | 3 | 4 |

1. Turn on the DIP switches that correspond with the features you want to add. These dipswitches must be set to the proper configuration before connecting the interface to the vehicle.
2. Depending on the vehicle you are installing the BCI-CH21 into, you may need to cut the white/red loop in the harness. Please refer to the chart to the right to see if you need to cut the loop. If your vehicle is listed, cut the loop. If not, do not cut the loop. Please see the Troubleshooting section on page 4 for further explanation of the loop and its purpose.
3. If the vehicle is not equipped with an MFD or external Uconnect module mount the LED in a location that is visible to the driver. In vehicles equipped with a Multi-Function Display (MFD) in the instrument cluster or an external Uconnect module it is not necessary to connect and mount the LED. The best way to determine if the UConnect is external is if the vehicle has an external iPod or USB input (not including the one built into the front of the radio).
4. Remove the factory radio and disconnect the factory harness(es).
5. Connect the BCI-CH21 harness to the back of the factory radio.
6. If adding reverse camera or additional A/V inputs, connect the BCI-CH21-AUX Harness to the back of the factory radio.
7. Connect the aftermarket reverse camera's video output to the female yellow RCA located on the radio side of the BCI-CH21-AUX harness. Use the BCI-CH21's red camera turn on wire to power the aftermarket reverse camera. If you are only using the BCI-CH21 as a navigation unlock, this step is not necessary.

Cut Red/White Loop in These Vehicles

| Make | Model | Year |
|----------|----------------|-----------|
| Chrysler | 200 | 2011-2014 |
| Chrysler | 300 | 2008-2010 |
| Chrysler | Sebring | 2008-2010 |
| Dodge | Avenger | 2008-2013 |
| Dodge | Caliber | 2010-2012 |
| Dodge | Challenger | 2008-2014 |
| Dodge | Charger | 2008-2010 |
| Dodge | Dakota | 2008-2010 |
| Dodge | Durango | 2008-2009 |
| Jeep | Commander | 2008-2010 |
| Jeep | Compass | 2009-2013 |
| Jeep | Grand Cherokee | 2008-2010 |
| Jeep | Liberty | 2008-2013 |
| Jeep | Patriot | 2008-2015 |



Installation Steps

- If you wish to use the forced reverse camera feature on any of the vehicles listed in the chart to the right, and the vehicle is equipped with a factory reverse camera, you may need to use the BCI-CH21's red camera turn on wire to power up the factory reverse camera. To do this a wire must be ran from the BCI-CH21 harness to the factory power wire for the reverse camera. The location of this wire will vary depending upon which vehicle you are installing the BCI-CH21 into. Please see below for the different locations. **Please Note:** If the customer does not wish to use the forced reverse camera, or the reverse camera image is present when using forced reverse camera, you do not have to locate and connect this wire.
- If you are adding an additional A/V input:** Connect the A/V outputs from the source to the A/V inputs on the radio side of the BCI-CH21-AUX harness. If you have more than one source, the AVS21 must be used (sold separately).
- Connect the factory harness(es) into the female connectors on the BCI-CH21 harnesses.
- Turn the ignition to the on position.
- Plug the 4-pin and 20-pin plugs on the BCI-CH21 harness into the BCI-CH21.
- Both LEDs will blink green while the module is initializing. Once initialized, one LED will begin to blink green. If the LED blinks amber or red, there is a problem with the data connection to the factory radio. In this case please refer to the troubleshooting section on page 4.
- Turn the vehicle off and wait 5 minutes. After 5 minutes, turn vehicle back on and test BCI operation (see operation section on page 3).

| Power Up Factory Reverse Camera | | |
|---------------------------------|----------------|-----------|
| Make | Model | Year |
| Dodge | Caravan | 2010-2015 |
| Dodge | Journey | 2009-2010 |
| Chrysler | Town & Country | 2008-2015 |
| Volkswagen | Routan | 2009-2013 |

Reverse Camera Wire Location - Caravan/Town & Country/Routan

- You will need to locate the reverse camera wire in the rear harness located above the rear door trim panel (Fig A).
- The reverse camera wire is the white/green wire (test with a DMM to verify 12v when the vehicle is shifted into reverse) (Fig B).
- Connect the red camera turn on wire from the BCI-CH21 to the white/green wire using a diode (Fig C). The diode is needed to prevent the reverse lights from coming on when the reverse camera is activated.
- Verify that the reverse lights do not come on when the reverse camera unlock feature is being used.

