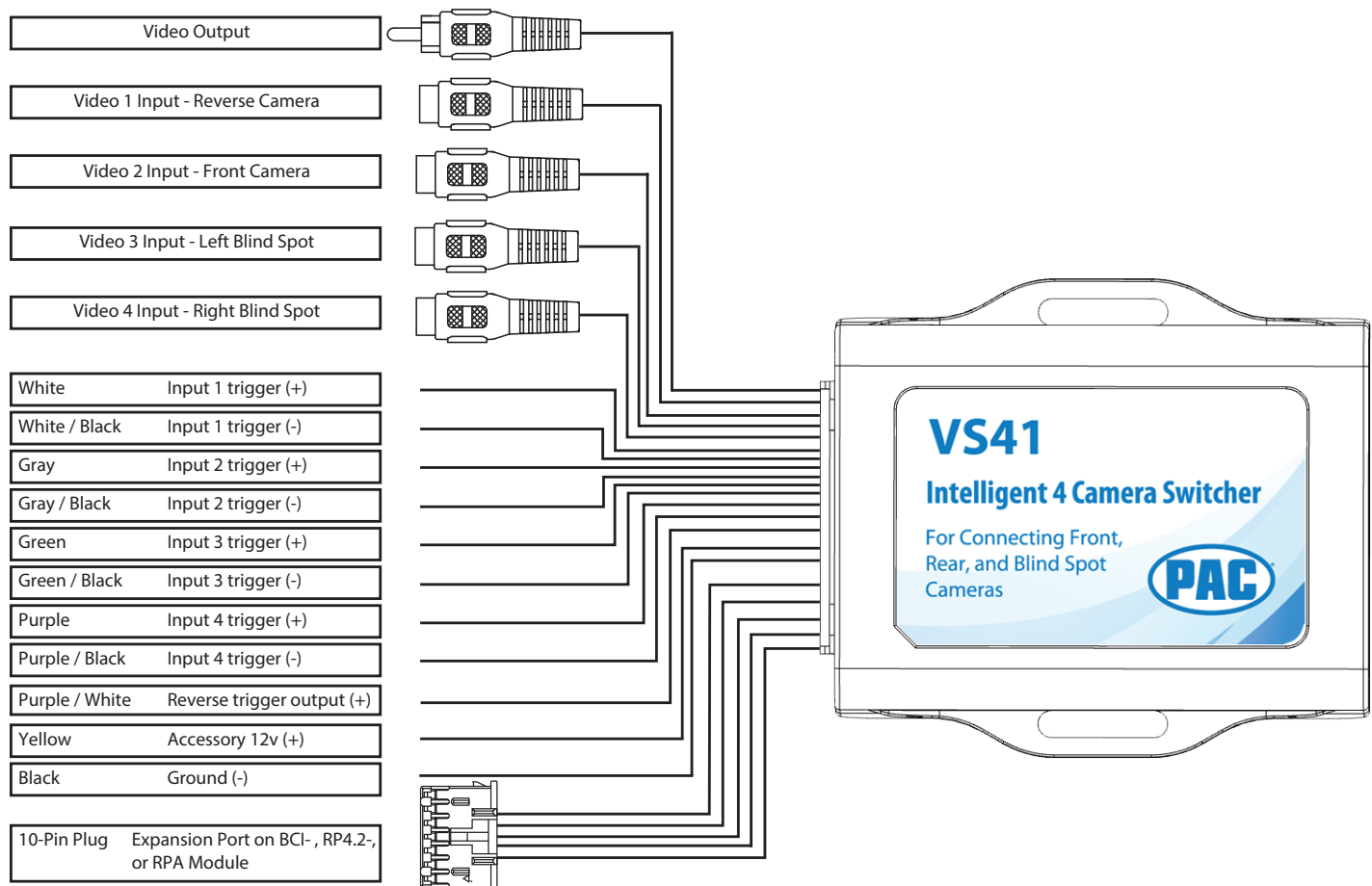## Introduction & Features

The VS41 is an intelligent 4 camera switcher for controlling front, rear, and blind spot cameras. Manually connect cameras and trigger wires (pulsed or constant inputs), or connect to a BCI-, RP4.2-, or RPA- module's expansion port for full digital control, and fast easy connectivity. The VS41 also accepts analog + or - and constant / pulsed signals.

Important Notes

1. If you are using the VS41 with another PAC interface, such as a BCI-, RP4.2-, or RPA-, with an Expansion Port, simply connect the 10-pin connector into the module. Do not manually wire the positive or negative trigger wires. The BCI-, RP4.2-, or RPA- module will digitally control the VS41 switching operation when connected to the Expansion Port.

2. The VS41 video output will always default to the signal from Input 1 when none of the input triggers are activated. This Input is ideal for connecting the rear (reverse) camera.

3. The VS41 inputs have priority in descending numerical order. For example: If you have Input 3 or 4 triggered, then you trigger a lower number input (for example Input 2), Input 2 will take priority over the higher numbered Input.

