



Service Bulletin

PRELIMINARY INFORMATION

Subject: Intermittent Radio Blank Display With or Without Audio and MOST BUS Diagnostic Aid

Models: 2013 Cadillac Passenger Cars
2014-2018 All GM Passenger Cars and Light Duty Trucks
Equipped with Radio RPOs IO3, IO4, IO5, IO6, RAO, UA3, or UY4

Attention: This PI also applies to any of the above models that may be Export from North America vehicles.

This PI has been revised to update Model Years, Models and add special tool information under Display is blank and no audio section. Please discard PI1149.

Condition/Concern

Some customers may comment that the radio has No Display or No Audio, and No Radio Control from radio or steering wheel controls.

Display is blank and no audio — MOST bus down

- Are U0028 or U0029 DTCs stored in history?
- If these codes are stored in either the radio or the HMI module, check for a Surrogate MOST Master Node Upstream Position in the radio.
- Follow published diagnostics for the related DTCs.
- NOTE: If the bus condition happens while driving (current ignition cycle), the clock and the presets will disappear, but there will be a display
- There will be a blank display with no audio if the bus condition exists at startup.
- Root cause — It can be either a ECU/wiring/connector bringing the MOST bus down.
- You can eliminate a module from the bus. Simply use essential tool EL-51578 to bypass the module. This may help identify if it is a faulty module causing the issue. Depending on the ECU bypassed, some infotainment functionality will be lost due to the missing MOST ECU.

Display is Blank, but Audio is Heard

The bus is not down if the clock is displayed and you can hear an audio.

- Is it at the start of the ignition cycle?
 - If yes, use a flashlight to shine on the display to see if icons can be seen — HMI software update may correct issue.
 - If no, check all connectors/pins and wiring to the ICS and if all checks are good, then continue to next line.
- Is there any response from the touchscreen (presets at the bottom of the screen, source, haptic feedback (Cadillac only) ?
 - If there is no response from the touchscreen, check LIN BUS 5 between the ICS and the HMI module.
 - If there is response, inspect the USB video cable connections at the ICS and HMI module and verify it is fully seated. If no issues are found, make a USB test cable from the USB test kit EL-50334–50 and install it from the ICS to the HMI module. If the concern is not corrected, install a known good ICS.
- If the concern is not corrected, contact General Motors Technical Assistance Center (TAC) for HMI module authorization.

Important Information to Note

The Infotainment modules have 3 main communication busses. Low and High speed GMLAN, MOST, and LIN communication.

The MOST bus consists of a "ring" of modules on the infotainment bus. They can include the Radio (Tuner), Human Machine Interface (NAV, Bluetooth®, USB), Instrument Panel Cluster (IPC), Amplifier (optional), and CD/DVD Media Disc Players (optional), Touchpad (optional). The radio/HVAC control (ICS) are not part of the MOST bus.

Each module has a GMLAN communication bus that will allow communication with the scan tool HMI is on High speed, all other Infotainment modules are on Low speed (except CD Media Disk Player).

LIN buses are used between the controls and the module for communication. The radio controls, steering wheel controls, and HVAC controls all communicate on LIN. These LIN modules also have low speed GMLAN capabilities for diagnostic purposes ONLY.

Note: The scan tool does NOT communicate on the LIN or MOST bus.

Based on the symptoms, you can isolate what communication bus has a concern.

1. Check entire vehicle for codes. If any module specific communication codes set, diagnose those first. (Example U0184 Loss of communication with radio, U0186 loss of communication with amplifier.) Verify GMLAN communication on all MOST bus ECU's first (except CD player), then power(s), ground(s), data line(s), and connections to the suspect module prior to replacing. Ignore U0028 or U0029 if a module specific communication code is set.
2. If no module specific codes are set, check to see if the radio set U0028. (Refer to SI U0028 information for in depth diagnostics on this code. The radio is the "master" of the MOST bus. The radio will set a "surrogate most master node upstream position" when there is a concern on the MOST bus. NOTE: For 2013 Cadillac and 2014 Impala, the radio may need to be SPS programmed if the radio data display does not list the parameter "surrogate most master node upstream position." A calibration change was made to have this parameter always shown instead of only when a concern was present. This was to aid in diagnosing intermittent concerns. If you do not see this parameter, the radio (tuner) will need to be SPS programmed with the latest calibrations.

Keep in mind these important hints when diagnosing this Infotainment system:

- How to rule out the HMI:
 - If Push-To-Talk button and USB (Flash drive with charge indicator) operate, it is most likely not HMI.
- How to rule out the tuner:
 - If audio is heard and the buttons are illuminated, it is most likely not the tuner. The audio symptoms may be different if the Tuner has internal Amp.
- How to rule out the ICS:
 - If a known good ICS does not correct the concern.
- How to rule out the (optional) amp:
 - If chime is not heard, suspect an issue at the Amp. If the volume bar does not display on the ICS or IPC, suspect the amp.
- How to rule out the (optional) CD player:
 - Bypass the MOST bus at the CD player.
- How to rule out the IPC:
 - If all SWC operate, it is most likely not the IPC.

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from this information.



WE SUPPORT VOLUNTARY TECHNICIAN CERTIFICATION