Fig A



Fig B

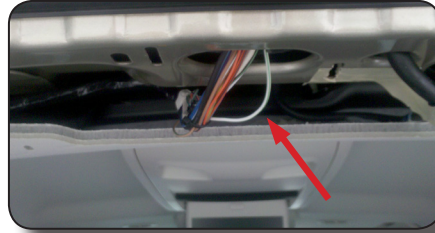
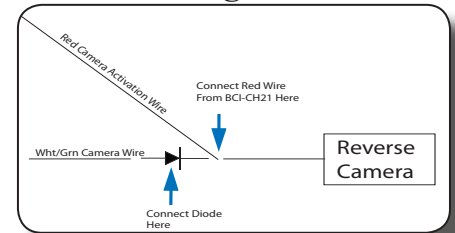


Fig C



Reverse Camera Wire Location - Journey

- You will need to locate the reverse camera wire in the reverse camera harness located in the liftgate. (Fig A).
- The reverse camera wire is the white/green wire (test with a DMM to verify 12v when the vehicle is shifted into reverse) (Fig B).
- Connect the red camera turn on wire from the BCI-CH21 to the white/green wire using a diode (Fig C). The diode is needed to prevent the reverse lights from coming on when the reverse camera is activated.
- Verify that the reverse lights do not come on when the reverse camera unlock feature is being used.

Fig A



Fig B

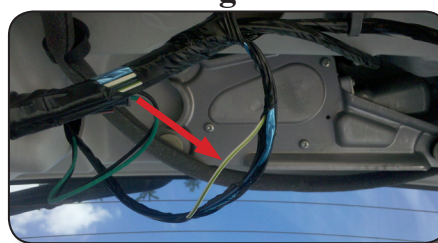
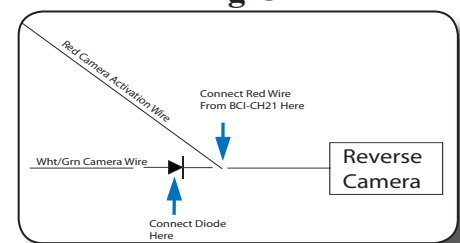


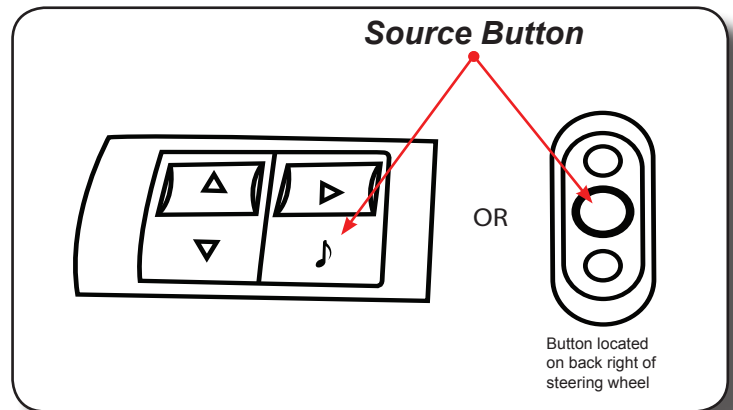
Fig C



Operation - Vehicles With Steering Wheel Controls

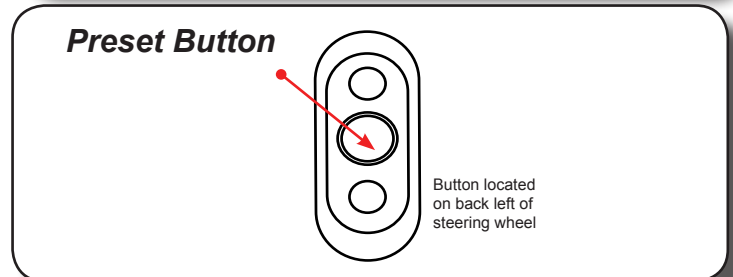
Activating the Navigation Unlock

1. Press and hold the "Source" button on the steering wheel controls (SWC) for at least two seconds and then release to activate the BCI-CH21.
2. If the vehicle is equipped with a MFD in the cluster it will display "Confirm Safe Passenger Use". If the vehicle is equipped with an external Uconnect module the radio will display "Press Again to Confirm Safe Passenger Use". If present, the dash mount LED will flash green.
3. Press the "Source" button on the SWC 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 BCI-CH21.
4. If applicable, the MFD and/or radio will display "Acknowledged". If present, the dash mount LED will then illuminate green.
5. To de-activate the BCI-CH21 simply press and hold the "Source" button on the SWC for at least two seconds and then release.



