

Component Procedures: Radio, Stereo, and Compact Disc

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Component Procedures: Radio, Stereo, and Compact Disc

Parts and Labor (itype_189)

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Antenna & Radio > Radio, R&R	B	0.9	0.7
Remove & Replace	Antenna & Radio > Speaker, R&R > Door > One S?	B	0.6	0.0
Remove & Replace	Antenna & Radio > Speaker, R&R > Front Center	B	0.5	0.0
Remove & Replace	Antenna & Radio > Speaker, R&R > Rear Shelf >?	B	0.8	0.0
Remove & Replace	Antenna & Radio > Speaker, R&R > Rear Shelf >?	B	0.9	0.0

Sound Systems - Base Radio Circuit (Article 10046)

Sound Systems - Base Radio Circuit

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Sound Systems - Premium Radio Circuit (Article 10063)

Sound Systems - Premium Radio Circuit

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All Technical Service Bulletins (itype_100)

Tsbs

- Audio System - Buzz/Rattle From Rear Speaker Area (PI1249, 2014/05/27)
- Information on Inappropriate Warranty Claims Submitted for Damaged Radios and Instrument Panel Clusters (IPCs) (08-08-44-015H, 2016/12/19)
- Audio System - Radio Reprogramming Using Techline(R)/SPS (PI1266, 2014/06/24)
- Infotainment - System Will Not Return To Media After Call (16-NA-011, 2016/01/19)
- Blank Radio Displays Due to Bad NAV USB Update (PIT6122, 2024/01/31)
- Incoming Bluetooth Calls Cannot Be heard Through Vehicle Audio System - (Dec 5, 2016) (PIC6233, 2016/12/05)
- Missing Channels or No Audio On Certain XM Radio Channels (PIC5959C, 2017/02/20)
- Cannot Delete Paired Phone, Phone Missing From List, HVAC Button Lock Up On Display (Volt Only), HVAC Fan Speed Freezing On Display(Camaro Only), Navigation Address Entry Concerns (Encore only), XM Background Graphics Default, Radio Freezes And/Or Resets (PIC6158B, 2016/02/15)
- OnStar Will Not Power Up (PIC5491K, 2017/12/18)
- Apple Phone Will Not Always Auto Connect Through Bluetooth To The Radio (PIC6120A, 2016/03/21)
- Loss of Radio Audio Shortly After an OnStar In-Vehicle Voice Message Is Heard (20-NA-026, 2020/07/22)
- Audio - Inadvertent Steering Wheel Button Activation (08-08-44-028A, 2012/04/11)
- Performance Of XM Radio System With Sunroof Fully Open (PIC3074F, 2019/02/04)
- Campaign - SiriusXM(R) Travel Link Feature Availability (15747, 2015/12/18)
- Campaign - Connected Navigation Voice Command Not Working (12315A, 2013/01/31)
- Audio System - Noise When Using Portable Playback Unit (06-08-44-015C, 2012/03/30)
- Audio - Radio Does Not Mute For OnStar Turn by Turn Directions (10-08-46-001C, 2016/04/20)
- Infotainment - Blower Speed Appears Frozen on Audio Display (PIC5895B, 2014/02/19)
- Information on Multi-Media Infotainment Tester (MIT) Incompatibility Issues (17-NA-386, 2017/12/04)
- Audio System - USB/Multimedia Interface Information (09-08-44-013D, 2012/06/26)
- Infotainment System - Radio Does Not Re-Pair iPhone(R) (PI1218A, 2014/08/21)
- Navigation Radio - Cannot Pause CD or Media (PIC5869A, 2014/07/01)
- Radio Displays Check DAB or DAB Re-Routing Message at all Times (16-NA-238, 2016/07/28)
- Diagnostic Tips: XM Audio Traffic And Travel Link Availability And Operation (PIT5353C, 2018/11/20)
- CD/DVD Will Not Eject from Instrument Panel Mounted Player (PI0124E, 2012/12/07)
- Audio System - Normal Key OFF Operation (PIC5161D, 2014/01/27)
- XM Band Not Receiving All Channels (Preview Mode) (PIC5088F, 2016/04/21)

Customer Interest Bulletins (itype_109)

Tsbs

- Radio Displays Check DAB or DAB Re-Routing Message at all Times (16-NA-238, 2016/07/28)
- Audio System - Noise When Using Portable Playback Unit (06-08-44-015C, 2012/03/30)

Repair Tips (itype_110)

