SWI-X Universal Steering Wheel Control Interface



Installation Instructions

Before You Start



A. Is this product compatible with the vehicle? · See Appendix A - Known Incompatible Vehicles (page 5) and Appendix E - Identification and Connection Chart (pages 6-7) to see if your vehicle is listed. If not, check www.pac-audio. com for an updated list of compatible vehicles.

B. Is this product compatible with the head unit?





• Ensure that the new head unit is capable of being operated with a remote control, and that it responds to the remote control provided with it.

• The head unit must accept a remote control with the common carrier frequency range of 38 – 40Khz in order to work with the SWI-X.

Note: Certain head units will not work with the SWI-X. See Appendix B - Known Incompatible Aftermarket Head Units (page 5).



C. Prepare for the installation.

• If possible, install the SWI-X while you are installing the new head unit. Keep in mind you may need to plug in the factory stereo to locate certain wires; therefore do not complete the head unit installation until the SWI-X is working properly.

• Plan a general installation location for both the SWI-X LED and the control body. Keep in mind that the supplied wire harness is two feet long, and the IR harness is four feet long.

Use a multimeter or approved measuring device for checking vehicle circuits.

Wiring Connections



Connect the BLACK wire to ground (-).

Verification: Wire or location registers a constant (-) when



Step 2. Connect the RED wire to switched +12V.

Verification: Wire registers +12V when the ignition key is turned to the ACC or ON positions.



Step 3.

Connect the appropriate interface wire (WHITE, YELLOW, ORANGE or GREEN).

• Refer to the Appendix E - Identification and Connection Chart (pages 6-7). Locate the vehicle and note the SWC wire color in the "Interface Wire Color" column.

• Note the vehicle wire color and location information in the "Identification" column.

Note: You will only connect ONE of these wires. Cut and insulate the unused wires.

· Connect the wire as indicated.

Wiring Connections (cont.)

Step 4

If necessary, perform the following operations as indicated by the notes in Appendix E - Identification and Connection Chart (pages 6-7). If no connections are necessary, proceed to Step 5.







Step 4b.

If necessary, cut the BROWN wire loop and insulate both halves.

Step 4c.

If necessary, either cut the VIOLET wire loop and insulate both halves, or place a resistor in-line if directed.

Programming the SWI-X to Work With the Vehicle

IMPORTANT! Some steps of the programming instructions **must be completed within a certain number of seconds following the previous step.** Review the complete instruction before beginning the programming sequence.

Step 5.

Refer to Appendix C - Head Units That Require IR Extended Mode On (page 5) and Appendix E - Identification and Connection Chart (pages 6-7). Note the IR Extended Mode Setting and Version Number next to the selected vehicle. Fill in the information below for quick reference.

IR Extended Mode Setting: _____





Programming the SWI-X to Control the Head Unit

IMPORTANT! Some steps of the programming instructions **must be completed within a certain number of seconds following the previous step.** Review the complete instruction before beginning the programming sequence.



Step 11. Turn the vehicle ignition to the ON position.



LEDs will flash to indicate set version number. Left LED: 10's place Right LED: 1's place

If the desired version number is 4, proceed with the following steps. If not, skip to Step 18.



Step 17b.

If the vehicle is NOT equipped with FAN UP and FAN DOWN buttons:



Press and release the programming/ mode button on the SWI-X.



In either case, left LED will flash once and stay on. Skip to Step 20. You have 7 seconds to perform the next step.



Programming the SWI-X to Control the Head Unit (cont.)



Step 21.

Release the VOLUME UP button.



Right LED will turn on.



Step 22.

Hold the IR emitter on the head unit's remote control within 3 to 4 inches of the IR Input on the SWI-X. Press and hold the VOLUME UP button on the remote control.



Right LED will turn off.



Step 23.

Release the VOLUME UP button on the remote control.



Left LED will turn on. The function is programmed.

Step 24.

Repeat steps 20 - 23 for each audio function on the steering wheel control. Press the corresponding function on the head unit's remote control. **Wait no more than 7 seconds between programming each function**, or the SWI-X will exit the programming mode and the procedure must be restarted (Step 11).

Note: If the steering wheel control has a function that the head unit remote control does not have, you can program the steering wheel function to operate any other command on the head unit remote control.

Testing the SWI-X

Hold the SWI-X infrared emitter (clear blue light at the end of the four-foot wire) close to the head unit and test each function of the steering wheel controls. The right LED on the SWI-X will flash indicating it is sending an IR command when each button on the steering wheel is pressed. If any function does not work, repeat the programming instructions (starting from Step 11) or refer to **Appendix F** Troubles betting Cuide (page 8)

- Troubleshooting Guide (page 8).

