

SWI-V

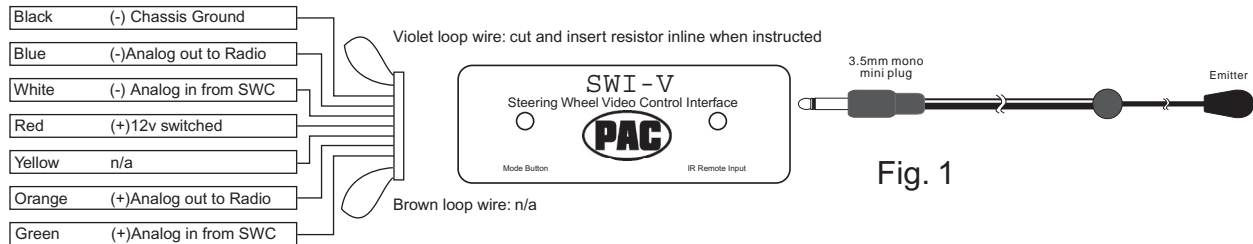
Universal Steering Wheel Video Control Interface

Installation Instructions

The SWI-V allows control of an aftermarket video system using the vehicle's factory steering wheel radio controls, while maintaining normal control and operation of the factory stereo. The interface will control most audio and video products that have an IR remote control. The SWI-V has non-volatile memory which can store from between 1 to 12 functions from the steering wheel and wireless remote.

The SWI-V solves the problem of lost remotes in a vehicle and it allows the driver to control the video system without taking his/her hands off the wheel or eyes off the road.

The interface connects easily to the factory system and learns the IR commands of the aftermarket unit's remote control for unlimited versatility. A remote emitter attaches to the front of the aftermarket unit's IR receiver. Additional emitters with a splitter are also available, PAC part# IR-/LEDHOME. The emitter cable can be extended using a mono or stereo 1/8" / 3.5mm extension cable, Radio Shack part# 42-2462 or 33-176.



Installation

**** Make wire connections to vehicle prior to plugging in the white connector to the SWI-V ****

Step 1.

BLACK (-) chassis ground input: Connect this to the vehicle chassis ground.

Step 2.

RED (+) switched power input: Connect to a fused, accessory 12 volt source.

Step 3.

Cross reference your make and model car on the Version Chart (page 4) to determine which steering wheel control (SWC) input wire to use on the SWI-V and the location of the vehicle's SWC wire. Only one input/output pair of wires can be used during operation. The other input/output pair of wires not being used must be insulated separately to avoid damaging the SWI-V. Please verify you have the correct vehicle's SWC wire with a volt/ohm meter as indicated below before connecting it to the SWI-V. This wire **MUST** then be cut in half and connected to the input/output wires of the SWI-V (Fig. 4). The SWI-V input wire must connect to the factory wire coming from the steering wheel side and the SWI-V output wire must be connected to the factory wire going to the stereo or down into the dash.

GREEN (+) SWC input / ORANGE (+) SWC output: Locate the factory SWC wire that measures approximately **0** volts at rest. When each button is pressed, the wire should measure between **0.5 to 5 volts** with a different voltage for each button. Cut this wire in half and connect the Green wire to the steering wheel side and the Orange to the stereo side.

WHITE (-) SWC input / BLUE (-) SWC output: Locate the factory SWC wire that measures approximately **5** volts at rest. When each button is pressed, the wire should measure between **0 to 5 volts** with a different voltage for each button. Cut this wire in half and connect the White wire to the steering wheel side and the Blue to the stereo side.

Step 4.

BROWN loop wire: n/a

VIOLET loop wire: Cut wire in half and insert resistor in line or insulate separately when instructed to do so.

Programming IR mode and Version number

***** Please read steps A through E prior to programming the SWI-V due to time critical steps. Do not mount the IR LED emitter at this time. Wait until the SWI-V is programmed and operation is verified. *****

Programming an 'IR Mode' and 'Version Number' for the SWI-V: After terminating the red, black and SWC input/output wires, the SWI-V is ready to be programmed with a 'IR Mode' and 'Version Number'. Listed along with the Version Chart (page 4) is a list of known products that need to have 'IR Extended Mode' selected during programming. Programming a 'Version Number' will set the SWI-V to your specific vehicle and will select the correct SWC input wire.

Go to step 1 in next section 'Infrared Programming Mode' if the 'IR Mode' and 'Version Number' is already programmed.

