**Manuals+** — User Manuals Simplified.



# CRUX SWRGM-48 Radio Replacement Interface with Steering Wheel Control Installation Guide

**SWRGM-48**
Radio Replacement Interface with Steering Wheel Control
Retention for select GM Class II Vehicles

**Contents**

## PRODUCT FEATURES:

– Retains factory features in select GM Class II Data Bus vehicles while functioning with an aftermarket radio.
– Pre-programmed to retain factory Steering Wheel Controls.
– Voice Recognition Command from factory SWC.

- Supports Bose, non-Bose and Y-91 audio systems.
- Retains chime functions.
- Built-in chime volume adjustment.
- EIA color coded wiring for easy installation.
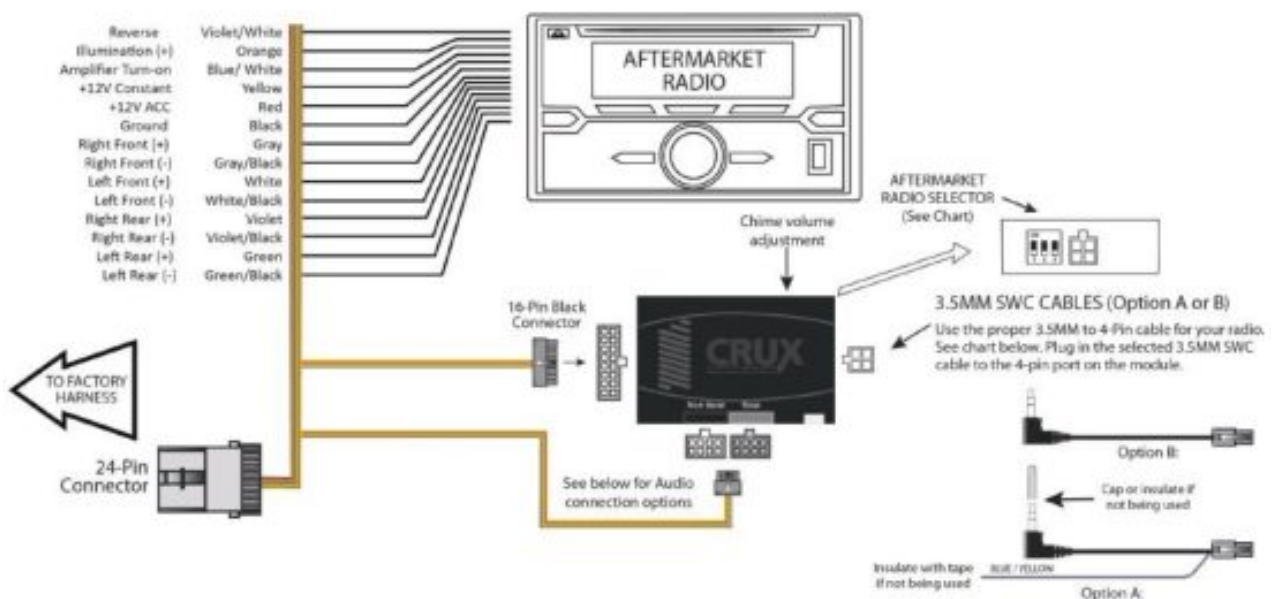
## PARTS INCLUDED:



SWRGM-48 MODULE



SWRGM-48 HARNESS



SWC CABLE

## INSTALLATION DIAGRAM:

## TROUBLESHOOTING

| LED LIGHT | LED MODULE FEEDBACK |
|---|---|
| Solid blue | CAN recognized |
| Flashing blue | CAN not recognized |
| Solid red | Module providing 12V ACC |
| Red off | 12V ACC OFF |