Activating the Forced Reverse Camera

1. Press and hold the "Preset" button on the SWC for at least two seconds and then release.
2. The dash mount LED will begin blinking and the rearview camera image will now display on the navigation screen.

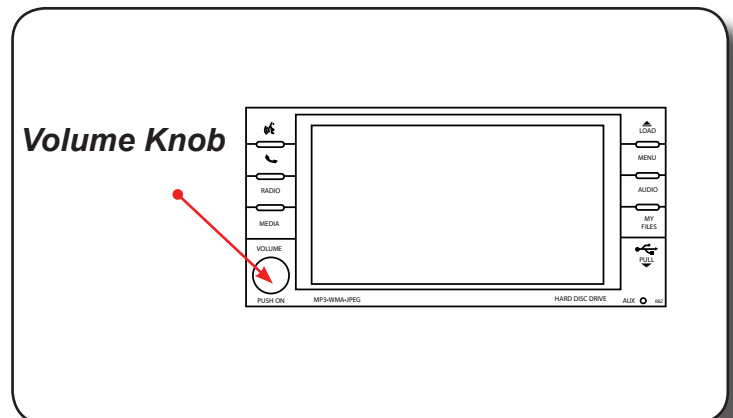


Operation - Vehicles Without Steering Wheel Controls

Activating the Navigation Unlock

1. Start with the factory radio on.
2. Turn the radio off then on within three seconds by pressing the volume knob on the radio.
3. The dash mount LED will illuminate red.
4. Turn the radio off then on again within three seconds to acknowledge "safe use", **agreeing that use will be performed only by the passenger whenever the vehicle is in motion**, and activate the BCI-CH21. The dash mount LED will then illuminate green.
5. To de-activate the BCI-CH21 simply turn the radio off then on within three seconds.

PLEASE NOTE: The forced reverse camera feature is not available in vehicles without steering wheel controls.



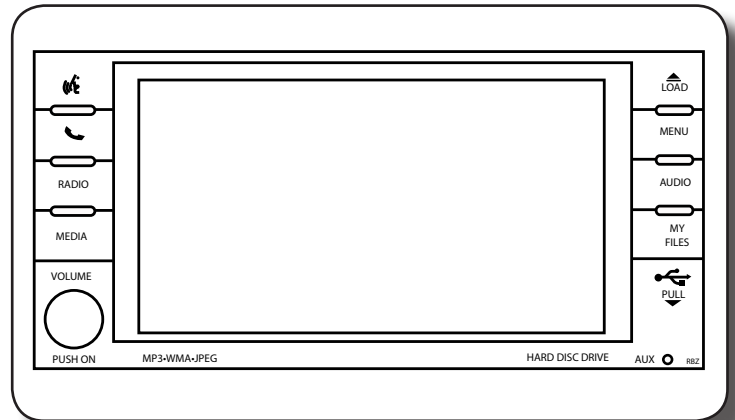
WARNING: In order to avoid distraction, which could lead to an accident, the driver should never utilize systems unlocked by the BCI-CH21 when the vehicle is in motion. Even when operated by the passenger, the vehicle driver should maintain their attention on the road at all times.



VES Mode & A/V Harness

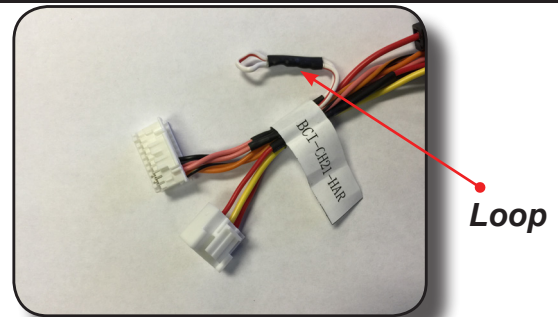
Activating VES Mode

1. Press the Media button on the factory radio
2. Press the "VES" icon on the screen
3. Press the "View Video" icon on the screen
4. This will display video and play audio that is fed in through the group of RCAs labeled "Audio/Video To Head Unit" on the BCI-CH21-AUX-HAR. **PLEASE NOTE:** If the vehicle is equipped with an external VES Player, the RCAs labeled "Audio/Video To Head Unit" will not allow an additional input to the head unit. You must use the factory A/V aux in located in the rear of the vehicle.
5. If you want to feed more than one A/V source into the VES input, an AVS-21 must be used.
6. The group of RCAs labeled "Audio/Video To Rear Screen" on the BCI-CH21-AUX-HAR will only output A/V from the internal DVD player. You can not make the radio output video from any other source.
7. If the vehicle is equipped with a factory rear screen, an AVS-21 can be used on these RCAs to feed more than one A/V source to the rear screen.