4. The input triggers can accept either a pulsed or constant input, making them ideal for connecting to a turn signal as a trigger.

5. The reverse trigger output will provide a 150 mA 12v (+) trigger while any of the input triggers are activated.

6. Upon deactivation of the last positive or negative trigger, the last video input source and the reverse trigger output will remain active for an additional 3 seconds. (Not applicable when used with a BCI-, RP4.2-, or RPA- interface).

7. If there is poor video quality after installation of this module, please ensure quality connections on any RCA connections.

8. Positive Input triggers accept input voltages in the range of 2v to 12v.

Wiring Connection Chart

Video Output	
Video 1 Input - Reverse Camera	
Video 2 Input - Front Camera	
Video 3 Input - Left Blind Spot	
Video 4 Input - Right Blind Spot	

Color	Function
White	Input 1 trigger (+)
White / Black	Input 1 trigger (-)
Gray	Input 2 trigger (+)
Gray / Black	Input 2 trigger (-)
Green	Input 3 trigger (+)
Green / Black	Input 3 trigger (-)
Purple	Input 4 trigger (+)
Purple / Black	Input 4 trigger (-)
Purple / White	Reverse trigger output (+)
Yellow	Accessory 12v (+)
Black	Ground (-)
10-Pin Plug	Expansion Port on BCI- , RP4.2-, or RPA Module

VS41

Intelligent 4 Camera Switcher

For Connecting Front, Rear, and Blind Spot Cameras
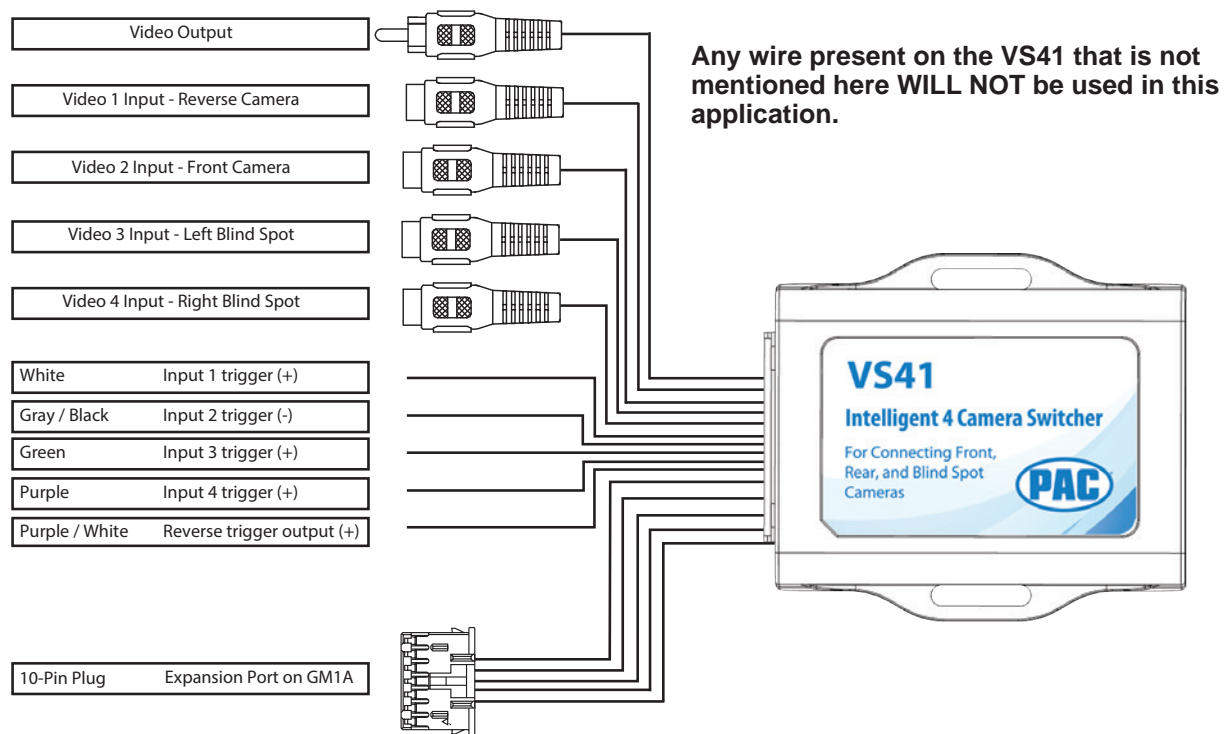
PAC

VS41

Introduction & Features

The VS41 is an intelligent 4 camera switcher for controlling front, rear, and blind spot cameras. It is designed to be used with PAC radio replacement interfaces.

