



CRUX CS-TJ20 Wiring Interface



CRUX CS-TJ20 Wiring Interface Instruction Manual

[Home](#) » [CRUX](#) » CRUX CS-TJ20 Wiring Interface Instruction Manual 

Contents

- [1 CRUX CS-TJ20 Wiring Interface](#)
- [2 Product Usage Instructions](#)
- [3 PRODUCT FEATURES](#)
- [4 PARTS INCLUDED](#)
- [5 INSTALLATION DIAGRAM](#)
- [6 DIP SWITCH SETTINGS](#)
- [7 VEHICLE SETTING AND GAIN ADJUSTMENTS](#)
- [8 STEERING WHEEL CONTROL BUTTON FUNCTIONS](#)
- [9 VEHICLE APPLICATIONS](#)
- [10 Documents / Resources](#)
 - [10.1 References](#)
- [11 Related Posts](#)



CRUX CS-TJ20 Wiring Interface



Specifications:

- Product Name: Arc-Crux Module 3v-5v SWC switch
- Compatibility: Certain Pioneer and Boss radios
- Features: Steering Wheel Control Retention, Radio Replacement, Supports various controls

Product Usage Instructions

Installation:

1. Identify the appropriate harness (TY-A for newer models, TY-B for older models).
2. Connect the SWRTY-61J Module to the selected harness using the provided cables.
3. Ensure all connections are secure and insulated if not in use.

Functionality:

- This module is pre-programmed to retain factory Steering Wheel Controls.
- It retains the factory backup camera (if available) and OEM 3.5mm Auxiliary Audio Input.
- Supports various functions like Pick Up/End Call, Toggle between calls, AVRCP Track, and Seek.

Aftermarket Radio Integration:

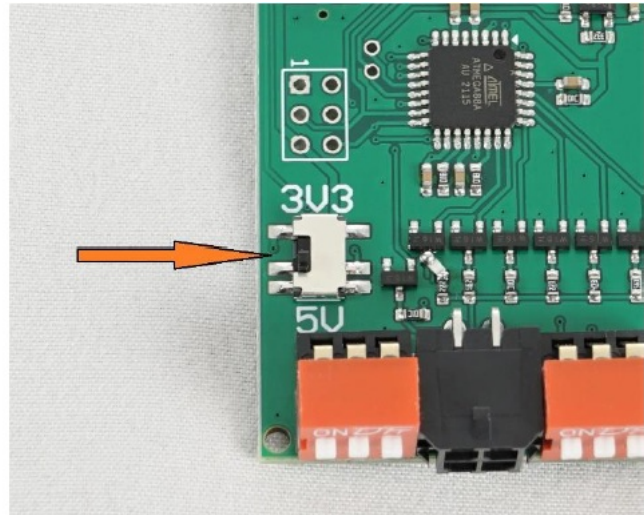
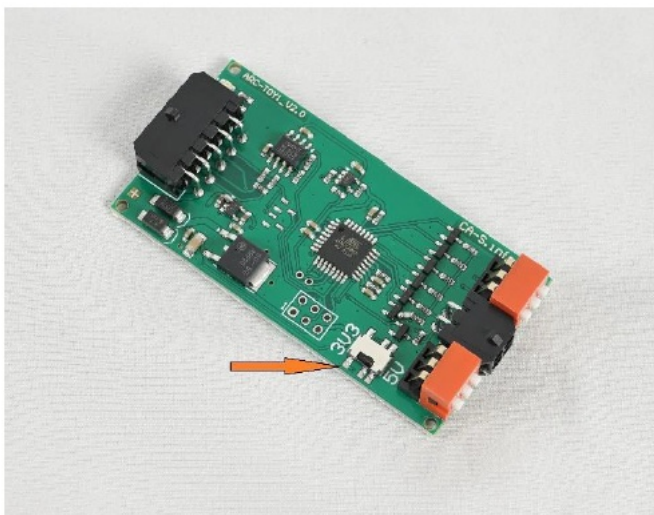
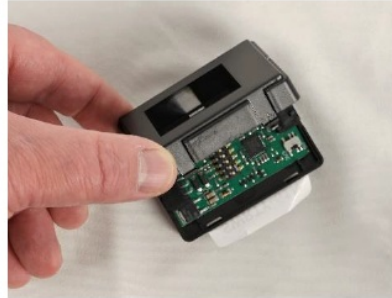
1. Use the proper 3.5MM to 4-Pin cable for your radio brand (Option A for Alpine, Clarion, JVC, Kenwood; Option B for Blaupunkt, Boss, Dual, etc.).
2. Plug the selected 3.5MM SWC cable into the 4-pin port on the SWRTY-61J module.