Troubleshooting

1. **Harness Loop** - The loop in the BCI-CH21-HAR is a CAN termination resistor that needs to be present on certain vehicles. If you have followed the instructions for cutting the loop and your radio is not coming on and the amber LED is blinking, you may need to re-connect or cut the loop (depending on what you did initially).
2. The LEDs on the module can tell you what the BCI-CH21 is doing. Please refer to the chart below for LED status patterns and possible troubleshooting actions.



| LED Pattern | State | Action |
|------------------------------------|-----------------------------------|---|
| Dual flashing green | Initializing | Turn on ignition Wait for BCI to finish initializing |
| Single flashing green | Active | N/A |
| Single flashing green, Solid amber | Forced reverse camera on | N/A |
| Single Flashing Amber | No CAN communication with radio | Change status of loop (cut or re-connect) |
| Single Flashing Red | No CAN communication with vehicle | Check harness and connector pins for proper connection |

Connecting a VS41 (Sold separately)

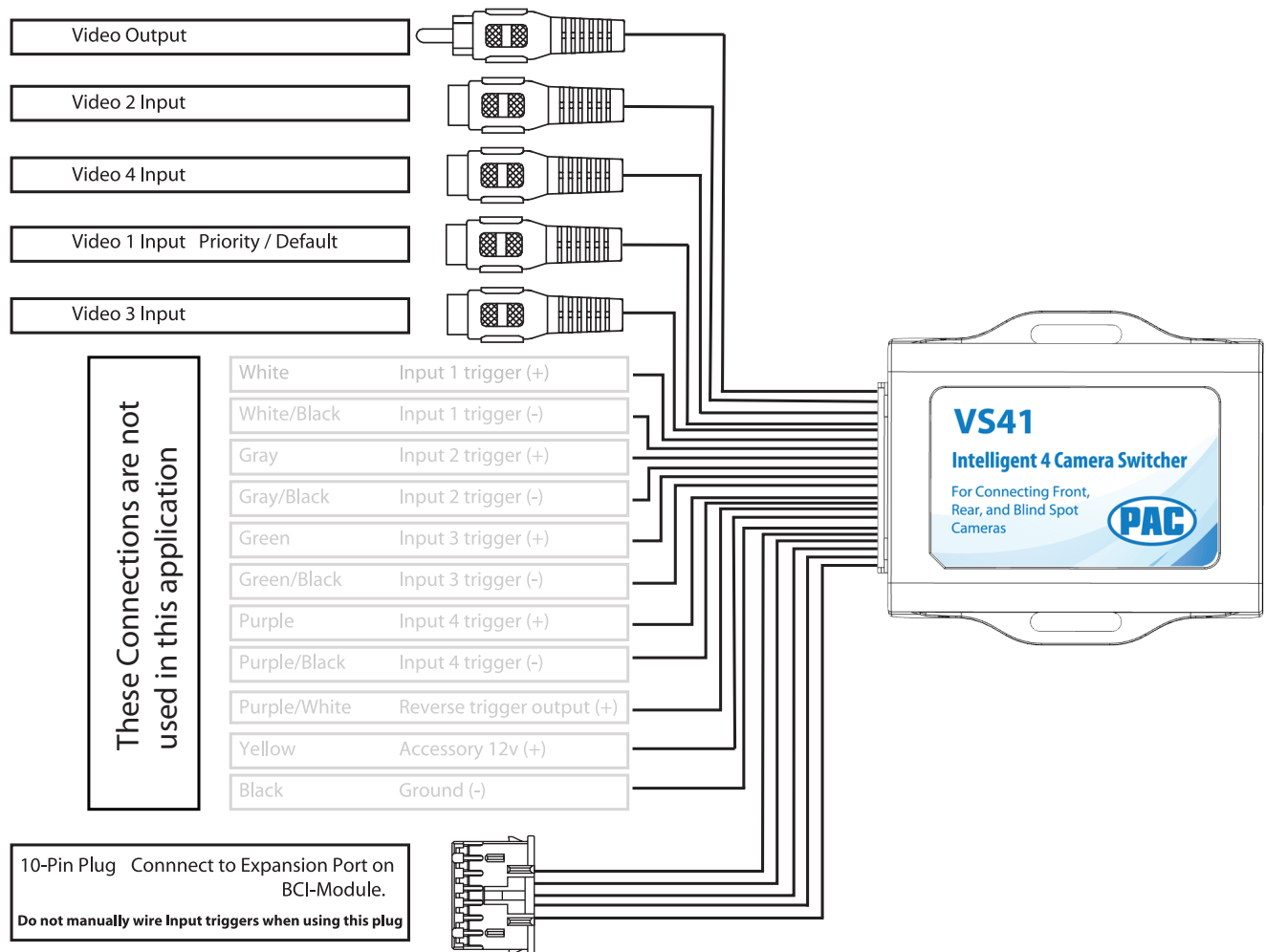
PLEASE NOTE: In order for this feature to work, the BCI must be programmed with firmware version 6.