Final Installation

Mount the SWI-X infrared emitter within line of sight of the head unit, testing continuously to ensure that it will operate from the chosen position. Install using the supplied bezel, installing the bezel and mounting the emitter from behind. Complete the head unit and SWI-X module installation.



Once programming is completed, LEDs will flash three times after 7 seconds. The Interface will then flash the version #.



Appendix A: Known Incompatible Vehicles

Vehicle		
Make(s)	Year(s)	Model(s)
BMW	All	All with factory-activated cellular phones All with 5-yolt SWC data wire at the steering column
	2002-2003	5-Series w/navigation
Mercedes-Benz	All	All vehicles
Toyota	All-2003	Sienna
Volkswagen	2002-up	All vehicles

Appendix B: Known Incompatible Aftermarket Head Units

Head Unit	
Make(s)	Model(s)
Sony (or any Sony with HiR remotes: ex. RM-X110, 112 and 131)	MEX-5DI / MEX-1HD / CDX-M850MP / CDX-M3DI CDX-MP70 / CDX-MP80 / CDX-CA900X / CDX-M730 / CDX-M770 / CDX- M620 / CDX-M670 / CDX-M800 / CDX-M8800 / CDX-M8805X / CDX- M9905X / CDX-CA850X / CDX-CA860X
Denon	Unknown
Delphi	XM SKYFI / (Roady - unknown at this time)
Terk	XM Commander

Appendix C: Head Units That Require IR Extended Mode On

Head Unit	
Make(s)	Model(s)
Pioneer	AVX-P7300DVD / AVXP7000CD / AVXP7000 / AVMP700R
	AVMP800R / AVMP900R / GEXP7000TV
Rockford Fosgate	All Head Units

Appendix D: Vehicle Connector Chart



Appendix E: Identification and Connection Chart

Domestic Vehicles

Please note as of 9-21-04, these instructions will not be update with new vehicle information. Please use our online application / instruction guide on our website at *www.pac-audio.com/swixprogramming* for new information.