FAQ:

- **Q: What should I do if my Boss radio volume maxes out when turning off the vehicle?**
A: Ensure the micro-switch on the module is set to 3v instead of 5v to prevent volume issues.
- **Q: How do I retain steering wheel controls with this module?**
A: Connect the SWRTY-61J Module using the appropriate harness and follow the provided installation diagram for successful retention of steering wheel controls.
- Certain Pioneer and Boss radios will need this micro-switch flipped in order to get the steering wheel buttons to

work if the dipswitch settings don't work.

- Some Boss radios volume will max out when turning vehicle off if the micro-switch is set to 5v.
- This module has different board layouts for different harnesses. Same micro-switch though.



PRODUCT FEATURES

- Retains factory features in select Lexus and Toyota vehicles with JBL Harman-Becker Digital-Synthesis Amplifier, including JBL (Pioneer-made) amplifiers while functioning with an aftermarket radio.
- Pre-programmed to retain factory Steering Wheel Controls.
- Retains factory backup camera (if present).
- Retains OEM 3.5mm Auxiliary Audio Input.
- iPhone Voice Recognition (VR) feature from SWC on select Kenwood, Pioneer, Alpine and JVC radios.
- Variable audio gain adjustment to level match the aftermarket radio and factory amplifier.
- Supports BT-HF/A2DP/AVRCP profile on select aftermarket radio models.
- Supports Pick Up/End Call, Pick up and Toggle between 1st and 2nd incoming call, AVRCP Track, Seek.
- EIA color coded wiring for easy installation.

NOTES:

1. Left-Right Balance Audio Control is supported. Front-Rear Audio Fading is not supported.
2. Please make sure to set the factory radio volume to 70% and balance and fade options are centered before removing the radio.

PARTS INCLUDED



SWRTY-61J Module



TY-A Harness
(For Newer Models)



TY-B Harness
(For Older Models)