Important Notes

1. These instructions are specifically for adding reverse, blind spot, and front cameras (or any combination of the three) to an aftermarket radio in the following vehicles:

   • 2003-2006 GM Trucks / SUVs

2. You must locate and connect to the analog turn signal wires in the vehicle, as well as connect the reverse output trigger from the GM1A to the VS41. Please wire the VS41's analog input triggers 1, 3 and 4 according to the instructions below.
3. Analog input trigger 2 on the VS41 only needs to be connected if you want manual activation of the front camera via toggle switch. Automatic activation of the front camera (Input 2) via Class II Data-Bus commands can be set using the RadioPRO PC application. See page 2 for more details on the RadioPRO PC app.
4. The reverse trigger output will provide a 150 mA 12v (+) trigger while any of the input triggers are activated.
5. The VS41 video output will always default to the signal from Input 1 when none of the input triggers are activated. This Input is ideal for connecting the rear (reverse) camera.
6. The VS41 inputs have priority in descending numerical order. For example: If you have Input 3 or 4 triggered, then you trigger a lower number input (for example Input 2), Input 2 will take priority over the higher numbered Input.
7. If there is poor video quality after installation of this module, please ensure quality connections on all RCA connections.

Wiring Connection Chart

| Video Output |
| Video 1 Input - Reverse Camera |
| Video 2 Input - Front Camera |
| Video 3 Input - Left Blind Spot |
| Video 4 Input - Right Blind Spot |

Any wire present on the VS41 that is not mentioned here WILL NOT be used in this application.

Wire	Function
White	Input 1 trigger (+)
Gray / Black	Input 2 trigger (-)
Green	Input 3 trigger (+)
Purple	Input 4 trigger (+)
Purple / White	Reverse trigger output (+)

| 10-Pin Plug | Expansion Port on GM1A |

VS41
Intelligent 4 Camera Switcher
For Connecting Front, Rear, and Blind Spot Cameras
PAC

| VS41 Wire	Connection
White	**Reverse Trigger Input (+) -** Connect to the Purple / White reverse trigger output provided by the GM1A
Gray / Black	**Front Camera Trigger (-) -** If you would like to manually force the front camera, hook this wire to a ground (-) trigger through a toggle switch.
Green	**Left Blind Spot Trigger Input (+) - *** Dark green at turn signal switch on top of steering column. See diagrams next page.
Purple	**Right Blind Spot Trigger Input (+) - *** Light green at turn signal switch on top of steering column. See diagrams next page.
Purple / White	**Reverse Trigger Output (+) -** Connect this wire to the aftermarket radio's reverse trigger input.

*Please verify all signals with a multi-meter before connecting the VS41

PAC

Installation Steps

1. Connect the 10-pin expansion plug to the GM1A interface.
2. Wire up all the triggers and inputs as indicated in the chart on page 1.
3. See diagrams below for location of turn signal wires.
4. Once connected, verify all cameras are showing properly. The front camera behavior can be setup using the RadioPRO app. Please see the next section for more details on the RadioPRO app.

Fig. A
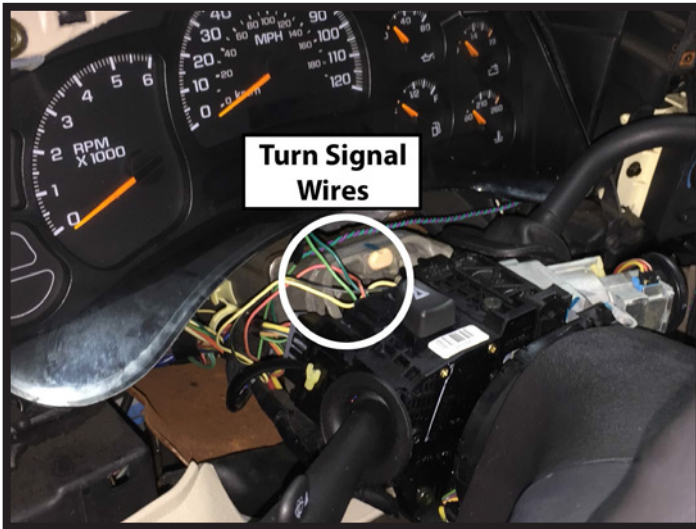
Fig. B
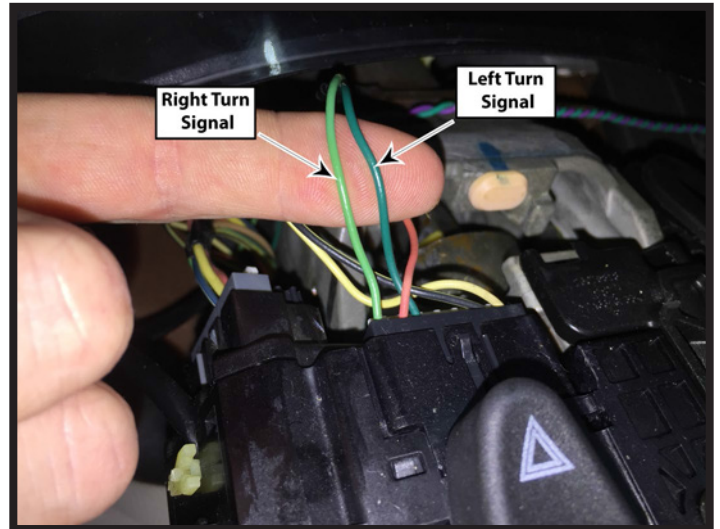
RadioPRO App

Use of the RadioPRO App allows you to do the following:
• Set the behavior of the front camera

Connect the GM1A interface to the PC and select the behavior of the front camera. Use the chart below to understand how each mode works. The GM1A does not have to be connected to power or in the vehicle to access camera settings.