- While holding the 'Program Mode' button in, turn on the ignition. At this point, both LED's should be on. Release the 'Program Mode' button and both LED's will turn off. This will erase any previous 'Version Number' stored in memory from factory.
- Both LED's will then light up and stay on for 3 seconds. Press the 'Program Mode' button within the 3 seconds to turn on 'IR Extended Mode', both LED's will turn off. To select 'IR Standard Mode', do not press the 'Program Mode' button and wait for both LED's to turn off after the 3 seconds.
- Now program the 'Version Number' by pressing the program button the number of times according to the Version Chart (e.g. , if you need to program for 'Version 3', press the 'Program Button' 3 times). The LED's will flash each time you press and release the program button. Do not hesitate for more than 3 seconds between each button press. When finished, wait 3 seconds and the SWI-V will flash the right LED (x) amount of times telling you what 'Version Number' it is programmed with. If the LED's do not flash or they flash alternately, you will have to go back to step A.
- Once programmed, the SWI-V will keep the 'IR Mode' and 'Version Number' in memory. If you accidentally programmed the wrong 'IR mode' or 'Version Number', turn off the ignition and go back to step A.
- Turn off the ignition and go to 'Infrared Programming Mode' section.

Infrared Programming Mode

Programming the SWI-V to control the new aftermarket unit: First check that the IR remote that was supplied with the Audio/Video unit works properly. If the remote does not properly control the unit, the interface cannot be programmed. Weak batteries in the remote may cause programming errors, even if the remote seems to operate the device properly.

The SWI-V must be programmed with a version number before you can access these programming steps. If it is not already programmed with a version number, go to step A in the previous section.

You must select a button on the steering wheel to be the '**SWC Mode**' button. This button will be the one you use to switch between factory mode and aftermarket Audio/Video mode. Once you program this button, the remaining buttons and the button selected as the '**SWC Mode**' button can be used for Audio/Video functions of the aftermarket device. Determine a head of time, the steering wheel buttons you want to use to control the aftermarket unit. *Example, Seek Up & Seek Down on the steering wheel may be fast forward and rewind on a VCR remote.*

- 1) Turn on the ignition to supply power to the SWI-V. The SWI-V will flash the right LED (x) amount of times telling you what 'Version Number' it is programmed with. If the LED does not flash, you will have to go to step A in the previous section.
- 2) Press the 'Program Mode' button on the side of the interface to enter 'Infrared programming mode'. Release the program button when left LED light comes on.
- 3) Within 10 seconds, press and hold your selected '**SWC Mode**' button. The left LED will turn off, release the 'Mode' button and the right LED will flash 2 times.
- 4) Within 10 seconds, press and hold one of the steering wheel function buttons. Continue to hold the steering wheel button until the left LED turns off. Release the steering wheel button and the right LED will turn on. **note: The 'SWC Mode' button is multi-functional so you may also program this button as a function.**
- 5) Hold the IR remote control 3-4" from the 'IR input' port on the side of the SWI-V and press the corresponding function button. Continue to hold the remote's button until the right LED turns off. Release the button and the left LED will turn on.
- 6) Repeat **steps 4 and 5** until all radio steering wheel functions are programmed.
- 7) When programming is complete, wait 7 seconds and both LED's will flash 3 times. This indicates an automatic program exit. Do not stop more than 7 seconds while programming or there will be an automatic program exit and you will have to start over at step number 1 above. **Do not** turn off ignition before the automatic exit or you will be required to start over at step 1 above. After the LED's flash 3 times, the right LED will flash the version number again to indicated the version number selected.

Testing and operating the SWI-V

Plug the IR LED emitter's 1/8" plug into the SWI-V's jack on the side of the main module (Fig. 1). Test the SWI-V by holding it's IR LED (Red LED on the end of 10' lead) close to the device's IR sensor window and verify that it works properly. The LED emitter will also blink red, as you are controlling the aftermarket device.

- The '**SWC Mode**' button you selected changes the steering wheel controls buttons from controlling the factory radio to controlling the newly installed Audio/Video device. This button will still function and control the factory radio but with a short time delay. To use this button to control the factory radio it must be held down for greater than 1 1/2 second.

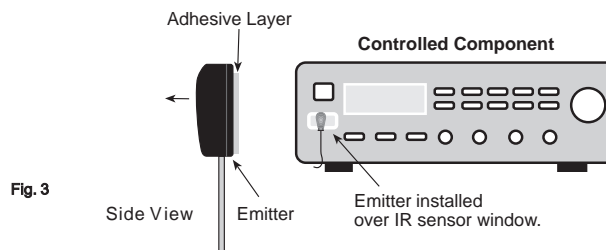
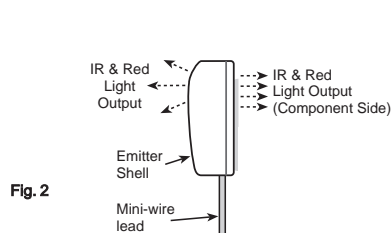
- To control the newly added Audio/Video device, press and release the selected '**SWC Mode**' button and within 1 1/2 seconds press the desired function button. The steering wheel buttons will remain in the "Switched" mode for 1 1/2 seconds. Other function buttons can be pressed without having to press the '**SWC Mode**' button each time if pressed within the 1 1/2 seconds.