3.5MM to 4-pin SWC Cables



OEM Camera Retention Harness

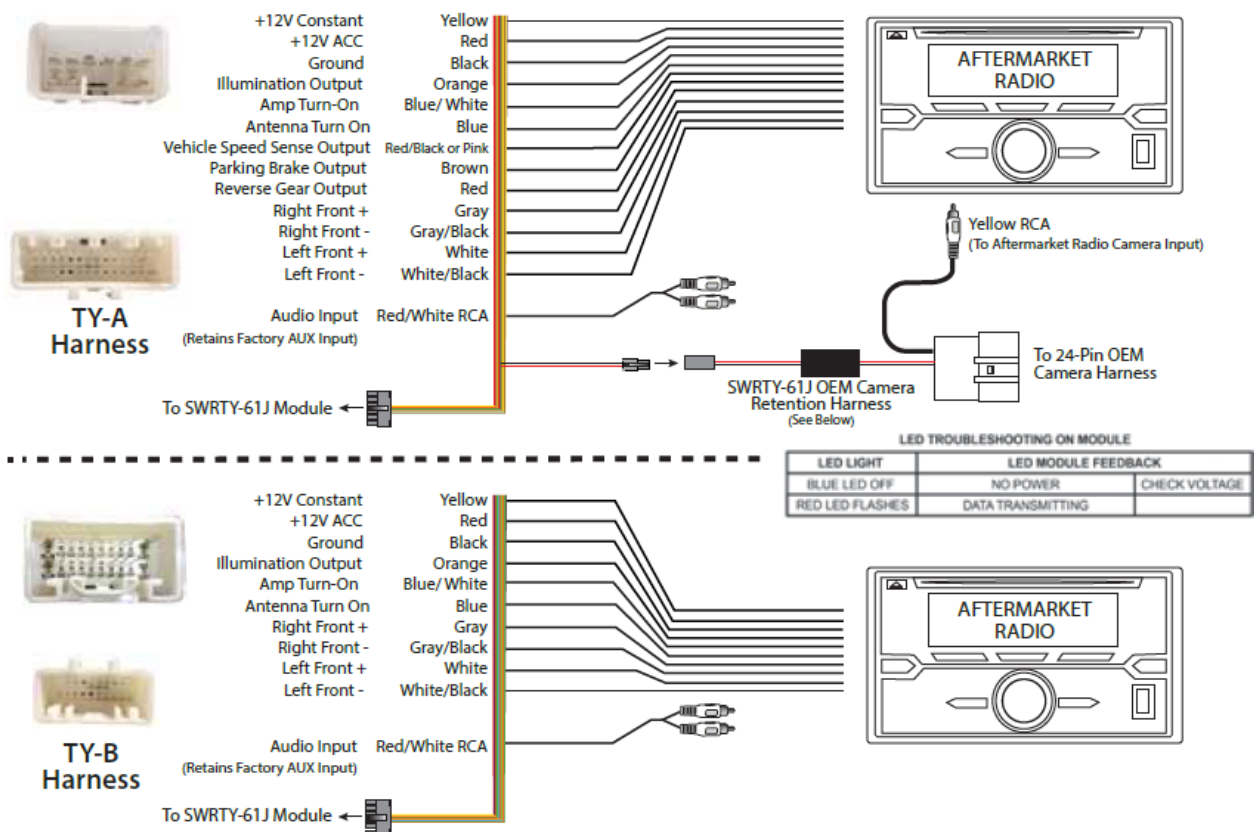


16 to 24 Pin Camera Adapter

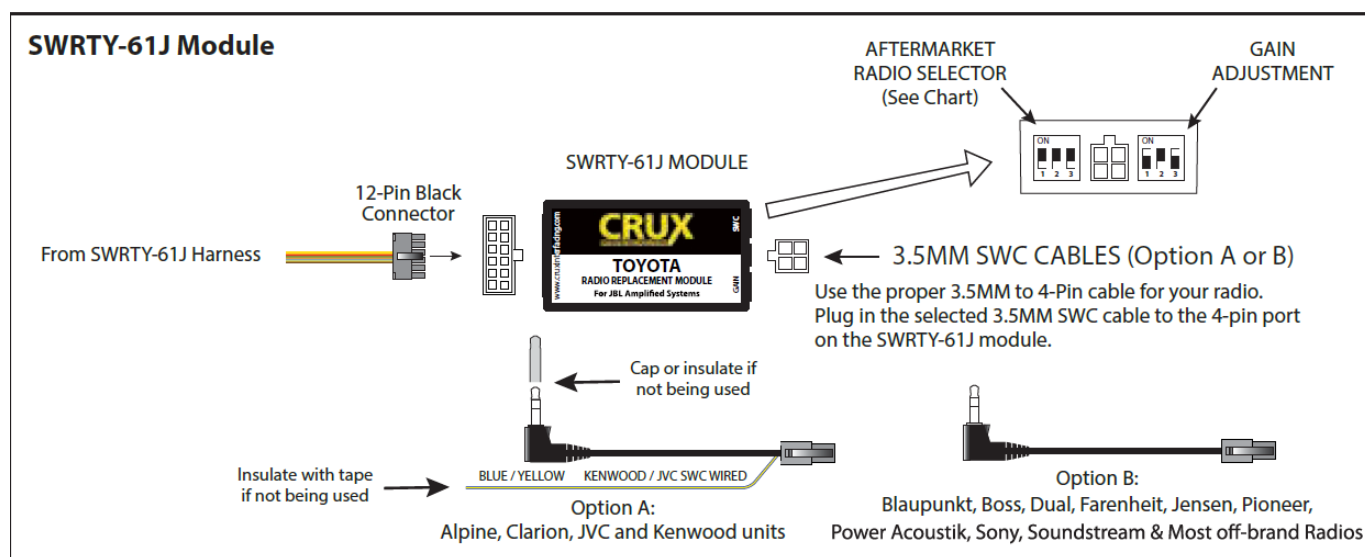
IMPORTANT INSTALLATION NOTES:

