

**DIAGNOSIS AND TESTING > INFORMATION AND ENTERTAINMENT SYSTEM >
PINPOINT TESTS > PINPOINT TEST B : THE SATELLITE RADIO IS INOPERATIVE,
HAS POOR RECEPTION OR SOUND QUALITY, OR HAS NO SOUND**

Refer to Audio System/Navigation - With Sony for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Information and Entertainment System - System Operation and Component Description . See MyKey ®, Satellite Radio, and Antenna.

When a satellite radio subscription is activated, the ESN of the satellite radio receiver built into the ACM is associated with the VIN.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1A89:11	Satellite Antenna: Circuit Short To Ground	Set by the ACM when a short to ground is detected on the satellite radio coaxial cable for more than 1 second. This DTC can be either continuous or on-demand.
B1A89:13	Satellite Antenna: Circuit Open	Set by the ACM when an open is detected on the satellite radio coaxial cable for more than 250 milliseconds. This DTC can be either continuous or on-demand.

Possible Sources

- Expired subscription
- Obstructions in the antenna's line of sight
- Incorrectly matched ESN
- Satellite radio antenna coaxial cable
- Satellite radio antenna
- ACM

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B : THE SATELLITE RADIO IS INOPERATIVE, HAS POOR RECEPTION OR SOUND
QUALITY, OR HAS NO SOUND**

B1 VERIFY AN ACTIVE SUBSCRIPTION

Operate the audio system in satellite radio mode and observe the infotainment display.

Does the display indicate that the subscription has expired?

Yes	The subscription has expired. INSTRUCT the customer to contact SIRIUS to reactivate the subscription.
No	GO to B2

B2 CHECK THE RECEPTION

Drive the vehicle to an open location that is free from obstacles such as tall buildings or large trees.

Using a diagnostic scan tool, view the ACM Parameter Identifications (PIDs).

Monitor the satellite signal strength (SAT_SIG_STR) PID.

If the PID reads "No Signal" or "Poor," move the vehicle to another area and retest until "Good," "Very Good," or "Excellent" PID values are obtained.

Can a "Good," "Very Good," or "Excellent" PID value be obtained?

Yes	GO to B3
No	GO to B6

B3 CHECK THE SATELLITE RADIO SYSTEM FOR CORRECT OPERATION

Operate multiple channels with the audio system in satellite radio mode.

Does the satellite radio system receive multiple channels with normal sound quality?

Yes	The system is operating correctly at this time. The concern was a result of obstructions in the antenna's line of sight.
No	GO to B4

B4 CHECK FOR PROMOTIONAL CHANNEL 184

Select channel 184.

Does the satellite radio system receive channel 184 with normal sound quality?

Yes	GO to B5
No	GO to B6

B5 VERIFY THAT THE VIN (VEHICLE IDENTIFICATION NUMBER) AND ESN (ELECTRONIC SERIAL NUMBER) ON FILE MATCH THE VIN (VEHICLE IDENTIFICATION NUMBER) AND ESN (ELECTRONIC SERIAL NUMBER) FROM THE VEHICLE

Retrieve the satellite radio ESN by tuning to channel 0.

Contact the SIRIUS Dealer Support Line (888-465-8528).

Ensure that the VIN and ESN SIRIUS has on the customer's file match the VIN and ESN retrieved from the vehicle.

Follow the actions from step 2 to obtain "Good," "Very Good," or "Excellent" reception.

Operate the audio system in satellite radio mode.



NOTE: It may take up to 30 minutes for the activation signal to be received and satellite radio functions to operate.

Request for SIRIUS to send the activation signal to the vehicle 2-3 times.

Operate multiple channels with the audio system in satellite radio mode.

Does the satellite radio system receive multiple channels with normal sound quality?

Yes	The system is operating correctly at this time. The concern was a result of the activation signal needing to be resent or the VIN and ESN SIRIUS had on file not matching the VIN and ESN from the vehicle.
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No	GO to B6
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B6 CHECK FOR ACM (AUDIO FRONT CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

Ignition ON.

Using a diagnostic scan tool, clear the ACM Diagnostic Trouble Codes (DTCs).

Using a diagnostic scan tool, perform the ACM self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded in the ACM?

Yes	* For DTC B1A89:11 or DTC B1A89:13, GO to B7* For all other Diagnostic Trouble Codes (DTCs), REFER to: Information and Entertainment System . See DTC Chart: ACM.
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No	GO to B16
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B7 CHECK THE SATELLITE RADIO ANTENNA COAXIAL CABLE CORE AND SHIELD FOR A SHORT TO VOLTAGE

Ignition OFF.

Disconnect: Satellite radio antenna coaxial cable at the ACM. REFER to: Satellite Radio Antenna Cable .