## DIP SWITCH SETTINGS:

**AFTERMARKET RADIO DIP SWITCH SETTINGS:**

| RADIO BRAND:                         DIP#: | 1 | 2 | 3 |
|---|---|---|---|
| Atoto, Dual, Fahrenheit, Jensen, Nakamichi, | OFF | ON | ON |
| Pioneer, Power Acoustik, Soundstream | OFF | ON | ON |
| Blaupunkt, Most off-brand Radio | OFF | ON | ON |
| Alpine | OFF | OFF | OFF |
| Clarion | ON | ON | OFF |
| Kenwood | ON | ON | ON |
| JVC | ON | OFF | ON |
| Boss, Old Sony | ON | OFF | OFF |
| New Sony (with CarPlay) | OFF | ON | OFF |

**SWC MODULE DIP SWITCH**



1  2  3
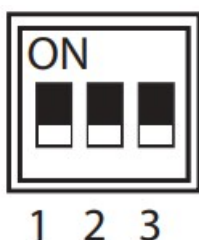
**NOTE:** For Atoto, Blaupunkt, Dual, Farenheit, Nakamichi, Power Acoustik, Soundstream, and most off-brand radios, check the aftermarket radio's manual to see if the SWC buttons need to be programmed.

**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. Use the Blue/Yellow wire for JVC and KENWOOD units.
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 (option B) and connect the SWC wires as follows:

RED to SWC Key 1
WHITE to SWC Key 2
SHIELD to SWC Ground
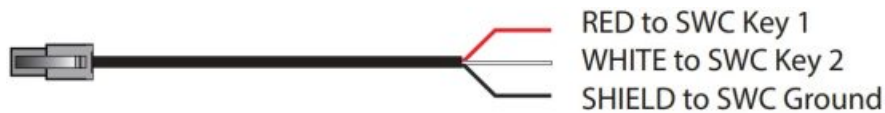
Note that there are some radios that only have SWC1 and SWC2, in this case "shield" does not need to be connected.

## SELECTING THE AUDIO SYSTEM:

If the vehicle is equipped with an amplified audio system, the SWRGM-48 has a built-in audio level adaptor that outputs the proper audio level from the aftermarket radio to the factory amplifier. To use this feature, plug in the male 8-pin connector on the SWRGM-48 harness to the GRAY female 8-pin connector on the SWRGM-48 module. The module is also labeled "Bose" and "Non Bose" to avoid confusion. (see picture below)
If the vehicle is NOT equipped with a factory amplified system, plug in the male 8-pin connector to the BLACK female 8-pin on the SWRGM-48 module.

NON BOSE
(Non-Amplified)
Connection

BOSE
(Amplified)
Connection
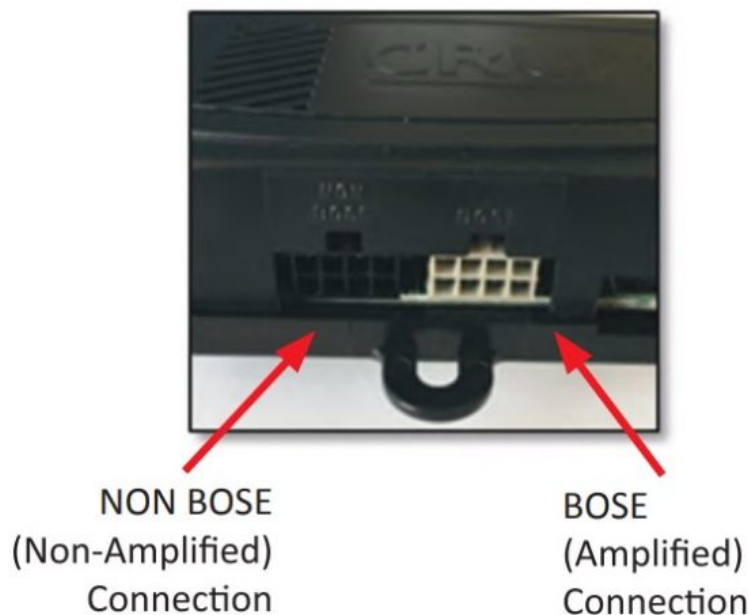
## CHIME VOLUME ADJUSTMENT:

The SWRGM-48 has a potentiometer to adjust the chime volume. It is set at half way by default. To adjust the volume, simply use a suitable screw driver and turn the potentiometer clockwise to increase the volume and counter-clockwise to decrease the volume.