1. In some Lexus/Toyota vehicles 2006 and older, the mute circuit is located in the same pin location as the amplifier turn-on on the OEM harness. If no audio is heard after the installation is complete, disconnect the BLUE/WHITE wire on the TY-61J T-Harness from the aftermarket radio AMP Turn-on wire. Insulate with tape to avoid short circuits.
2. Before connecting the 3.5mm SWC Cable, thoroughly wipe it clean with the alcohol cleansing pad provided. This will ensure a solid contact with the aftermarket radio SWC circuit.
3. To retain the factory AUXILIARY INPUT option in the vehicle, the aftermarket radio must have an "Auxiliary Audio Input" feature. Please check your aftermarket radio manual for details.

INSTALLATION DIAGRAM



NOTE: Aftermarket radio rear speaker output leads are not used on both harnesses. Insulate with tape.



SWRTY-61J OEM Camera Retention Harness

The SWRTY-61J includes a camera harness with a 12V to 6V voltage converter to retain the OEM camera (if equipped). Some older models use a 16-Pin OEM camera connector. In this case, use the supplied 16 to 24-Pin Camera Adapter

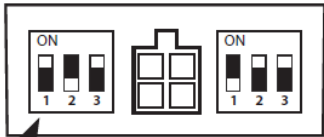


DIP SWITCH SETTINGS

SETTING THE AFTERMARKET RADIO BRAND

This step is done on the SWRTY-61J Module. With the key in the off position, set the DIP switches to the corresponding radio listed below.

RADIO BRAND:	DIP:	1	2	3
Atoto, Dual, Fahrenheit, Jensen, Pioneer		OFF	ON	ON
Power Acoustik, Soundstream		OFF	ON	ON
Blaupunkt, Most off brand Radios		OFF	ON	ON
Alpine		OFF	OFF	OFF
Clarion		ON	ON	OFF
Kenwood		ON	ON	ON
JVC		ON	OFF	ON
Sony, Boss		ON	OFF	OFF



SWRTY-61J
Module

AFTERMARKET
RADIO SELECTOR

NOTE: For Atoto, Blaupunkt, Dual, Fahrenheit, Power Acoustik, Soundstream, and most off-brand radios, check the aftermarket radio's manual to see if the SWC buttons need to be programmed.

- Some Blaupunkt use DIP Switch setting OFF ON OFF

SWC Troubleshoot option



Located internally Need to take plastic Casing off module

- If Steering Wheel Controls don't work or work properly please switch internal dip switch from 3v3 to 5v as shown in picture above.

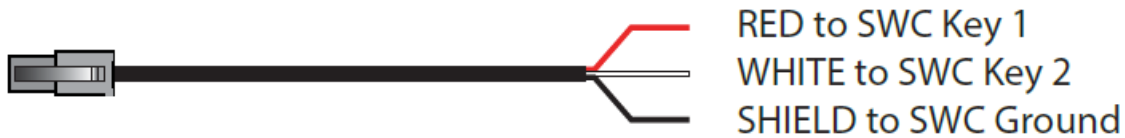
4-PIN SWC CABLE

Use the proper 3.5MM to 4-Pin SWC cable for the aftermarket radio you are using.

- OPTION A is used for ALPINE, CLARION. For JVC and KENWOOD use the Blue/Yellow wire.
- OPTION B is used for ATOTO, BLAUPUNKT, BOSS, DUAL, FARENHEIT, JENSEN, POWER ACOUSTIK, PIONEER, SONY, SOUNDSTREAM and Most Off-Brand Radios.