Tsbs

- Audio System - Buzz/Rattle From Rear Speaker Area (PI1249, 2014/05/27)
- Audio - Radio Does Not Mute For OnStar Turn by Turn Directions (10-08-46-001C, 2016/04/20)
- Audio System - Radio Reprogramming Using Techline(R)/SPS (PI1266, 2014/06/24)
- Infotainment - Blower Speed Appears Frozen on Audio Display (PIC5895B, 2014/02/19)
- Audio System - Normal Key OFF Operation (PIC5161D, 2014/01/27)
- Infotainment - System Will Not Return To Media After Call (16-NA-011, 2016/01/19)
- Audio - Inadvertent Steering Wheel Button Activation (08-08-44-028A, 2012/04/11)
- Audio System - USB/Multimedia Interface Information (09-08-44-013D, 2012/06/26)
- Infotainment System - Radio Does Not Re-Pair iPhone(R) (PI1218A, 2014/08/21)
- Navigation Radio - Cannot Pause CD or Media (PIC5869A, 2014/07/01)

Software Update Bulletins (itype_434)

Tsbs

- Cannot Delete Paired Phone, Phone Missing From List, HVAC Button Lock Up On Display (Volt Only), HVAC Fan Speed Freezing On Display(Camaro Only), Navigation Address Entry Concerns (Encore only), XM Background Graphics Default, Radio Freezes And/Or Resets (PIC6158B, 2016/02/15)

Audio Amplifier Programming and Setup (Article 10723)

Replace and Program Control Module or Reprogram Control Module
This control module does not require SPS programming or any setup procedures.

Radio Control Programming and Setup (Article 10750)

Replace and Program ECU or Reprogram ECU
This ECU does not require SPS programming or any setup procedures.

Radio Programming and Setup (UYE) (Article 10751)

- DO NOT program a control module unless directed to by a service procedure or a service bulletin. If the ECU is not properly configured with the correct calibration software, the ECU will not control all of the vehicle features properly.
- Ensure the programming tool is equipped with the latest software and is securely connected to the data link connector. If there is an interruption during programming, programming failure or ECU damage may occur.
- Stable battery voltage is critical during programming. Any fluctuation, spiking, over voltage or loss of voltage will interrupt programming. When required, install a battery maintainer or power supply that provides a steady and stable voltage. Do not use a battery charger, as charging voltage will often fluctuate when connected to the vehicle. This may interrupt programming. If a battery maintainer is not available, connect a fully charged 12 V jumper or booster pack disconnected from the AC voltage supply.
- Turn OFF or disable systems that may put a load on the vehicles battery such as; interior lights, exterior lights (including daytime running lights), HVAC, radio , etc.
- During the programming procedure, follow the SPS prompts for the correct ignition switch position.
- Clear DTCs after programming is complete. Clearing powertrain DTCs will set the Inspection/Maintenance (I/M) system status indicators to NO.

Diagnostic Aids

- During radio programming you may be required to select multiple calibrations dependant upon vehicle equipment. Have the vehicle build/RPO information available during the following procedure to ensure the correct calibrations are selected.
- The XM satellite radio (if equipped) is integrated into the radio. If XM was activated in the previous radio, the replacement radio will require additional activation steps after programming to transfer customer subscription information.

Replace and Program Control Module or Reprogram Control Module

To program a replacement or an existing control module, perform the following procedure:

- Access the Service Programming System (SPS) and follow the on-screen instructions.
- On the SPS Supported Controllers screen, select A11 Radio – Programming and follow the on-screen

instructions.

- At the end of programming, choose the "Clear All DTCs" function on the SPS screen.
- XM Activation (If Equipped)
- Turn the radio ON, tune to the XM channel 0, and record the radio ID. The radio ID will be needed for activation of the receiver.
 - From the USA, Call XM radio at 1-800-556-3600 to activate the receiver. From Canada, call 1-877-438-9677.
 - Park the vehicle outside in an area with an unobstructed view of the southern sky.
 - Leave the vehicle outside with the ignition switch in the ACC position and the radio on for 30 minutes to activate XM service.
 - Once activated, the radio will receive the remaining XM channels.