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.

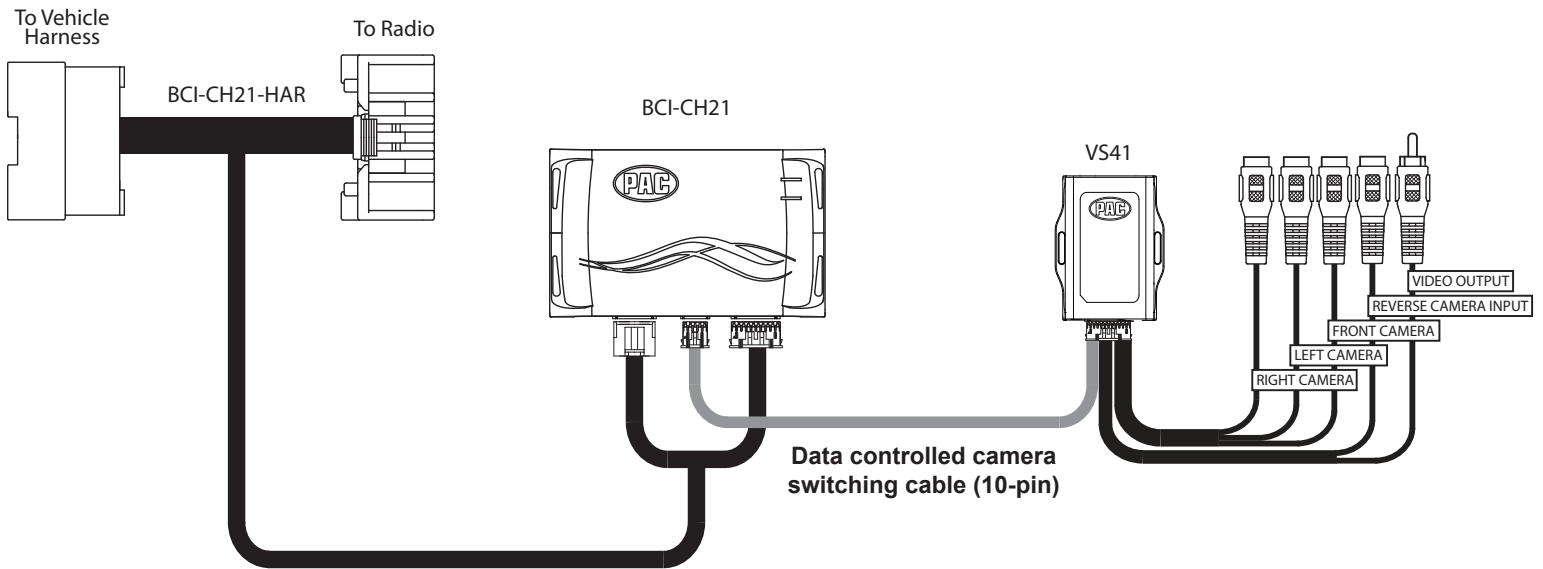
Connect the 10-pin harness from the VS41 harness into the Expansion Port on the BCI-CH21. Do not manually wire the trigger wires, or power and ground leads, when using the Expansion Port connector.

See the illustration on the next page for an overview of the BCI-CH21 and VS41 connections.

Wiring Connection Chart



BCI-CH21 and VS41 connections overview



Using a VS41 along with the BCI-CH21 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-CH21.

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.

DISCLAIMER: Under no circumstances shall the manufacture or the distributors of the BCI-CH21 be held liable for claims of any loss or damage, consequential, direct or indirect, arising from the sale, installation, or use of the BCI-CH21. The manufacture and its distributors will not, nor will they authorize any representative or any other individual, to assume obligation or liability in relation to the BCI-CH21 other than its replacement.

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