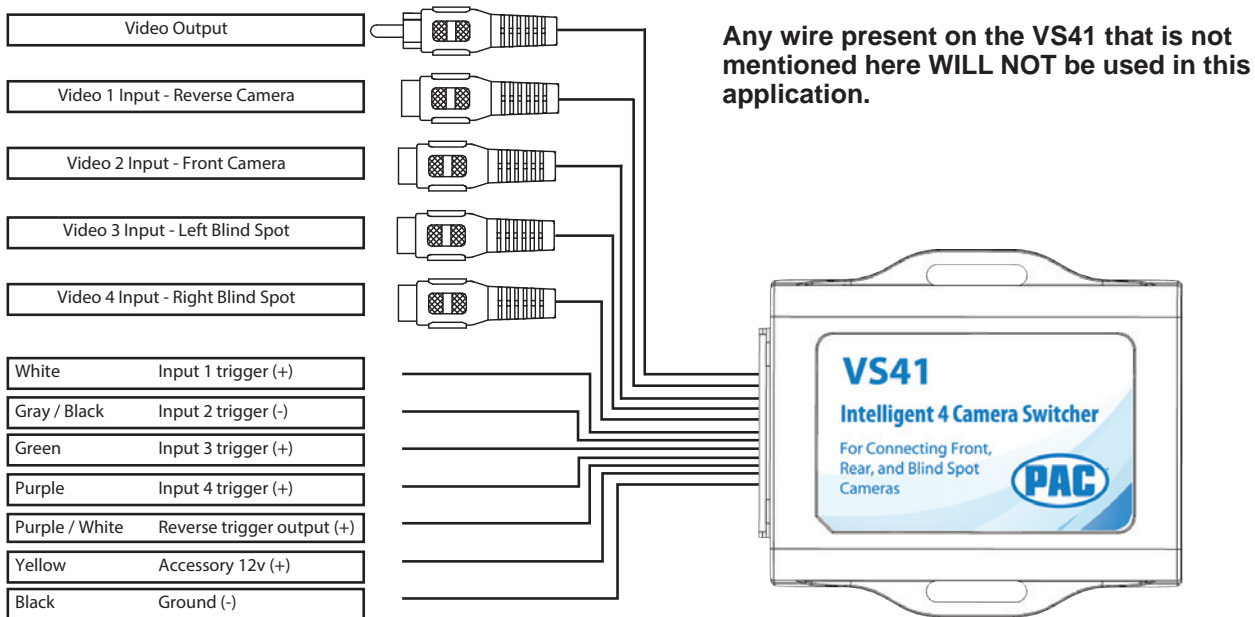| Mode	Description	Notes
Greater than 0MPH and less than *xMPH	This will activate the camera input whenever the vehicle is going faster than 0 mph or less than the designated number.	*Options are: 3 mph, 5mph, or 7 mph.
On when Shift into D until 6MPH or 30Sec	This will activate the camera input whenever the vehicle is placed into Drive. The camera input will turn off once the vehicles speed is faster than 6MPH, or after 30 seconds.	This mode should be used in vehicles that have an *automatic* transmission
On when Shift out of R until 6MPH or 30Sec	This will activate the camera input whenever the vehicle is shifted out of reverse. The camera input will turn off once the vehicles MPH is faster than 6MPH, or after 30 seconds.	This mode should only be used in vehicles that have a *manual* transmission.

VS41

Introduction & Features

The VS41 in an intelligent 4 camera switcher for controlling front, rear, and blind spot cameras. It is designed to be used with PAC radio replacement interfaces.

Important Notes

1. These instructions are specifically for adding reverse, blind spot, and front cameras (or any combination of the three) to an aftermarket radio in the following vehicles:
   - 2014-2017 Chevrolet Silverado, Suburban, or Tahoe
   - 2014-2017 GMC Sierra, or Yukon
2. The VS41 video output will always default to the signal from Input 1 when none of the input triggers are activated. This Input is ideal for connecting the rear (reverse) camera.
3. The VS41 inputs have priority in descending numerical order. For example: If you have Input 3 or 4 triggered, then you trigger a lower number input (for example Input 2), Input 2 will take priority over the higher numbered Input.
4. The input triggers can accept either a pulsed or constant input, making them ideal for connecting to a turn signal as a trigger.
5. The reverse trigger output will provide a 150 mA 12v (+) trigger while any of the input triggers are activated.
6. Upon deactivation of the last positive or negative trigger, the last video input source and the reverse trigger output will remain active for an additional 3 seconds. (Not applicable when used with a BCI-, RP4.2-, or RP5.2- interface).
7. If there is poor video quality after installation of this module, please ensure quality connections on any RCA connections.
8. The positive input triggers accept input voltages in the range of 2v to 12v.

