

# CRUX

INTERFACING SOLUTIONS

## SOOGM-15

### BUICK

2005 - 2009 La Crosse\*  
2004 - 2007 Rainer\*  
2005 - 2007 Rendezvous\*  
2005 - 2007 Terraza\*

### CADILLAC

2003 - 2006 Escalade  
2003 - 2006 Escalade ESV  
2003 - 2006 Escalade EXT

### CHEVROLET

2003 - 2006 Avalanche  
2003 - 2005 Blazer S-10  
2000 - 2005 Cavalier  
2004 - 2012 Colorado  
2005 - 2007 Corvette  
2008 - 2010 Corvette\*  
2000 - 2005 Impala\*/ Impala SS  
2001 - 2003 Malibu  
2004 - 2004 Malibu (Classic)  
2000 - 2005 Monte Carlo\*  
2004 - 2004 Pickup S-10  
2003 - 2003 Silverado Z71\*  
2003 - 2006 Silverado 1500-3500  
2007 - 2007 Silverado 1500-3500 (Classic)  
2004 - 2006 SSR  
2003 - 2006 Suburban  
2003 - 2006 Tahoe  
2002 - 2009 Trailblazer  
2005 - 2008 Uplander

### GMC

2004 - 2012 Canyon  
2004 - 2009 Envoy  
2004 - 2007 Envoy XUV  
2003 - 2007 Savana  
2003 - 2006 Sierra 1500-3500  
2007 - 2007 Sierra 1500-3500 (Classic)  
2002 - 2004 Sonoma  
2003 - 2006 Yukon/ XL

### HUMMER

2003 - 2007 H2  
2006 - 2007 H3/H3T

### ISUZU

2004 - 2008 Ascender  
2006 - 2008 i280/i290/i350

### OLDSMOBILE

2002 - 2004 Alero\* (w/RDS Radio)  
2002 - 2004 Bravada  
2002 - 2002 Intrigue  
2000 - 2002 Silhouette (w/chime)  
2003 - 2004 Silhouette

### PONTIAC

2001 - 2005 Aztek\*  
2001 - 2005 Grand AM\*  
2004 - 2008 Grand Prix\*  
2000 - 2005 Sunfire

### SATURN

2005 - 2007 Relay

\*Steering wheel controls are not retained.  
For functionality please use the radio.

## ONSTAR RADIO REPLACEMENT FOR SELECT GM CLASS II VEHICLES 2000-UP (FOR VEHICLES WITH OR WITHOUT BOSE)

We recommend reading this installation guide first before starting any work. Following these instructions from “Start” to” Finish” will ensure a smooth and hassle free installation. We offer telephone support M-F 9:00 AM – 5:00PM PDT at 1 (855) 822-1348 or 1 (818) 609-9299. We are here to help.

### GETTING STARTED

Before removing the factory radio check to see if there any CD's in the unit and remove them. Now turn on the radio and listen to check that the speaker fader control is equally balanced from front to rear, also check the radio display for the center fader position setting. The Reason for this is that the digital amplifiers remember the last fader control position before the factory radio was removed. Once you have installed the new head unit you will no longer have fader control. Once you have completed these steps you now may remove the factory radio. Also if the vehicle is equipped with a rear seat audio system this feature will no longer work with the new head unit. We always recommend disconnecting the negative terminal on the battery for safety also use towels or a protective blanket around center console to avoid scratching dash panels.

### TEST FOR HIGH/LOW SYSTEMS:

You will need to perform this simple test first, to determine if the audio system is either a “High” or “Low” level output system. Take the SOOGM-15 module and plug in the connector harness. Tape off the end of the wires on the harness to avoid any shorting as this could damage the control module. Now plug in the SOOGM-15 module to the factory radio harness. On the SOOGM-15 control module set the rotary switch to “0”. If you disconnected the battery, reconnect it. Turn the ignition key to “on” or “Accessory” position. Find the OnStar button which will be located either on the dash, rear view mirror or steering wheel. Push the OnStar “Phone” icon button and listen for the OnStar “Greeting”, if you hear the greeting move the rotary switch to “9” for High level input. Now press the OnStar “Phone” icon again to exit OnStar mode. Now turn off the ignition key and again disconnect the vehicle's battery. You will NOT need to perform the “Setting audio level control” as the module has now been set to the correct audio input level. If however you hear nothing at all the system is “Low” level and a speaker level converter will be needed and you will need to perform the “Setting audio level control” in this guide.

### IMPORTANT NOTE ABOUT USING THE MUTE WIRE

Make sure not to connect the Brown wire (“MUTE”) to the aftermarket mute wire, as they are both input wires and do not allow for any type of output signal.

How the MUTE wire functions:  
To Mute the factory Amps:  
- Apply 12v

To Un-Mute the factory Amps:  
Leave Connection Open.

### CONNECTING THE WIRE HARNESS

First check that you have the correct SOOGM-15 harness, each harness is clearly labeled with all information for its application and wire location. With the help of the wiring diagram join together the SOOGM-15 harness to the new radio harness you are installing. Start by making all primary power connections:

Yellow (+12v Battery): Constant +12 Volts to the new head unit.