NOTE: Cap or insulate the 3.5mm plug or Blue/Yellow wire if not being used.

For aftermarket radios that have wires for SWC connections, cut off the 3.5mm plug on the CRUX SWC Cable and connect the SWC wires as follows:

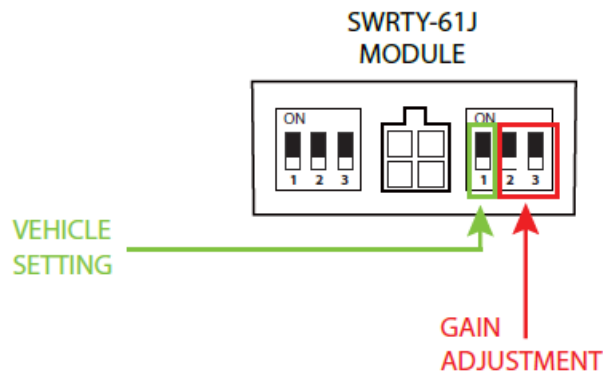


Note that there are some radios that only have SWC1 and SWC2, in this case “shield” does not need to be connected.

VEHICLE SETTING AND GAIN ADJUSTMENTS

SELECTING VEHICLE TYPE

Please set pin 1 to the OFF position for Toyota vehicles



Use the gain adjustment to level match the aftermarket radio audio output with the OE amplifier input.

DIP SETTING			dB	Volts
Position	2	3		
	OFF	OFF	0 dB	+0mV
	OFF	ON	3.5 dB	+9mV
	ON	OFF	9.1 dB	+18mV
	ON	ON	12.9 dB	+27mV

STEERING WHEEL CONTROL BUTTON FUNCTIONS

Note: Identify Alpine SWC learning radios by checking for three SWC cables and a SWC learn menu, instead of a 3.5mm SWC input.

If Interface has one SWR-100 Cable included

If Interface has two SWR Cables included

1. Find the included SWC adapter cable.

Identify appropriate SWC adapter cable.

Do not use cable with Blue / Yellow wire.

- 2.

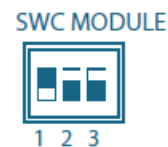


Prepare the SWC Cable: Cut the SWC cable. You will find a red wire, a white wire, and a ground (shield) wire inside.



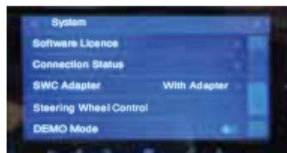
3. Adjust the Module Settings: Set the module to the Pioneer dip switch setting. This configures the module to communicate correctly with the Alpine radio.

	DIP:	1	2	3
On Alpine iLX series radios use Pioneer settings		OFF	ON	ON



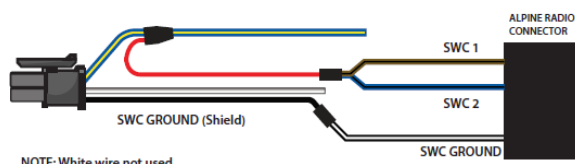
4. Configure the Alpine Radio: On your Alpine radio, select the setting that includes an adapter for SWC. This ensures the radio will recognize the steering wheel controls.

Select "SWC Adapter"

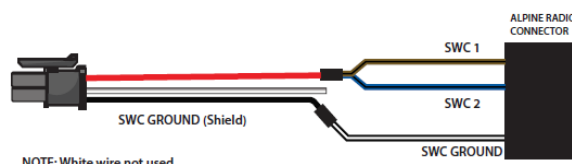


Select the setting "With Adapter"

5. Connect the Wires: Connect both the SWC1 and SWC2 wires from aftermarket radio to the red wire from our SWC cable. Connect the SWC ground wire to the shield (ground) wire of our SWC cable. These steps should enable the steering wheel controls on your Alpine iLX series radio.