Wiring Connection Chart

Video Output	
Video 1 Input - Reverse Camera	
Video 2 Input - Front Camera	
Video 3 Input - Left Blind Spot	
Video 4 Input - Right Blind Spot	

Any wire present on the VS41 that is not mentioned here WILL NOT be used in this application.

Wire	Function
White	Input 1 trigger (+)
Gray / Black	Input 2 trigger (-)
Green	Input 3 trigger (+)
Purple	Input 4 trigger (+)
Purple / White	Reverse trigger output (+)
Yellow	Accessory 12v (+)
Black	Ground (-)

VS41 Wire	Connection
White	**Reverse Trigger Input (+) -** Connect to the Purple / White reverse trigger output provided by the RP5-GM51. If you are not using the RP5-GM51, connect to the *Blue / Brown wire at BCM under driver's dash. Brown 26-pin plug, Pin 26.
Gray / Black	**Front Camera Trigger (-) -** If you are installing a front camera, hook this wire to a 12v (-) trigger through a toggle switch.
Green	**Left Blind Spot Trigger Input (+) -** *Blue / White wire at BCM under driver's dash. Brown 26-pin plug, Pin 2.
Purple	**Right Blind Spot Trigger Input (+) -** *Green / Violet wire at BCM under driver's dash. Black 26-pin plug, Pin 3.
Purple / White	**Reverse Trigger Output (+) -** Connect this wire to the aftermarket radio's reverse trigger input.
Yellow	**Accessory 12v (+) -** Connect to the Red accessory output provided by the RP5-GM51. If you are not using the RP5-GM51, you must find a 12v (+) accessory wire* that turns on / off with the key.
Black	**Ground**

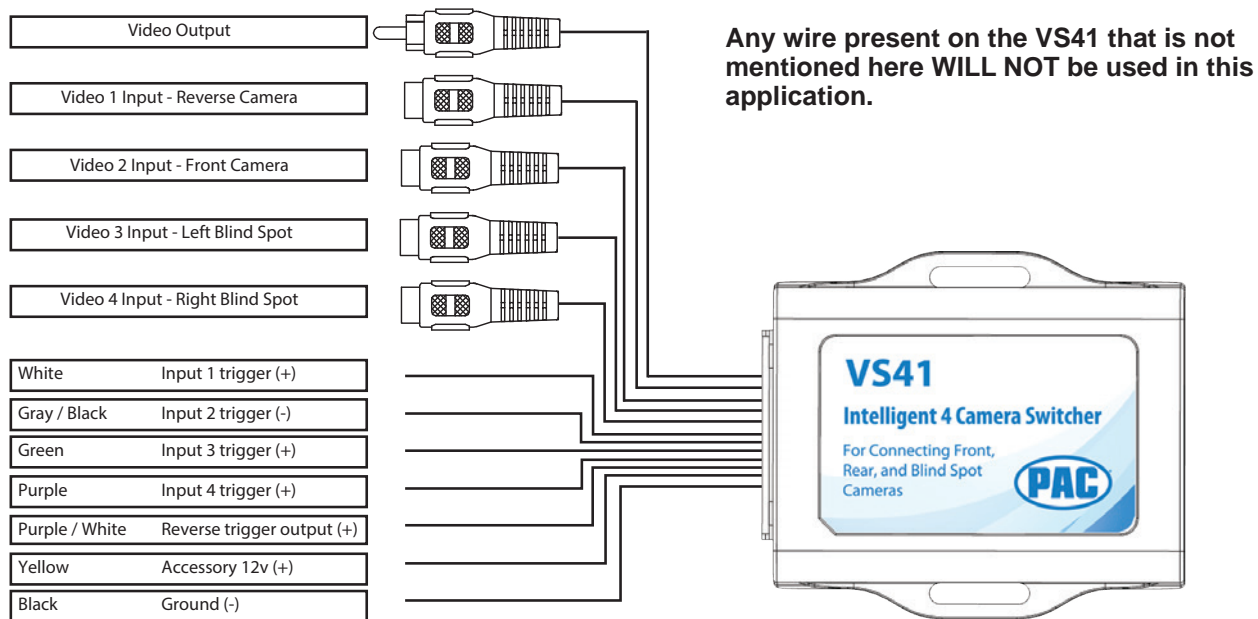*Please verify all signals with a multi-meter before connecting the VS41

Introduction & Features

The VS41 in an intelligent 4 camera switcher for controlling front, rear, and blind spot cameras. It is designed to be used with PAC radio replacement interfaces.