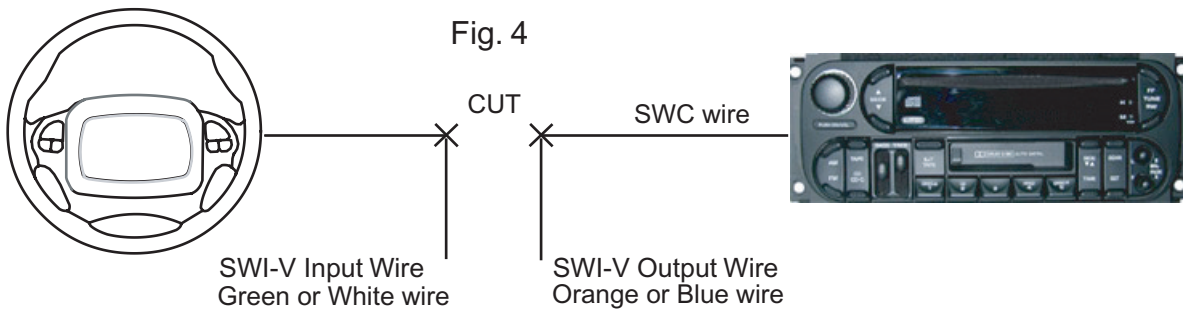
Example: If you want to STOP and REWIND the VCP. Momentarily press the '**SWC Mode**' button, then momentarily press the button programmed for STOP and then within 1 1/2 seconds, press the button programmed for REWIND. After 1 1/2 seconds the steering wheel buttons will automatically resume control of the factory radio.

Attaching the emitter to the IR sensor window

The emitter has a clear adhesive layer on the bottom flat surface of the shell. The rounded side faces the user and emits visible red light when a command is sent (Fig. 2). Simply peel off the adhesive cover and affix the emitter to the center of the IR sensor window on the controlled component's front panel (Fig. 3). In some cases it may be difficult to find the location of the IR sensor on the component. Consult the owner's manual of the unit, or the manufacturer, for the exact IR sensor window location.

¹ The SWI-V will only work with a remote that use a 38 kHz to 40 kHz carrier frequency. Please consult with the owner's manual or manufacture of the device to determine if the remote is compatible with the SWI-V. **Please check Version Chart for known units that are not compatible with the SWI-V.**





Tape off the unused wires on the SWI-V. Make wire connections to vehicle prior to plugging in the white connector to the SWI-V

Vehicle Wire Color and Pin Location

General Motors

GM21: Pin# 14 or 13 , dark blue or light green wire, newer 2002 vehicles might be purple/blk. In some early 1990's vehicles, the wire may be in a separate 7 pin connector.

GM24: Pin# A7 blue wire.

GM32: Pin location E5, dark blue or light green. In some vehicles this wire maybe in location E6 or E16.

TB_Brav_Env: Locate Lt. green wire in A12 of 17 pin plug which is part of main ignition harness underneath dash at steering column.

Cadillacs (except Catera): Locate dark blue or lt. green wire in D8 of 40 pin connector on left side of the steering column below the dash.

Chrysler

Chrysler, Dodge and Jeep Vehicles: You must intercept the SWC wire at the steering column and **NOT** at the radio harness plug. Remove the steering wheel column cover around the ignition key cylinder and locate wire in white plug. **1992-1998 All Chrysler:** blk/org. **1999-2001 Grand Cherokee:** red/yel wire. **2000 Prowler:** red/blue wire. **1999-2000 Ram/Dakota/ Durango:** red/blk wire. **1999 Town & Country:** red/blk wire. **2001 Ram/Durango/Caravan:** gry/wht wire. **2002 Jeep Liberty:** red/blu wire.

Ford

Ford_Dual: Only the front SWC can be interfaced to control aftermarket devices. The rear controls can not be interfaced but will still control the factory stereo.

Ford20, locate pin#15 or 14, Lt.blu/red.

Imports/Misc.

Acura/Honda16: Pin# 12, wht/blu.

Acura/Honda20: Pin# 3.

Jaguar20: Locate purple/yel wire on factory 20 pin plug. Cut purple loop wire on SWI-V and connect 1500 ohm resistor in line of purple wires.