		Vehicle	Interface Wire		Vehicle Wire	Cut Lo	ops	Version
Make(s)	Year(s)	Model(s)	Color To Be Used	Connector (see diagrams on page 5)	Identification	Violet?	Brown?	Number
GMC / Chevrolet / Oldsmobile Pontiac / Buick / Hummer	1992-2002	All with air bag, without heater controls.		A, B, or C (some '90 - '94 vehicles) plug	If A: Pin 13 or 14 (DK. Blue, Lt. Green or Violev'Black) - see Note 1 (below) If B: Pin A7 (Blue or Green) (Also connect Pin A6 (Pink or Violet) to ACC +12V - disconnect from factory radio) If C: Pin E5 or E6 (DK. Blue or Lt. Green)		No	
	2003-2005 2004 2003-2004 2003-2004	Century Alero / Grand Prix / Grand AM / Regal / Silhouette, Impala Rendezvous Mailo	Green	υ	Pin B4 (Lt. Green). (Also connect Pin A9 (Blue) to ACC +12V)			-
	2000-2004	Bonneville Other make GM vehicles that have ribbon like connector that stays in the dolly		40-pin plug right of st. column	Tap into Pin D8 (Dk. Blue or Lt. Green)	° Z	Yes	
	1992-2002 2003-2005	All with air bag, with heater controls Park Avenue		υ	Pin E5 or E6 (Lt. Green) (Also connect SWI-X Blue to pin E1 (Dk. Green))		No	4
Trucks and SUV's ->	2002-2003 2003	Trail Blazer / Bravada / Envoy (rear controls not supported) SSR		O (steering wheel column)	Tap into pin A12 (Lt. Green)		Yes	-
	2003-2004 2004	All other full size trucks, SUV's and H2 (rear controls not supported) GTO	White	P (steering wheel column) K	Tap into Pin B31 (Lt. Green) Pin C11(Brown) (Also connect Pin C12 (Black/Yellow) to chassis ground)			ę
	1989-93 1987_88	Pontiac / Olds / Buick, no air bag, except '89 GTA / Firebird Pontiac no air han and '80 GTL/Firebird	Yellow	E or 15-pin plug	Pln 6 or 7 (Green)		°N N	9
Cadillac	1998-2001	Catera	White	<u>ь</u> о	Blue/Red			. r
	1999-2002	Escalade		< □	Pin 13 or 14 (Dk. Blue, Lt. Green or Violet/Black) - see Note 1 (below)		2	
	2003	Deville	Green	40-pin plug right of st. column	Tap into Pin D8 (Dk. Blue or Lt. Green)	оN	Yes	-
	1992-2002	All other models with heater controls All other models without heater controls		40-pin plug left of st. column	Note: Lt. Green wire may also be in a 4 pin plug.		No	
Chrysler / Dodge / Jeep	1992-1998	All Chrysler, Dodge, Jeep and Plymouth models	Green	White Plug at steering wheel column (not at radio) - remove cover around key cylider	Black/Orange - see Note 2 (below)			7
	1991-1996	Stealth	Yellow	6-pin plug behind radio	Yellow/ White		11	2
	2001-2004	300M (nothing for 300 or 300C)			Gray/White - see Note 3 (below) Dod/Plack - coo Note 3 (below)			
	2001-2005	Caravan, Voyager, Town & Country Caravan, Voyager, Town & Country			Grav/White - see Note 3 (below) Grav/White - see Note 3 (below)			
	2001-2004	Concorde			Gray/White - see Note 3 (below)			
	1999-2005	Dakota			Red/Black (except 2001 & 2005 Gray/White wire) - see Note 3 (below)			
	1999-2003 2004-2005	Durango Durango		•	Ked/Black (except 2001 Gray/White wire) - see Note 3 (below) Grav/White - see Note 3 (below)	QN	Z	
	1999-2004	Grand Cherokee		White or Gray plug at steering	Red/Yellow - see Note 3 (below)		2	
	2005	Grand Cherokee	White	cover around key cylinder	Gray/White - see Note 3 (below)			ø
	2001-2004	Intrepid			Gray/White - see Note 3 (below) Bod/Philo 200 Note 3 (below)			
	2004-2005	Liberty Pacifica			Gray/White - see Note 3 (below)			
	1999-2002	Prowler			Red/Blue - see Note 3 (below)			
	1999-2002	Ram			Red/Black - see Note 3 (below)			
	2003-2005	Ram Sebring / Stratus Convertible and Sedan			Gray/White - see Note 3 (below) Black/Red - see Note 3 (below)			
	2002-2004	Sebring / Stratus Coupe		2 pin plug behind radio	Green/Orange (Also Connect Green/Black to ground)			
Ford / Lincoln / Mercury	1996-97	Aerostar						
	1994-96	Econoline	Yellow	L	Pin 2 (Tan, Pink/White, Lt. Blue/Red or Lt. Blue/Black)			ŝ
	1993-98	radius / Sable (with dash modific controls) Windstar / Villager						
	1995-97	Explorer			Pin 12 or 16 (Lt. Blue/Pink) (Also connect Lt. Green/Black (Pin 3 or 5) to			
	1997-98 1996-97	Navigator Town Car / Grand Marcuuis	Orange	9	ACC +12V)			9
	2004	Excursion, Expedition, F150, Freestar, Monterey		c	Din 18./1+ Blue/Bed)		1	
	2003	Aviator, Marauder		ÿ				
	1998-2002 1998-2002	Continental / Crown Victoria Town Car / Grand Marguis			Pin 14 or 15 (Lt. Blue/Red)	No	No	
	2000-2002	Lincoln LS	White		Pin 14 or 15 (Lt. Blue/Red or White/Black)			
	2002	Focus			Pin 14 (White/Black) (Also connect Brown/Yellow to ground)			e
	1999-2002	Vindstar / Villager		:	Pin 14 or 15 (Lt. Blue/Red. Yellow or White/Black)			
	1999-2003	Expedition / Navigator - front controls		I				
2 SWI-X units required for these	1998-2004 1998-2003	Explorer / Mountaineer - front controls Expedition / Excircion - front controls	White		Pin 14 or 15 (Lt. Blue/Red, Yellow or White/Black)			
models (1 for front controls, 1 for rear controls)	1999-2003	Expedition / Navigator - rear controls						
	1998-2004 1998-2003	Explorer / Mountaineer - rear controls	Orange		Pin 6 (Also connect Pin 5 to ACC +12V)			9
Harley Davidson Motorcycle	All		White		Download diagrams or have them faxed	No	No	