Important Notes

1. These instructions are specifically for adding reverse, blind spot, and front cameras (or any combination of the three) to an aftermarket radio in the following vehicles:
   - 2015-2017 Chevrolet Colorado
   - 2015-2017 GMC Canyon
2. The VS41 video output will always default to the signal from Input 1 when none of the input triggers are activated. This Input is ideal for connecting the rear (reverse) camera.
3. The VS41 inputs have priority in descending numerical order. For example: If you have Input 3 or 4 triggered, then you trigger a lower number input (for example Input 2), Input 2 will take priority over the higher numbered Input.
4. The input triggers can accept either a pulsed or constant input, making them ideal for connecting to a turn signal as a trigger.
5. The reverse trigger output will provide a 150 mA 12v (+) trigger while any of the input triggers are activated.
6. Upon deactivation of the last positive or negative trigger, the last video input source and the reverse trigger output will remain active for an additional 3 seconds. (Not applicable when used with a BCI-, RP4.2-, or RP5.2- interface).
7. If there is poor video quality after installation of this module, please ensure quality connections on any RCA connections.
8. The positive input triggers accept input voltages in the range of 2v to 12v.

Wiring Connection Chart

| Video Output |
| Video 1 Input - Reverse Camera |
| Video 2 Input - Front Camera |
| Video 3 Input - Left Blind Spot |
| Video 4 Input - Right Blind Spot |

Any wire present on the VS41 that is not mentioned here WILL NOT be used in this application.

White	Input 1 trigger (+)
Gray / Black	Input 2 trigger (-)
Green	Input 3 trigger (+)
Purple	Input 4 trigger (+)
Purple / White	Reverse trigger output (+)
Yellow	Accessory 12v (+)
Black	Ground (-)

VS41
Intelligent 4 Camera Switcher
For Connecting Front, Rear, and Blind Spot Cameras
PAC

VS41 Wire	Connection
White	**Reverse Trigger Input (+) -** Connect to the Purple / White reverse trigger output provided by the RP5-GM51. If you are not using the RP5-GM51, connect to the *Green / White wire at BCM under driver's dash. Gray 26-pin plug, Pin 3.
Gray / Black	**Front Camera Trigger (-) -** If you are installing a front camera, hook this wire to a 12v (-) trigger through a toggle switch.
Green	**Left Blind Spot Trigger Input (+) -** *Blue / White wire at BCM under driver's dash. Brown 26-pin plug, Pin 2.
Purple	**Right Blind Spot Trigger Input (+) -** *Green / Violet wire at BCM under driver's dash. Black 26-pin plug, Pin 3.
Purple / White	**Reverse Trigger Output (+) -** Connect this wire to the aftermarket radio's reverse trigger input.
Yellow	**Accessory 12v (+) -** Connect to the Red accessory output provided by the RP5-GM51. If you are not using the RP5-GM51, you must find a 12v (+) accessory wire that turns on / off with the key.
Black	**Ground**

*Please verify all signals with a multi-meter before connecting the VS41

PAC

VS41

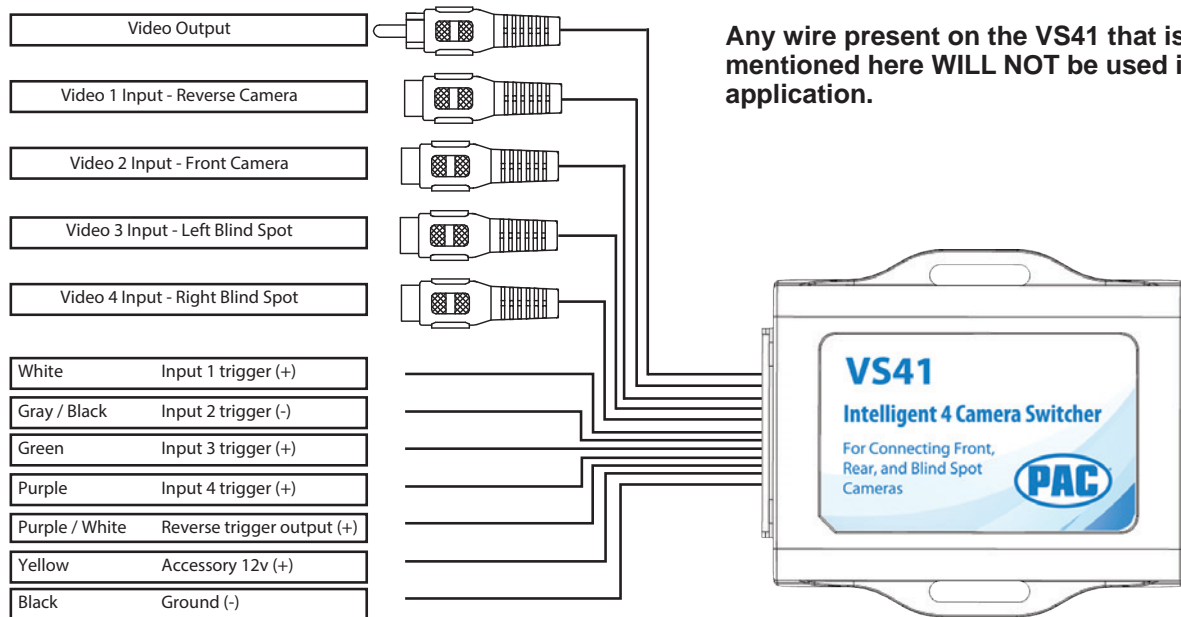Vehicle Specific Instructions for select
2016-2017 Nissan Titan

Introduction & Features

The VS41 in an intelligent 4 camera switcher for controlling front, rear, and blind spot cameras. In this application, it is designed to be used with Best Kits harness BHA7552.