NOTE: White wire not used



NOTE: White wire not used

6. Program the SWC: Navigate to the SWC settings on your Alpine radio to assign and test each control function.

STEERING WHEEL CONTROL BUTTON FUNCTIONS

SWC Button	SHORT PRESS	LONG PRESS
PIONEER VOL + VOL - Seek Up Seek Down Mode OFF Hook ON Hook Voice *NOTE:	Step Increment Step Decrement Preset Up Preset Down Source Pick Up Call* End Call Activate VR/Deactivate VR BT Mode Active: OFF Hook = Toggle between 1st and 2nd Call	Continuous VOL + Continuous VOL - Seek Up Seek Down Power On/Off None None None
SWC Button	SHORT PRESS	LONG PRESS
ALPINE VOL + VOL - Seek Up Seek Down Mode OFF Hook ON Hook Voice *NOTE:	Step Increment Step Decrement Seek Up Seek Down Source Pick Up Call End Call Activate VR*/Deactivate VR*	Continuous VOL + Continuous VOL - None None None None None N/A

<u>SWC Button</u>	<u>SHORT PRESS</u>	<u>LONG PRESS</u>
CLARION VOL + VOL - Seek Up Seek Down Mode OFF Hook ON Hook Voice NOTE:	Step Increment Step Decrement Preset Up Preset Down Source Pick Up Call End Call Mute BT Mode Active: OFF Hook = Toggle between 1st and 2nd Call	Continuous VOL + Continuous VOL - Seek Up Seek Down Power On/Off None None None

<u>SWC Button</u>	<u>SHORT PRESS</u>	<u>LONG PRESS</u>
JVC VOL + VOL - Seek Up Seek Down Mode OFF Hook ON Hook Voice *NOTE:	Step Increment Step Decrement Seek Up Seek Down Source Pick Up Call* End Call Activate VR BT Mode Active: User must End 1st call in order to pick up 2nd incoming call.	Continuous VOL + Continuous VOL - M-Seek Up M-Seek Down Power On/Off None None None Deactivate VR: Say "Cancel" or remain silent until it times out ➡ Auto switch back to previous Source.

<u>SWC Button</u>	<u>SHORT PRESS</u>	<u>LONG PRESS</u>
KENWOOD VOL + VOL - Seek Up Seek Down Mode OFF Hook ON Hook Voice	Step Increment Step Decrement Seek Up Seek Down Source Pick Up Call/ Call History On/Off End Call / Deactivate VR Activate VR	Continuous VOL + Continuous VOL - None None None None None None None None

VEHICLE APPLICATIONS

LEXUS		TOYOTA	
2004-2006	ES300	2003-2020	4 Runner w/ Navigation
2003-2005	IS300	2005-2018	Avalon
2006	LS430 w/o Navigation	2007-2017	Camry
		2012-2017	Camry Hybrid
		2004-2008	Camry Solara
		2009-2018	Corolla
		2007-2014	FJ Cruiser
		2008-2018	Highlander
		2008-2018	Highlander Hybrid
		2005-2012	Matrix
		2004-2015 2004-2015 2012-2017	Prius w/ Navigation Prius w/o Navigation Prius V
		2004-2018	Rav4
		2016-2018	Rav4 Hybrid
		2013-2019	Sequoia w/ Navigation
		2014-2019	Sequoia w/o Navigation
		2005-2013	Sequoia w/ RDS Radio
		2004-2017	Sienna
		2005-2021	Tacoma
		2004-2019	Tundra
		2009-2015	Venza
		2008-2011	Yaris

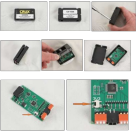
NOTE:

- Does not retain Mark Levinson, Pioneer, Nakamichi or Harmon Kardon amplifiers.
- If your vehicle is not equipped SWC, please use the CRUX SOHTL-20



- Phone: [818-609-9299](tel:818-609-9299)
- fax: [818-996-8188](tel:818-996-8188)
- www.cruxinterfacing.com

Documents / Resources

	CRUX CS-TJ20 Wiring Interface [pdf] Instruction Manual CS-TJ20, SWRTY-61J, TY-A, TY-B, CS-TJ20 Wiring Interface, CS-TJ20, Wiring Interface, Interface
---	--

References

- [User Manual](#)

Manuals+, Privacy Policy

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.