Import Vehicles

		Vehicle	Interface Wire		Vehicle Wire	CutL	sdoo	Version
Make(s)	Year(s)	Model(s)	Color To Be Used	Connector (see diagrams on page 5)	Pin# and wire color Identification (if available)	Violet?	Brown?	Number
Actura / Honda	2000-2004	52000		-	Pin 3 - see Note 4 (below)			
	2003-2004	Accord	White		Pin 3 - see Note 7 (below)	No	No	e
	All	All except S2000		l or J	If I: Pin 12 (White/Blue) If J: Pin 3 (Green/Red)			,
Audi	2000	A6	Orange	×	Pin 11 (White/Yellow)	No	No	7
BMW / MINI	1997-1999	All		-	Pin 7 or see note 5			
	2000-2001	All BMW	Valley	L	Pin 7 - see Note 5 (below) and Appendix A (page 5)			u
	2002-2003	All BMW	Tellow	At atomine only me	see Note 5 (below)	0 N O	NO	n
	2003-2004	MINI Cooper S		At steering column	White/Red/Yellow Dots - see Note 2 (below)			
Jaguar	1999	XJR / XK8		20-pin plug behind radio	Violet/Yellow - see Note 6 (below)	Yes		6
	2000-2001	S Type	White	17-pin plug behind radio	White/Black		No	¢
	2002	X Type		Plug behind radio	Pin 19 (Lt. Blue/Yellow) - see Note 7 (below)	1		,
KIA	2003	Sorento	White	8	Pin A6 (Red/Yellow) (Also connect Pin A7 (Black) to ground)	No	No	6
	2004	Amanti	White	12 pin or 3 pin connector	12 pin plug - Pin12 (Black/Orange) (Also connect Pin 6 (brown) to ground) 3pin plug - Pin3 (Brown/Orange) (Also connect Pin2 (purple) to ground)	No	No	8
Lexus	2004	LX / GX / RX330	White	Я	see Note 10 (below)	No	No	8
Mazda	P	All	White	M or N	If M: Pin 8 If N: Pin 9 (Gray / Blk) (Also connect Pin 10 (White / Green) to ground)	No	٥N	۳
		Millenia		z	Pin 10 (Gray)			
Mitsubishi	2002-2003	Eclipse	White	8-pin plug behind radio	Green/Orange (Also connect Green/Black to ground)			8
	2001-2002	Diamante			Lt. Green/Black	Z	Q	
	1985	Starion / Conquest	Yellow	6-pin plug behind radio	Lt. Green/Black (Also connect Lt. Blue/White to ACC +12V, Black to ground)	2	2	2
	AII-2001	All other models			Yellow/ White			
Nissan / Infiniti	2002-2003	Maxima / Pathfinder			a.Blue/Yellow b.Red c.Brown / White - see Note 8 (below)			
	2002-2004	Altima			a. Green b.Red/White c.Blue - see Note 8 (below)			
	2002-2003	QX4			a.Blue/Yellow b.Gm/Blk or Red c.Brown/White - see Note 8 (below)			
	2003	G35			a. Green b. Red c. Yellow - see Note 8 (below)			
	2000-2002	Xterra, Frontier		Plug behind radio	Yellow/Red (Also connect Yellow/Black to ground)			
	2000-2001	Maxima/Pathfinder	White		Brown/White, Green/Black, Yellow/Red, Blue/Yellow, Red - see Note 9 (below)	No	No	e
	AII-2001	All other models except Quest			see Note 9 (below)			
	AII	300ZX			see Note 9 (below). If with cruise control, must leave factory tuner box installed.			
1	1999-2000	Quest		т	Pin 14 (White/Black)			
1	1993-95	Quest	Yellow	F	Pin 2 (Tan, Pink/White, Lt. Blue/Red or Lt. Blue/Black)			5
Land Rover	2002	Freelander			Black/White (Also connect Black/Red to ground)	No		8
	1997-1999	Range Rover	White	Plug behind radio	Pin# 2 Gray/Orange	No		6
	2000	Range Rover			Pin# 2 Gray/Orange (Also connect Pin# 5 Gray/Black to ground)	No	No	6
1	2003	Range Rover	Yellow	At steering column	Wht/Gry/yellow dots - see Note 2 (below)	No	1 1	5
	AII	All other models	White	Plug behind radio	Gray/Red (Also connect Gray/Black to ground)	No		8
Saab	1992-2003	9-3, 9-5, 900, 9000	White	22-pin plug above radio at driver display module	Tap into Black/Yellow	Yes	No	1
Toyota	2003	4Runner / Land Cruiser / Sequoia / Tundra			see Note 10 (below)			
	2004	4Runner / Land Cruiser / Highlander / RAV4 / Sequoia / Sienna / Solara / Tundra	White	Я	see Note 10 (below)	No	No	œ
Volkswagen	2001	Jetta / Passat / Golf / GTI	Orange	¥	Pin 11	No	No	7

Note 1:

If vehicle has rear controls and need to be retained with front controls, connect both pins 13 and 14 to the INTERFACE Green wire, and connect pin 12 (Pink or Violet) to ACC +12V. Note 2:

Cut the indicated wire. Connect the INTERFACE Green or Yellow wire to the switch side of the wire. Insulate the radio side.