Chime Volume Adjustment

## STEERING WHEEL CONTROL BUTTON FUNCTIONS:

### 4 BUTTON SWC

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL − |
| AM/FM | Source | Pick Up Call |
| Preset | Activate VR / | End Call |
| NOTES: | To Deactivate VR = on Pioneer, press "PRESET" on JVC = say "Cancel" | To Deactivate VR = on Kenwood, long press of PRESET |

### 4 BUTTON SWC

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| ALPINE | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL − |
| Seek Up ▲ | Seek Up | N/A |
| Seek Down ▼ | Seek Down | N/A |
| Source Up | Pick up Call | End Call |
| Source Down | Source | N/A |
| Prog | | |
| Voice | | |

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| CLARION | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL − |
| Seek Up ▲ | Preset Up | N/A |
| Seek Down ▼ | Preset Down | N/A |
| Source Up | Pick up Call | End Call |
| Source Down | Source | N/A |
| Prog | Mute | N/A |
| Voice | Mute | N/A |

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| **JVC** | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL – |
| Seek Up | Seek Up | N/A |
| Seek Up ▲ | Seek Down | N/A |
| Seek Down ▼ | Pick up Call | End Call |
| Source Down | Source | N/A |
| Prog | Activate Voice Recognition | N/A |
| Voice | Activate Voice Recognition | N/A |

NOTE: Say "CANCEL" to Deactivate VR

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| **KENWOOD** | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL – |
| Seek Up ▲ | Seek Up | Tune Up |
| Seek Down ▼ | Seek Down | Tune Down |
| Source Up | Pick up Call | End Call, Deactivate VR |
| Source Down | Source | N/A |
| Prog | Activate Voice Recognition | Deactivate VR |
| Voice | Activate Voice Recognition | N/A |

NOTE: BT Inactive, Source Up Activate
Call History

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| **PIONEER** | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL – |
| Seek Up ▲ | Preset Up | N/A |
| Seek Down ▼ | Preset Down | N/A |
| Source Up | Pick up Call | End Call |
| Source Down | Source | N/A |
| Prog | Activate Voice Recognition | Deactivate VR, End Call |
| Voice | Activate Voice Recognition | Deactivate VR |

**ANALOG SWC**
BUICK – Century, LaCrosse, Rainier, Rendevous, Terraza
CHEVROLET – Corvette, Impala, Monte Carlo
OLDSMOBILE – Alero, Bravada, Silhouette
PONTIAC – Aztec, Grand Am, Grand Prix, Montana, Sunfire

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| **ALPINE** | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL − |
| Mode / Play | Source | N/A |
| MUTE | Attenuation | N/A |
| Seek Up ▲ | Seek Up | N/A |
| Seek Down ▼ | Seek Down | N/A |
| Type Seek / Band | Pick up Call | N/A |
| Preset / 1-6 | | End Call |

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| **CLARION** | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL − |
| Mode / Play | Source | N/A |
| MUTE | Mute | N/A |
| Seek Up ▲ | Preset Up | N/A |
| Seek Down ▼ | Preset Down | N/A |
| Type Seek / Band | Pick up Call | End Call |
| Preset / 1-6 | N/A | N/A |