Red (+12V Acc): Switched Accessory from the key. This output supports up to 1 amp continuous. If you need to use this output for additional accessories, you will need to use a relay to prevent damage to the SOOGM-15. See Relay Wiring Diagram for details.

Black (Ground): To ground wire to new head unit.

Orange/White (Panel Lamp): works in conjunction with the instrument panel dimmer switch, this gives full dimmer control for the new head unit.

Orange (Illumination): Provides illumination with the head lamp control switch however does not dim.

Blue/White (Amp On): Used for amplifier turn on.

Red/Black (VSS): Connect to Vehicle speed sense wire on new head unit. On all class II harness this wire supports only Y91 radios that are being replaced.

Lt. Blue/Yellow (KW Switch): Use on Kenwood remote radio control (This wire is also used on the new JVC units).

### USING THE SWC WIRE ON NEW JVC UNITS

New JVC units no longer carry the 3.5mm cable and have added the SWC signal via a Lt. Blue/Yellow wire.

This wire needs to be connected to the SWC wire labeled “Kenwood” also Lt. Blue/Yellow. Be sure to keep the dial switch set to number 4 when using JVC units.  
(See page 2)

FRONT audio inputs:

Gray for right side / White for Left side

REAR audio inputs:

Purple for right side / Green for left side

Wires with a “Black” trace go to Negative (-) side of speaker and solid colors goes to Positive (+) side of speaker output from head unit.

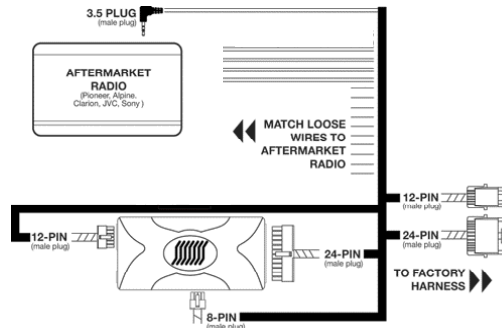
### USING THE 3.5 STEERING WHEEL CONTROL CABLE

This cable is used on all radios using a 3.5mm remote control input. Plug this cable in to the port on the back of the radio labeled for remote. This cable supports Pioneer, Alpine, Clarion, JVC and Sony radios only no other manufacture is supported and cable should not be used. This cable is not needed in vehicles without steering wheel controls.

### SETTING THE CONTROLS PRELIMINARY

Once you have made all connections between the SOOGM-15 harness and radio harness you are ready to plug in all the connectors. It is advisable to put down some towels around the console area to prevent scratching during this final setup. Start by plugging in the SOOGM-15 harness in to the control module there are 3 connectors and each will only fit its given location. Make sure each connector is firmly pushed in without forcing, as this can damage the pins on the connector. Now connect the 2 GM connectors on the SOOGM-15 harness to the factory radio harness that you unplugged when you removed the factory radio. Again these plugs will only fit one way, be careful not to force the connectors. Now set radio down on console and reconnect the battery on the vehicle not forgetting to tighten down the terminal.

### OVERVIEW FOR 12 AND 24-PIN CONNECTOR



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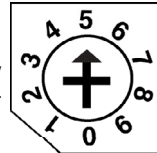
### SATURN

2005 - 2007 Relay

\*Steering wheel controls are not retained.  
For functionality please use the radio.

### SETTING AUDIO CONTROL:

At this point you should know what audio output level you have from the "Test for High / Low level audio systems". If your test indicated that you had a "high" Level output and you were able to hear the OnStar "Greeting" there is no need to make any changes. Also if the vehicle has steering wheel controls you may skip down to "Radio Remote Select", if not go to OnStar Volume Adjust for vehicles without steering wheel control. However if the test indicated a low level output you will need to program the SOOGM-15 module. Start by Locate the rotary switch on the SOOGM-15 and set it to "9". You must have made all the connection from the SOOGM-15 to the radio harness. Now plug in your completed assembly to the vehicle factory radio plugs. Turn the ignition key to the "on" or "accessory" position. You should now see the radio turn on. Now locate the OnStar button, this can be found on the swc, or rear view mirror or steering wheel. Press the OnStar "Phone" icon button to enter OnStar mode; you should now hear the OnStar "Greeting", move the rotary switch to "0". Now your level is set. If the vehicle has steering wheel controls you may skip down to "Radio Remote Select". However if the vehicle has no steering wheel controls you will need to adjust the volume on the OnStar, go directly to the next step "OnStar Volume Adjust for vehicles without steering wheel control". If no further adjustment is needed turn ignition key to "Off" and go to "Radio Remote Select".



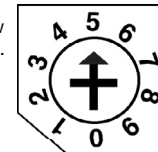
Use a small jeweler's type screw  
Driver to make adjustments.