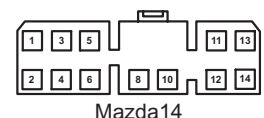
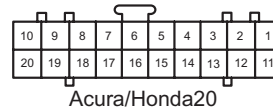
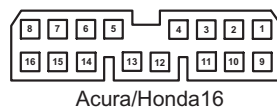
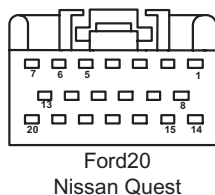
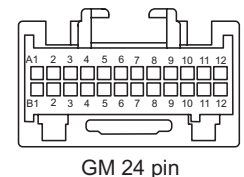
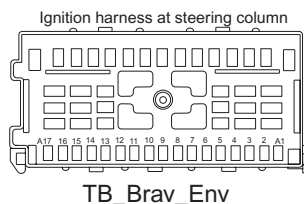
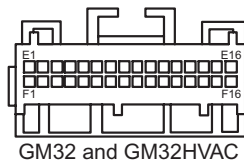
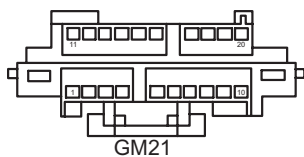
Mazda14: Pin# 8

S2000: On **Acura/Honda20** plug locate pin# 3. The mute button which is on another wire can not be used in this application.

Saab: Locate yel/blk wire in 22 pin connector of the SID display module.

Vehicle Plugs

Front view of plugs removed from the back of radio



note: some plugs might not be shown for your specific vehicle.



SWI-V

Steering Wheel Video Control Application Guide. Revised 10-18-01

| MAKE | MODEL | YEAR | VERSION | SWI-V input wire | SWI-V output wire | Vehicle wire color and plug (if applicable) |
|--|---|-----------|---------|------------------|-------------------|---|
| GMC/ Chevy/ Oldsmobile/ Pontiac and Buick | All models w/ air bag, no heater controls | 1992-2002 | 1 | Green | Orange | notes: GM21,GM24, GM32 , page 3 |
| | Trail Blazer, Bravada, Envoy | 2002 | 1 | Green | Orange | notes: TB_Brav_Env , page 3 |
| | All models w/ air bag, with heater controls | 1992-2002 | 1 | Green | Orange | Connect GM32HVAC , pin E5 or E6 (lt/grn) to SWI-V green wire. |
| Cadillac | Catera | 1998-2001 | 3 | White | Blue | GM32 , blu/red |
| | Escalade | 1999-2002 | 1 | Green | Orange | notes: GM21,GM24, GM32 , page 3 |
| | All Cadillacs (except Catera, Escalade) | 1992-2002 | 1 | Green | Orange | notes: Cadillacs , page 3 |
| Chrysler/ Dodge and Jeep | All models | 1992-98 | 2 | Green | Orange | notes: Chrysler , page 3 |
| | All models | 1999-2002 | 4 | White | Blue | notes: Chrysler , page 3 |
| Ford/ Lincoln and Mercury | Continental | 1998-2001 | 3 | White | Blue | Ford20 , pin#15 or 14, lt. Blu/red |
| | Crown Victoria | 1998-2001 | 3 | White | Blue | Ford20 , pin#15 or 14, lt. Blu/red |
| | Explorer | 1998-2001 | 3 | White | Blue | notes: Ford_Dual , page 3 |
| | Lincoln LS | 2000-2001 | 3 | White | Blue | Ford20 , pin#15 or 14, lt. Blu/red |
| | Mountaineer | 1998-2001 | 3 | White | Blue | notes: Ford_Dual , page 3 |
| | Navigator | 1999-2001 | 3 | White | Blue | notes: Ford_Dual , page 3 |
| | Town Car, Grand Marquis | 1998-2001 | 3 | White | Blue | Ford20 , pin#15 or 14, lt. Blu/red |
| Acura/Honda | All models | All | 3 | White | Blue | Acura/Honda16 , pin#12, wht/blu. Acura/Honda20 , pin# 3 |
| Acura/Honda | S2000 | 2000-2001 | 3 | White | Blue | notes: S2000 , page 3 |
| Jaguar | XJR, XK8 | 1999 | 5 | White | Blue | notes: Jaguar20 , page 3 |
| Mazda | All models | All | 3 | White | Blue | Mazda14 , pin# 8 |
| Nissan | Xterra, Frontier | 2000-2002 | 3 | White | Blue | Separate plug, ground yel/blk wire and connect yel/red wire to SWI-V. |
| Range Rover | All models | All | 4 | White | Blue | notes: Range_Rover , page 3 |
| Saab | 93 | 1998 | 5 | White | Blue | notes: Saab , page 3 |

All other makes of vehicles not listed above are not supported.

IR Extended mode headunits: Pioneer AVX-P7300DVD, AVXP7000CD, AVXP7000, AVMP7000R, AVMP8000R, AVMP9000R, GEXP7000TV, all Rockford Fosgate head units

Headunits currently not supported: Sony CDXM770, CDXM620, CDXM670, CDXA850X, CDXA860X