Important Notes

1. These instructions are specifically for adding reverse, blind spot, and front cameras (or any combination of the three) to an aftermarket radio in the following vehicles:

   • 2016-2017 Nissan Titan

2. The VS41 video output will always default to the signal from Input 1 when none of the input triggers are activated. This Input is ideal for connecting the rear (reverse) camera.
3. The VS41 inputs have priority in descending numerical order. For example: If you have Input 3 or 4 triggered, then you trigger a lower number input (for example Input 2), Input 2 will take priority over the higher numbered Input.
4. The input triggers can accept either a pulsed or constant input, making them ideal for connecting to a turn signal as a trigger.
5. The reverse trigger output will provide a 150 mA 12v (+) trigger while any of the input triggers are activated.
6. Upon deactivation of the last positive or negative trigger, the last video input source and the reverse trigger output will remain active for an additional 3 seconds. (Not applicable when used with a BCI-, RP4.2-, or RP5.2- interface).
7. If there is poor video quality after installation of this module, please ensure quality connections on any RCA connections.
8. The positive input triggers accept input voltages in the range of 2v to 12v.

Wiring Connection Chart

Any wire present on the VS41 that is not mentioned here WILL NOT be used in this application.

| Video Output |
| Video 1 Input - Reverse Camera |
| Video 2 Input - Front Camera |
| Video 3 Input - Left Blind Spot |
| Video 4 Input - Right Blind Spot |

Wire	Function
White	Input 1 trigger (+)
Gray / Black	Input 2 trigger (-)
Green	Input 3 trigger (+)
Purple	Input 4 trigger (+)
Purple / White	Reverse trigger output (+)
Yellow	Accessory 12v (+)
Black	Ground (-)

VS41 Wire	Connection
White	**Reverse Trigger Input (+) -** Connect to the *Green / White wire in the passenger kick panel. White 100-pin plug, Pin 15
Gray / Black	**Front Camera Trigger (-) -** If you are installing a front camera, hook this wire to a 12v (-) trigger through a toggle switch.
Green	**Left Blind Spot Trigger Input (+) -** *Green / Black wire at BCM to the right of the steering column. Black 24-pin plug, Pin 13.
Purple	**Right Blind Spot Trigger Input (+) -** *Green / Yellow wire at BCM to the right of the steering column. Black 24-pin plug, Pin 1.
Purple / White	**Reverse Trigger Output (+) -** Connect this wire to the aftermarket radio's reverse trigger input.
Yellow	**Accessory 12v (+) -** Connect to the Red accessory output provided by the BHA7552. If you are not using the BHA7552, you must find a 12v (+) accessory wire that turns on / off with the key.
Black	**Ground**

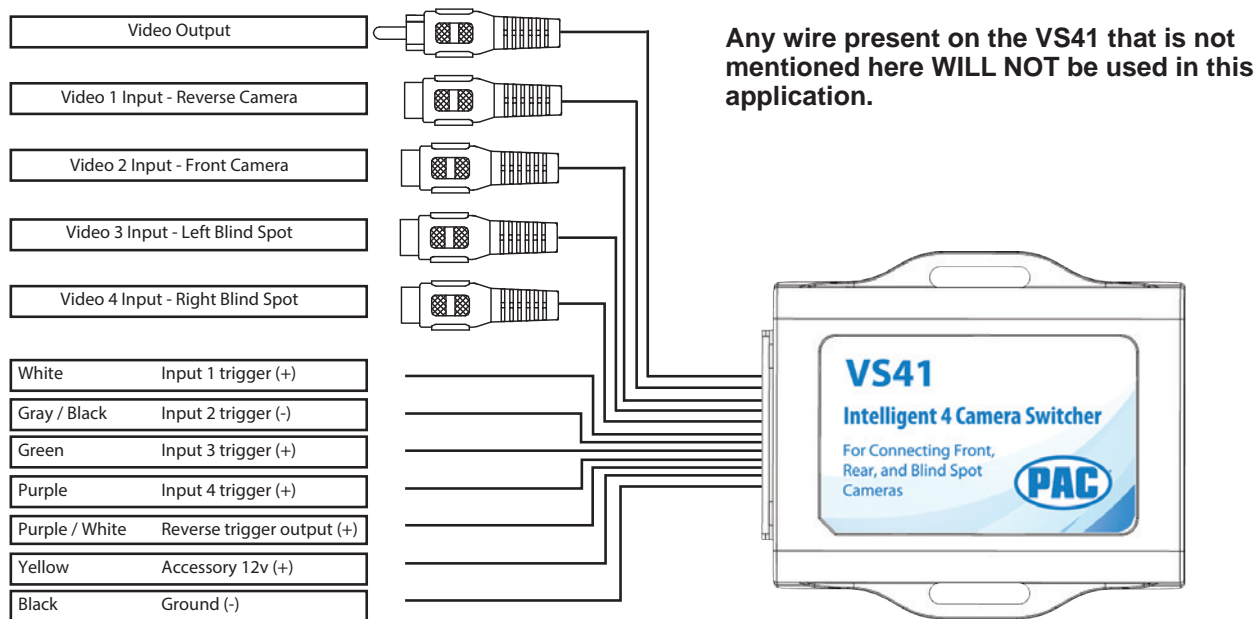*Please verify all signals with a multi-meter before connecting the VS41