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| **JVC** | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL − |
| Mode / Play | Source | N/A |
| MUTE | Mute | N/A |
| Seek Up ▲ | Seek Up | N/A |
| Seek Down ▼ | Seek Down | N/A |
| Type Seek / Band | Pick up Call | End Call |
| Preset / 1-6 | Activate Voice Recognition | N/A |
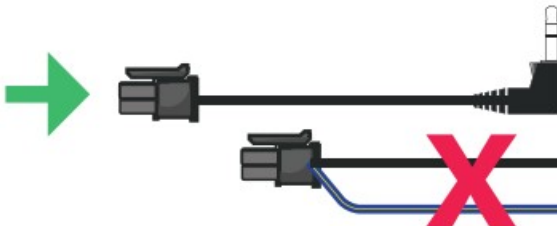
**NOTE:** Say "CANCEL" to Deactivate VR

| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| **KENWOOD** | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL − |
| Mode / Play | Source | N/A |
| MUTE | Attenuation | N/A |
| Seek Up ▲ | Seek Up | N/A |
| Seek Down ▼ | Seek Down | N/A |
| Type Seek / Band | Pick up Call | End Call, Deactivate VR |
| Preset / 1-6 | Activate Voice Recognition | N/A |

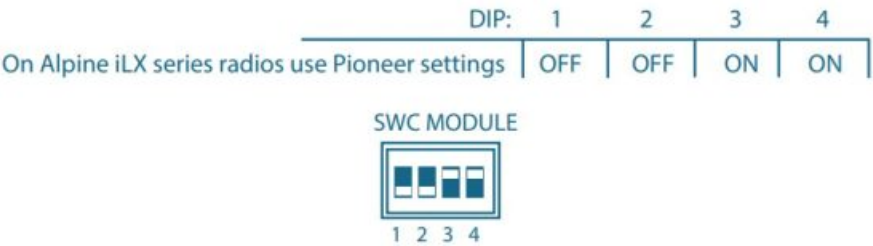| SWC Button | SHORT PRESS | LONG PRESS |
|---|---|---|
| **PIONEER** | | |
| VOL + | Step Increment | Continuous VOL + |
| VOL - | Step Decrement | Continuous VOL − |
| Mode / Play | Source | N/A |
| MUTE | Mute | N/A |
| Seek Up ▲ | Preset Up | N/A |
| Seek Down ▼ | Preset Down | N/A |
| Type Seek / Band | Pick up Call | End Call |
| Preset / 1-6 | Activate Voice Recognition / Deactivate Voice Recognition | N/A |

## STEERING WHEEL CONTROL SETTINGS:

**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 inclu |
|---|---|
| **1** – Find the included SWC adapter cable. | **1** – Identify appropriate SWC adapter ca<br>Do not use cable with Blue / Yellow wi |

**2** – Prepare the SWC Cable: Cut the SWC cable. You will find a red wire, a white wire, and a ground (shield) wire inside.
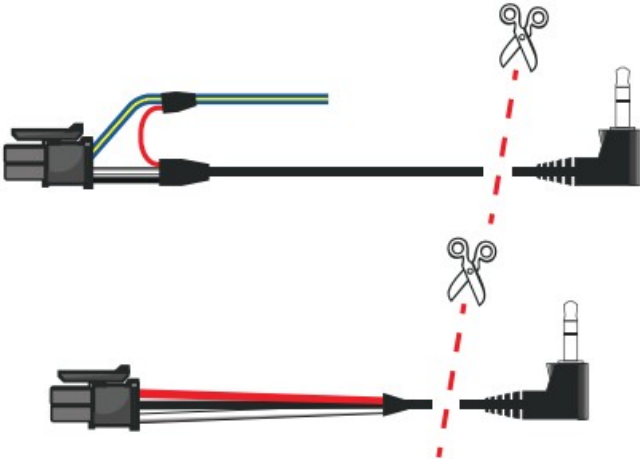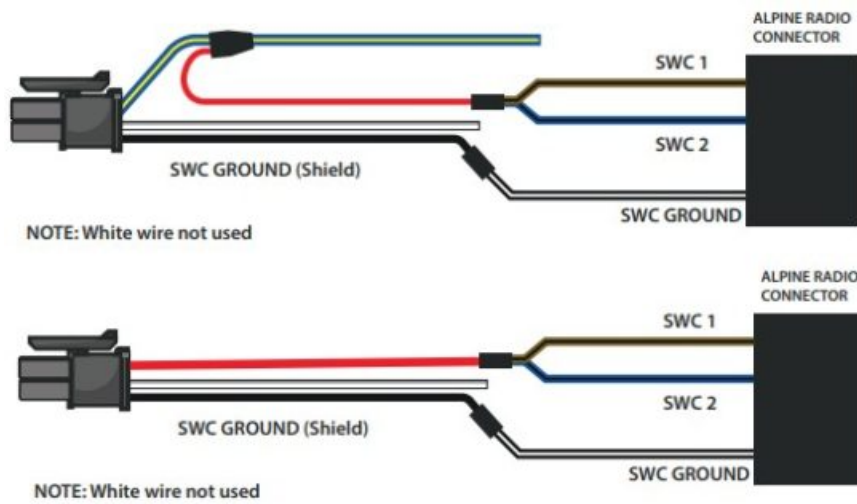
**3** – Adjust the Module Settings: Set the module to the Pioneer dip switch setting. This configures the module to communicate correctly with the Alpine radio.