Unsuccessful Programming Recovery

In the event of an interrupted or unsuccessful programming event, perform the following steps:

- Ignition ON. Ensure the control module, DLC and programming tool connections are secure and the SPS software is up to date.
- Verify the control module can be reprogrammed.
- If the control module cannot be reprogrammed
- Ignition OFF for one minute, ignition ON.
- If the control module cannot be reprogrammed, replace the control module.
- If the control module can be reprogrammed.
- All OK.
- If the control module can be reprogrammed

Radio Programming and Setup (w/o UYE) (Article 10752)

- DO NOT program a control module unless directed to by a service procedure or a service bulletin. If the ECU is not properly configured with the correct calibration software, the ECU will not control all of the vehicle features properly.
- Ensure the programming tool is equipped with the latest software and is securely connected to the data link connector. If there is an interruption during programming, programming failure or ECU damage may occur.
- Stable battery voltage is critical during programming. Any fluctuation, spiking, over voltage or loss of voltage will interrupt programming. Install the EL-49642 - SPS programming support tool to maintain system voltage. If not available, connect a fully charged 12 V jumper or booster pack disconnected from the AC voltage supply.
- Turn OFF or disable systems that may put a load on the vehicles battery such as; interior lights, exterior lights (including daytime running lights), HVAC, radio , etc.
- During the programming procedure, follow the SPS prompts for the correct ignition switch position.
- Clear DTCs after programming is complete. Clearing powertrain DTCs will set the Inspection/Maintenance (I/M) system status indicators to NO.

Diagnostic Aids

- If programming of the control module is being performed at the direction of a bulletin or PI, follow the instructions provided in that document.
- During audio system programming you may be required to select multiple calibrations dependent upon vehicle equipment. Have the vehicle build/RPO information available during the following procedure to ensure the correct calibrations are selected.
- Dependant upon vehicle equipment, the current software level of the module, or the release of updates, USB programming may not be required when replacing/reprogramming the control module. If USB files for the application are not available via SPS, or have not been received from General Motors in another manner of distribution, the USB update process will not need to be performed.
- To prevent potential programming concerns, it is suggested to load the USB files to a USB flash drive each time a vehicle is programmed. Always start with a FAT32 formatted USB flash drive and download the specific USB files for the VIN you are working on.
- The length of time for the USB programming to complete will vary depending on the number and size of the files in the update.
- All data will be erased from the USB device BEFORE the calibration is downloaded onto the device. To ensure important information is NOT erased, always verify that NO information is stored on the device BEFORE beginning the calibration download. If required, transfer important files to another storage device BEFORE beginning the calibration download.
- The XM satellite radio (if equipped) is integrated into the radio. If XM was activated in the previous radio, the replacement radio will require additional activation steps after programming to transfer customer subscription information.

Reference Information

Special Tools

- EL-49642 - SPS Programming Support Tool
- USB 2.0 flash drive with a minimum capacity of 4 GB.

For equivalent regional tools, refer to Special Tools .

Replace and Program Control Module

To program a replacement control module, perform the following procedure:

- Delete any paired devices in the Paired Phones List (Home>> Config>> Phone Settings>> Bluetooth) to prevent potential interruptions during the USB and SPS programming events outlined below.
- Install the EL-49642 - SPS Programming Support Tool .
- Access the Service Programming System (SPS) and follow the on-screen instructions.
- On the SPS Supported Controllers screen, select A11 Radio – Programming, and follow the on-screen instructions.
- When programming is complete, access the Service Programming System (SPS) and follow the on-screen instructions.
- Connect a USB drive to the computer.
- If there are no files available for USB transfer via SPS, proceed to step 14.
- All existing files on the USB drive will be erased when the new files are copied.
- On the SPS Supported Controllers screen, select A11 Radio – USB File Transfer, and follow the on-screen instructions.
- Upon completion of the file transfer, remove the USB drive from the computer.
- Turn ON the ignition and radio so audio is playing with the engine OFF.
- Connect the USB drive to the USB port in the vehicle.
- If a “No Music Files Found” message is displayed, press OK.
- A “Searching and verifying” message will be displayed for up to 20 minutes, this is normal. Once the searching and verifying message is gone, a “Press the Key Sequence” screen may be displayed, DO NOT press Cancel if displayed. It is important to press the displayed button press sequence on the screen to start the update. This requires the displayed button press sequence to be followed in proper order. Please note that each button press requires a momentary press of the right “seek up” or left “seek down” button. If any wrong key presses occur, it may be necessary to start the USB programming process over again by removing the USB stick and reinserting it in order to do a Search & Verify again. If this does not restart the Search & Verify process, it may be necessary to remove the radio fuse for 30 seconds, re-insert the fuse, and start the USB programming process again.
- Once the USB programming starts, a series of files will be installed as evidenced by a progress bar and “file 1 of 5, file 2 of 5, etc.” messages or similar messages depending on year, model, and software. As these files are installing, it is normal to experience a momentary blank screen, loss of audio, and/or “splash screen” after/during installation of file 4 of 5. Do not interrupt programming if this is noted – please be patient and allow programming to completely finish. Typically this step will take 30-60 minutes to complete as USB files 1-5 are installed into the radio.
- Using the radio controls, select the following: Config>Radio Settings>Software Versions Menu>Update Radio Software. Follow the infotainment display on-screen instructions and select Update when prompted.
- When programming is complete, remove the USB device from the vehicle USB port.
- At the end of programming, choose the “Clear DTCs” function on the SPS screen. The radio must be reset as well by pressing the following radio buttons: Config>Radio Settings>Software Versions Menu>Clear and Reset Radio. Select “Yes” to reset the radio. Upon completion of this step, the radio will restart and you can allow the radio to resume normal operation again.