VS41

Introduction & Features

The VS41 in an intelligent 4 camera switcher for controlling front, rear, and blind spot cameras. It is designed to be used with PAC radio replacement interfaces.

Important Notes

1. These instructions are specifically for adding reverse, blind spot, and front cameras (or any combination of the three) to an aftermarket radio in the following vehicles:

   • 2014-2017 Toyota Tundra

2. The VS41 video output will always default to the signal from Input 1 when none of the input triggers are activated. This Input is ideal for connecting the rear (reverse) camera.
3. The VS41 inputs have priority in descending numerical order. For example: If you have Input 3 or 4 triggered, then you trigger a lower number input (for example Input 2), Input 2 will take priority over the higher numbered Input.
4. The input triggers can accept either a pulsed or constant input, making them ideal for connecting to a turn signal as a trigger.
5. The reverse trigger output will provide a 150 mA 12v (+) trigger while any of the input triggers are activated.
6. Upon deactivation of the last positive or negative trigger, the last video input source and the reverse trigger output will remain active for an additional 3 seconds. (Not applicable when used with a BCI-, RP4.2-, or RP5.2- interface).
7. If there is poor video quality after installation of this module, please ensure quality connections on any RCA connections.
8. The positive input triggers accept input voltages in the range of 2v to 12v.

Wiring Connection Chart

Any wire present on the VS41 that is not mentioned here WILL NOT be used in this application.

Video Output	
Video 1 Input - Reverse Camera	
Video 2 Input - Front Camera	
Video 3 Input - Left Blind Spot	
Video 4 Input - Right Blind Spot	

Wire	Function
White	Input 1 trigger (+)
Gray / Black	Input 2 trigger (-)
Green	Input 3 trigger (+)
Purple	Input 4 trigger (+)
Purple / White	Reverse trigger output (+)
Yellow	Accessory 12v (+)
Black	Ground (-)

VS41 Wire	Connection
White	**Reverse Trigger Input (+) -** Connect to the Purple / White reverse trigger output provided by the RP4.2-TY11. If you are not using the RP4.2-TY11, connect to the *Blue wire in the passenger kick panel. White 20-pin plug, Pin 20.
Gray / Black	**Front Camera Trigger (-) -** If you are installing a front camera, hook this wire to a 12v (-) trigger through a toggle switch.
Green	**Left Blind Spot Trigger Input (+) -** *Green wire at flasher relay, left of dash fuse box. White 18-pin plug, Pin 10.
Purple	**Right Blind Spot Trigger Input (+) -** *Beige wire at flasher relay, left of dash fuse box. White 18-pin plug, Pin 17.
Purple / White	**Reverse Trigger Output (+) -** Connect this wire to the aftermarket radio's reverse trigger input.
Yellow	**Accessory 12v (+) -** Connect to the Red accessory output provided by the RP4.2-TY11. If you are not using the RP4.2-TY11, you must find a 12v (+) accessory wire that turns on / off with the key.
Black	**Ground**

*Please verify all signals with a multi-meter before connecting the VS41

Technical Bulletin

Issue:

When engaging the brakes or turning on the parking lights, the VS41 falsely triggers the blind spot cameras.

Solution:

Wire a resistor with a value between 40k Ω - 60k Ω in series with the analog trigger wire corresponding with the camera having the false trigger issue. This should be inputs 3 and / or 4 as these are the designated blind spot camera inputs. Follow the wiring diagram below to correct the issue.

Important Notes:

• This only applies to V7 or lower hardware. If you have V8 hardware this problem should not be present as this resistance has been added to the circuit internally.

• Resistors only need to be added to the wires that are being triggered.

40k Ω - 60k Ω Resistor

Green	Input 3 trigger (+)
Green / Black	Input 3 trigger (-)
Purple	Input 4 trigger (+)
Purple / Black	Input 4 trigger (-)

VS41

Intelligent 4 Ca

For Connecting Fro
Rear, and Blind Spo
Cameras