| DIP: | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| On Alpine iLX series radios use Pioneer settings | OFF | OFF | ON | ON |

SWC MODULE

1 2 3 4

**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.

ALPINE RADIO CONNECTOR

SWC 1

SWC 2

SWC GROUND

SWC GROUND (Shield)

NOTE: White wire not used

ALPINE RADIO CONNECTOR

SWC 1

SWC 2

SWC GROUND

SWC GROUND (Shield)

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.

## VEHICLE APPLICATIONS:

**Buick**

| 2004-2005 | Century* |
|-----------|----------|
| 2005-2007 | LaCrosse* |
| 2004-2007 | Rainier* |
| 2003-2007 | Rendezvous* |
| 2005-2007 | Terraza* |

**Cadillac**

| 2003-2006 | Escalade |
|-----------|----------|

**Chevrolet**

| | |
|---|---|
| 2003-2006 | Avalanche |
| 2000-2005 | Cavalier |
| 2004-2013 | Colorado |
| 2005-2013 | Corvette* |
| 2004-2007 | Express |
| 2000-2005 | Impala* |
| 2001-2003 | Malibu |
| 2000-2005 | Monte Carlo* |
| 2003-2004 | S-10 |
| 2003-2006 | Silverado |
| 2007 | Silverado Classic |
| 2003-2006 | SSR |
| 2003-2006 | Suburban |
| 2003-2006 | Tahoe |
| 2002-2009 | Trailblazer |
| 2005-2008 | Uplander |
| 2003-2005 | Venture |

**Isuzu**

| | |
|---|---|
| 2003-2008 | Ascender |

**GMC**

| | |
|---|---|
| 2004-2011 | Canyon |
| 2002-2009 | Envoy |
| 2003-2007 | Savana |
| 2003-2006 | Sierra |
| 2007 | Sierra Classic |
| 2003-2006 | Yukon |

**Hummer**

| | |
|---|---|
| 2003-2007 | H2 |
| 2005-2010 | H3 |

**Oldsmobile**

| 2001-2004 | Alero* |
|---|---|
| 2002-2004 | Bravada* |
| 2000-2004 | Silhouette* |

**Saab**

| 2005-2008 | 9-7X |
|---|---|

**Saturn**

| 2005-2007 | Relay |
|---|---|

*Analog Steering Wheel Controls. See pages 5 and 6 for SWC button functions.



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## Documents / Resources

|  | **CRUX SWRGM-48 Radio Replacement Interface with Steering Wheel Control** [pdf] Installation Guide<br>SWRGM-48, CS-GMC2, SWRGM-48 Radio Replacement Interface with Steering Wheel Control, SWRGM-48, Radio Replacement Interface with Steering Wheel Control, Replacement Interface with Steering Wheel Control, Interface with Steering Wheel Control, Steering Wheel Control, Wheel Control |
|---|---|

## References

- **User Manual**