Note 3:

when noted in above chart). Connect the INTERFACE White wire to the switch side of the wire. Verify the wire by checking for +5V at rest; 0-5V when a button is pressed. Cut the wire (except Insulate the radio side

Note 4:

connect to pin 85. Connect pins 86 and 87 to ground. Connect pin 30 to the mute input of the new head unit. Connect a 3.6k to 4k ohm resistor across the white and black wire of the INTERFACE. To connect mute function: Using a 12V SPST or SPDT relay, tap into pin 14 (Blue/Yellow) and Note 5:

White/Red/yellow-dots or White/Gray/Yellow-dots. Wait 15 seconds after turning key to accessory Tracing the wire from pin 7 of radio plug (color may vary), cut the wire at the steering column. Connect the INTERFACE **Yellow** wire to the switch side. Insulate the radio side. Colors known: position before going into radio programming.

Note 6:

After cutting the Violet loop, insert a 1500-ohm resistor in-line on the loop.

Note 7:

Jaguar - connect a 4900-ohm resistor (supplied) across the INTERFACE White and Black wires. Accord - connect a 5400-ohm resistor (supplied) across the INTERFACE White and Black wires, connect Pin# 11 brown wire to chassis ground.

Note 8:

(both supplied). Connect the free ends of the resistors to the INTERFACE White wire. Connect the 16 pin plug: Connect the (a.) wire to a 150-ohm resistor and the (b.) wire to a 47-ohm resistor (c.) wire to ground.

Note 9:

pressed). Connect one resistor (supplied) to each wire, starting with the lowest value, then connect the free ends of the resistors to the INTERFACE **White** wire. 300ZX rotary volume knob can't be Test to locate a separate wire for each button (wires will show close to 0 ohms when button is interfaced, only the push buttons.

Note 10:

Connect the pin 6 wire to ground. Connect the pin 7 wire to the INTERFACE White wire. Connect a 150-ohm resistor (supplied) to the pin 8 wire and connect the free end also to the INTERFACE White wire.

Appendix F: Troubleshooting Guide

No power / won't go into programming mode:

- Check Red wire connection and fuse. Make sure INTERFACE is connected to switched 12V+.
- Make sure vehicle ignition is on.

Won't program radio commands:

• Make sure version number and IR Extended mode setting are programmed before attempting to program radio commands. The right LED of the INTERFACE will flash the programmed version number when power is applied.

Steering wheel controls won't operate new head unit

- Make sure you have programmed the correct version number and IR Extended mode setting.
- Make sure you've followed the programming instructions precisely, noting each exception and time sequence. Repeat if necessary.
- Place the INTERFACE emitter within range of the new head unit.

To replace a broken IR emitter:

• Replace with standard IR emitter (i.e. Radio Shack part number 276-143). Long lead of IR emitter goes to INTERFACE's emitter **Red** wire and short lead goes to INTERFACE's black wire)

The INTERFACE controls the stereo immediately without pressing any buttons on the steering wheel:

• During programming, press the buttons on the steering wheel firmly until the left LED turns off. Releasing the button too early will cause the INTERFACE to send out a signal even when no buttons are pressed.

During programming, the right LED turns off and goes to the left LED without pressing a button on the wireless remote:

- Turn off fluorescent droplights or shop lights during programming.
- Make sure the INTERFACE's IR LED is not in direct sunlight.

The INTERFACE controls the radio whenever the steering wheel is turned (mostly late 80's early 90's Honda/Acura).

• Program the INTERFACE for version #11.

When pressing and holding down the volume button on the steering wheel, the volume or track on the radio only goes up or down by one or is very slow. May also relate to other functions.

• Depending on some vehicles, some stereos may not respond very well. Try programming the interface for 'Extended IR Mode'. This may or may not help in response from the stereo.

For mostly GM vehicles, when going into radio programming the left LED turns off and goes to the right LED without pressing the steering wheel buttons.

• If the SWC wire in the vehicle's steering wheel column is cut in half, do not cut the brown loop wire on the interface.

Notes

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instruction guide on our website at www.pac-audio.com/swixprogramming for new information.

Working on a new or unlisted vehicle?

We are always looking for new vehicle information. If you've successfully completed the installation on a vehicle with steering wheel controls, and the vehicle is not listed in these instructions or on our Website, contact us at techsupport@pac-audio.com so that we may add the information to the instructions.

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