Reprogram Control Module

To reprogram an existing control module, perform the following procedure:

- If there are no files available for USB transfer via SPS, proceed to step 11.
- Using the radio controls, select the following: Config>Radio Settings>Software Versions Menu>Update Radio Software. Follow the infotainment display on-screen instructions and select Update when prompted.

XM Activation (If Equipped)

- Turn the radio ON, tune to the XM channel 0, and record the radio ID. The radio ID will be needed for activation of the receiver.
- From the USA, Call XM radio at 1–800–556–3600 to activate the receiver. From Canada, call 1–877–438–9677.
- Park the vehicle outside in an area with an unobstructed view of the southern sky.
- Leave the vehicle outside with the ignition switch in the ACC position and the radio on for 30 minutes to activate XM service.
- Once activated, the radio will receive the remaining XM channels.

Unsuccessful Programming Recovery

If the radio appears to lock up at any point in the programming process, let it sit for at least one hour to

see if the radio stays on the same exact screen with no sign of progress. If it stays on the same exact screen for over one hour with no sign of progress, the radio has locked up but in most cases the radio can be unlocked/recovered so it is unlikely that radio replacement will be required.

To unlock/recover the radio perform the following:

- Remove the USB stick (if installed).
- Remove the radio fuse for 30 seconds then re-insert the radio fuse.
- Start the USB or SPS programming process from the beginning again depending on which programming process was in progress at the time of the lock up.
- Verify the control module can be reprogrammed.
- If the control module cannot be reprogrammed, replace the control module.
- If the control module can be reprogrammed.
- All OK.

Radio Scan Tool Information (Article 10791)

Parameter Expected Value Definition

Operating Conditions: Ignition ON

Antenna Module Enabled The scan tool displays Enabled or Disabled. This indicates if the system uses an antenna module and the output status between the radio and the antenna module.

Auxiliary Audio Input Present The scan tool displays Present or Not Present. This parameter displays active when an auxiliary input is connected.

Battery Voltage Varies The scan tool displays volts. This is the voltage at the input to the radio.

Digital Radio Receiver Present The scan tool displays Present or Not Present. This is the state of the Digital Audio Broadcast.

Phone Signal Present The scan tool displays Present or Not Present. This parameter will display whether this system uses discrete or a phone arbitration or not.

Power Mode Run The scan tool displays Off, Accessory, Run or Crank Request. This is the power mode radio.

Rear Seat Audio Not Present The scan tool displays Present or Not Present. This parameter displays Present if the system detects a rear seat audio module.

Radio Signal Strength Varies This displays the signal strength in dB. This is the signal strength of the radio signal.

Theft Lock Armed Learned VIN The scan tool displays Learned VIN or No VIN. This is the state of the VIN programming in the radio.

Radio Theft Lock Status Inactive The scan tool displays Active or Inactive. This is the state of the theft lock system.

Valet Mode Status Inactive The scan tool displays Active or Inactive. This is the state of the valet mode.

Video Display 1 Inactive The scan tool displays Active or Inactive. When the rear video display 1 is ON, the scan tool will display Active.

Video Display 2 Inactive The scan tool displays Active or Inactive. When the rear video display 2 is ON, the scan tool will display Active.

End Model Part Number Varies The scan tool displays the end model part number.

Boot Software Part Number Varies The scan tool displays the boot software ID number.

Calibration Part Number 1 Varies The scan tool displays the software module ID 1.

Calibration Part Number 2 Varies The scan tool displays the software module ID 2.

Calibration Part Number 3 Varies The scan tool displays the software module ID 3.

Calibration Part Number 4 Varies The scan tool displays the software module ID 4.

Calibration Part Number 5 Varies The scan tool displays the software module ID 5.

Calibration Part Number 6 Varies The scan tool displays the software module ID 6.

Calibration Part Number 7 Varies The scan tool displays the software module ID 7.

Calibration Part Number 8 Varies The scan tool displays the software module ID 8.

Calibration Part Number 9 Varies The scan tool displays the software module ID 9.

Calibration Part Number 10 Varies The scan tool displays the software module ID 10.

Calibration Part Number 11 Varies The scan tool displays the software module ID 11.