### ONSTAR VOLUME CONTROL ADJUSTMENT:

This step is only needed if there are no steering wheel controls and the volume level is either too high or too low. You may skip this step if the OnStar volume is acceptable. Turn the ignition key to the "on" or "accessory" position. Start by pressing the Onstar button and listen to the "Greeting", now say "HELP" and listen to the help menu audio as you adjust the volume. While the "HELP" menu is playing turn the rotary dial clockwise to increase or counter clockwise to decrease volume. You will a Soft "Clicking" sound as you turn the rotary dial through the speakers. Move the dial in 1 second increments until desired volume is achieved. Watch closely as you turn, DO NOT STOP at the "0" or "9" position this will change your High/Low setting, you may go past these numbers when adjusting but do not land on them for more than 2 seconds or your settings will change. Once you are satisfied with the volume level press the Onstar "PHONE" icon to exit OnStar mode. Your level is now set. Turn ignition key to "Off" and go to "Radio Remote Select". Please ensure the volume is set at a level that is comfortable for the end user as there will be no other adjustment once the installation is complete.

### RADIO REMOTE SELECT:

This step is only needed if the vehicle has steering wheel controls and you are installing one of the listed radios. With the ignition key in the off position turn the rotary dial on the SOOGM-15 to the number corresponding to the radio you are installing. Turn the ignition key to the "on" or "accessory" position. Now check all steering wheel control functions.



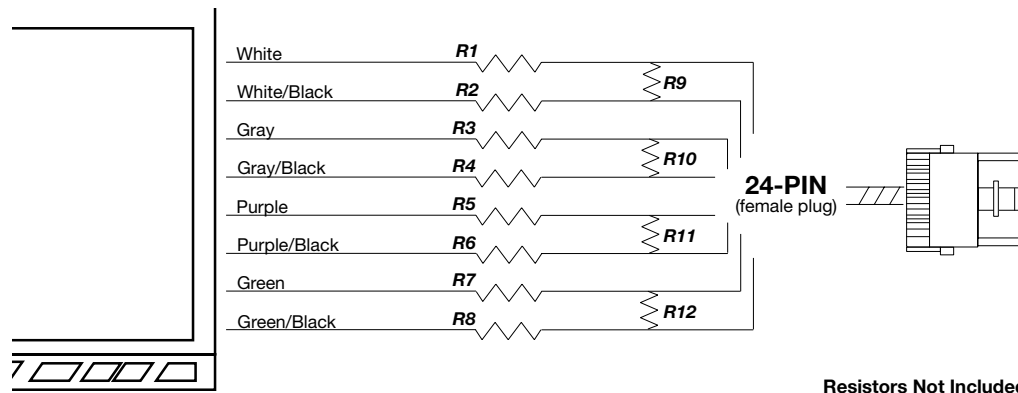
Use a small jeweler's type screw  
Driver to make adjustments.

0. Pioneer
1. Alpine
2. Clarion
3. Kenwood
4. JVC
5. Sony

## TROUBLESHOOTING

### 1. Have unwanted hissing or loud interruptions on your Premium Bose system?

Solution: The installer will need a total of 12 resistors. (suggested resistor values, though voltage may vary on the radio). Resistors R1 - R8 = **620 Ohms, 1/4watts (8)** and Resistors R9 - R12 = **470 Ohms, 1/4watts (4)**  
If issue continues with suggested resistor values, carefully increase the value, no higher than 1000 Ohm.



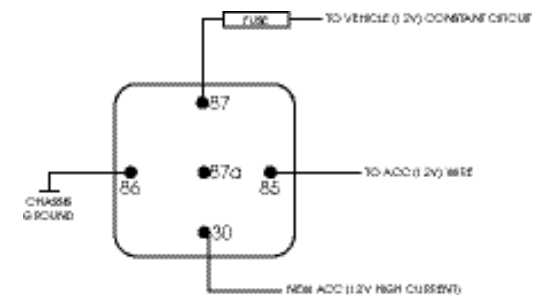
### CHECKING THE INSTALLATION

Now turn on the ignition Key to "on" or "Accessory" and turn on the radio. Check that all speakers are working and that balance and fader control are in sink. On vehicles with digital amplifiers there will be NO fader control from the radio. Check to make sure you have equal front to rear audio balance, if not you will need to go back to "Getting Started" to correct the problem. Now check steering wheel controls, they will function as they did with the factory radio. Also make sure the OnStar is set at a comfortable audio level. Remember vehicles without steering wheel controls will not have any adjustment to the OnStar volume once the radio is installed.

### FINISHING THE INSTALLATION:

Once you have completed your final check you may now install the radio into the dash. Make sure to find a suitable location behind the dash for the SOOGM-15 module keeping in mind any moving part that could be impeded the operation of the vehicle. The SOOGM-15 should be mounted so as not to block the slits in the top of the module. These slits are for the warning chime speaker and blocking them may cause the warning chime not to be heard. Take care in tuck all wires into the dash being careful not to allow pinching or rubbing of wires once radio is installed. Use tape and wire ties make a neat wire loom.

## RELAY WIRING DIAGRAM



For applications demanding more than 1 amps continuous we recommend the use of a standard BOSCH type SPDT or STST relay available at your local auto parts supplier.

### RELAY NOT INCLUDED