Disconnect: Satellite radio antenna coaxial cable at the satellite radio antenna unit. REFER to: Satellite Radio Antenna Cable .

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
Satellite radio antenna coaxial cable core at the ACM		Ground
Satellite radio antenna coaxial cable shield at the ACM		Ground

Is any voltage present?

Yes	REPAIR, or INSTALL a new satellite radio antenna coaxial cable. REFER to: Satellite Radio Antenna Cable .
No	GO to B8

B8 CHECK THE SATELLITE RADIO ANTENNA COAXIAL CABLE CORE FOR A SHORT TO GROUND

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
Satellite radio antenna coaxial cable core at the ACM	Ω	Ground

Is the resistance greater than 10, 000 ohms?

Yes	GO to B9
No	REPAIR, or INSTALL a new satellite radio antenna coaxial cable. REFER to: Satellite Radio Antenna Cable .

B9 CHECK THE SATELLITE RADIO ANTENNA COAXIAL CABLE CORE AND SHIELD FOR AN OPEN

Measure:

Positive Lead	Measurement / Action	Negative Lead
Satellite radio coaxial cable core at the ACM	Ω	Satellite radio antenna coaxial cable core at the satellite radio antenna unit
Satellite radio antenna coaxial cable shield at the ACM	Ω	Satellite radio antenna coaxial cable shield at the satellite radio antenna unit

Are the resistances less than 1 ohm?

Yes	GO to B10
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No	REPAIR, or INSTALL a new satellite radio antenna coaxial cable. REFER to: Satellite Radio Antenna Cable .
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B10 CHECK THE SATELLITE RADIO ANTENNA COAXIAL CABLE CORE AND SHIELD FOR A SHORT TOGETHER

Measure:

Positive Lead	Measurement / Action	Negative Lead
Satellite radio antenna coaxial cable core at the ACM	Ω	Satellite radio antenna coaxial cable shield at the ACM

Is the resistance greater than 10, 000 ohms?

Yes	GO to B11
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No	REPAIR, or INSTALL a new satellite radio antenna coaxial cable. REFER to: Satellite Radio Antenna Cable .
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B11 CHECK THE SATELLITE RADIO ANTENNA UNIT CORE AND SHIELD FOR A SHORT TO VOLTAGE

Ignition OFF.

Connect: Satellite radio antenna coaxial cable at the satellite radio antenna unit.

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
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Satellite radio antenna coaxial cable core at the ACM		Ground
Satellite radio antenna coaxial cable shield at the ACM		Ground

Is any voltage present?

Yes	INSTALL a new satellite radio antenna. REFER to: Satellite Radio Antenna .
No	GO to B12

B12 CHECK THE SATELLITE RADIO ANTENNA UNIT CORE FOR A SHORT TO GROUND

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
Satellite radio antenna coaxial cable core at the ACM	Ω	Ground

Is the resistance greater than 10, 000 ohms?

Yes	GO to B13
No	INSTALL a new satellite radio antenna. REFER to: Satellite Radio Antenna .

B13 CHECK THE SATELLITE RADIO ANTENNA UNIT CORE AND SHIELD FOR A SHORT TOGETHER

Measure:

Positive Lead	Measurement / Action	Negative Lead
Satellite radio antenna coaxial cable core at the ACM	Ω	Satellite radio antenna coaxial cable shield at the ACM

Is the resistance greater than 10, 000 ohms?

Yes	GO to B14
No	INSTALL a new satellite radio antenna. REFER to: Satellite Radio Antenna .

B14 CHECK THE SATELLITE RADIO ANTENNA UNIT SHIELD FOR CONTINUITY TO GROUND

Disconnect: Satellite radio antenna coaxial cable at the antenna unit.

Measure:

Positive Lead	Measurement / Action	Negative Lead
Satellite radio antenna unit shield at the antenna unit (component side)	Ω	Ground

Is the resistance less than 1 ohm?

Yes	GO to B16
No	GO to B15

B15 CHECK THE SATELLITE RADIO ANTENNA UNIT SHIELD FOR CONTINUITY TO ANTENNA UNIT BASE

Remove the satellite radio antenna. REFER to: Satellite Radio Antenna .

Measure:

Positive Lead	Measurement / Action	Negative Lead
Satellite radio antenna unit shield at the antenna unit (component side)	Ω	Satellite radio antenna base (unpainted surface)

Is the resistance less than 1 ohm?

Yes	GO to B16
No	INSTALL a new satellite radio antenna. REFER to: Satellite Radio Antenna .

B16 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

Ignition OFF.

Disconnect and inspect all ACM connectors.

Repair:

Corrosion (clean module pins or install new connectors or terminals)

Damaged or bent pins (install new terminals or pins)

Pushed-out pins (install new pins as necessary)