Calibration Part Number 12 Varies The scan tool displays the software module ID 12.

Calibration Part Number 13 Varies The scan tool displays the software module ID 13.

Calibration Part Number 14 Varies The scan tool displays the software module ID 14.

Calibration Part Number 15 Varies The scan tool displays the software module ID 15.

Calibration Part Number 16 Varies The scan tool displays the software module ID 16.

Vin Digits 2-17 Varies The scan tool displays the vin digits 2-17.

Digital Radio Receiver ID Varies The scan tool displays the Digital Audio Broadcast receiver ID.

DVD Region Code Varies The scan tool displays the DVD region code.

DVD Region Code Changes Remaining Varies The scan tool displays the number DVD region code changes remaining.

Scan Tool Output Control Description

Left Front Speaker This output control is used to command the speaker ON and OFF. Commanding the speaker ON will generate a test tone to be generated through the selected loudspeaker .

Left Rear Speaker This output control is used to command the speaker ON and OFF. Commanding the speaker ON will generate a test tone to be generated through the selected loudspeaker.

Right Front Speaker This output control is used to command the speaker ON and OFF. Commanding the speaker ON will generate a test tone to be generated through the selected loudspeaker.

Right Rear Speaker This output control is used to command the speaker ON and OFF. Commanding the speaker ON will generate a test tone to be generated through the selected loudspeaker.

Center Speaker This output control is used to command the speaker ON and OFF. Commanding the speaker ON will generate a test tone to be generated through the selected loudspeaker.

Subwoofer Speaker This output control is used to command the speaker ON and OFF. Commanding the speaker ON will generate a test tone to be generated through the selected loudspeaker.

Eject This output is a reset command to eject the disc.

Info Display/Infotainment Faceplate Reset This output is a reset command to reset the radio display.

Info Display/Infotainment Faceplate Wakeup This output commands a wakeup at the display and the faceplate controls.

Clear Hard Disc Drive This output commands a HDD to clear all customer data. This includes music files, eBooks and navigation addresses. This does not clear Nav database data.

Erratic Operation (itype_132)

Tsbs

- Cannot Delete Paired Phone, Phone Missing From List, HVAC Button Lock Up On Display (Volt Only), HVAC Fan Speed Freezing On Display(Camaro Only), Navigation Address Entry Concerns (Encore only), XM Background Graphics Default, Radio Freezes And/Or Resets (PIC6158B, 2016/02/15)

- Apple Phone Will Not Always Auto Connect Through Bluetooth To The Radio (PIC6120A, 2016/03/21)

- Infotainment - System Will Not Return To Media After Call (16-NA-011, 2016/01/19)

- Performance Of XM Radio System With Sunroof Fully Open (PIC3074F, 2019/02/04)

Inoperative (itype_148)

Tsbs

- OnStar Will Not Power Up (PIC5491K, 2017/12/18)

- Missing Channels or No Audio On Certain XM Radio Channels (PIC5959C, 2017/02/20)

Noise (itype_156)

Tsbs

- Audio System - Noise When Using Portable Playback Unit (06-08-44-015C, 2012/03/30)

Out of specification (itype_158)

Tsbs

- CD/DVD Will Not Eject from Instrument Panel Mounted Player (PI0124E, 2012/12/07)

- XM Band Not Receiving All Channels (Preview Mode) (PIC5088F, 2016/04/21)

Poor performance (itype_162)

Tsbs

- Apple Phone Will Not Always Auto Connect Through Bluetooth To The Radio (PIC6120A, 2016/03/21)

- Loss of Radio Audio Shortly After an OnStar In-Vehicle Voice Message Is Heard (20-NA-026, 2020/07/22)

- XM Band Not Receiving All Channels (Preview Mode) (PIC5088F, 2016/04/21)

- Performance Of XM Radio System With Sunroof Fully Open (PIC3074F, 2019/02/04)

Miscellaneous Information (itype_111)

Tsbs

- Diagnostic Tips: XM Audio Traffic And Travel Link Availability And Operation (PIT5353C, 2018/11/20)

Tools and Equipment (itype_113)

Tsbs

- Information on Multi-Media Infotainment Tester (MIT) Incompatibility Issues (17-NA-386, 2017/12/04)

Warranty Information (itype_119)

Tsbs

- Information on Inappropriate Warranty Claims Submitted for Damaged Radios and Instrument Panel Clusters (IPCs) (08-08-44-015H, 2016/12/19)

Service Campaigns (itype_108)

Tsbs

- Campaign - SiriusXM(R) Travel Link Feature Availability (15747, 2015/12/18)
- Campaign - Connected Navigation Voice Command Not Working (12315A, 2013/01/31)