

Carry out an APIM power reset by disconnecting the battery for 1 minute, then reconnecting it.

Connect: MIT 105-00120.

Using the MIT 105-00120, test the audio output for the SYNC ® audio sources (Bluetooth, USB, audio input jack) using the VOICE steering wheel switch to enter each mode.

Do all of the SYNC ® inputs function correctly?

Yes	The SYNC ® system is operating correctly at this time. PERFORM a Master Reset. REFER to the Owner's Literature. REVIEW the SYNC ® system operation with the customer. If the customer's device still does not operate correctly, the fault is with the customer's device.
No	* If there is a concern with one or more, but not all SYNC ® audio sources, REFER to: Information and Entertainment System . See Symptom Chart: SYNC ® System.* If there is a concern with the VOICE steering wheel switch, GO to Pinpoint Test V * If all inputs are inoperative, PERFORM the APIM Hardware Test. Refer to APIM HARDWARE TESTING .

**DIAGNOSIS AND TESTING > INFORMATION AND ENTERTAINMENT SYSTEM >
PINPOINT TESTS > PINPOINT TEST P : ALL APIM (SYNC MODULE) STEREO
OUTPUTS ARE INOPERATIVE OR DO NOT OPERATE CORRECTLY**

Refer to Audio System/Navigation - With SYNC Without Touchscreen for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Information and Entertainment System - System Operation and Component Description . See Bluetooth Mode, SYNC ® System, USB Mode, ACM, APIM.

Possible Sources

- Customer's device
- Wiring, terminals, or connectors
- APIM
- ACM

**DIAGNOSIS AND TESTING > INFORMATION AND ENTERTAINMENT SYSTEM >
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P : ALL APIM (SYNC MODULE) STEREO OUTPUTS ARE INOPERATIVE OR DO NOT
OPERATE CORRECTLY**

P1 VERIFY THE OPERATION OF THE SYNC ® SYSTEM AUDIO SOURCES

Connect: MIT 105-00120.

Using the MIT 105-00120, test the audio output for the SYNC ® audio sources (Bluetooth, USB ports, and audio input jack).

Is there poor quality, distorted, or no sound from all SYNC ® audio sources?

Yes	GO to P2
No	* If there is a concern with one or more, but not all SYNC ® audio sources, REFER to: Information and Entertainment System . See Symptom Chart: SYNC ® System.* If all SYNC ® audio sources operate correctly with the MIT 105-00120, the concern is with the customer's device.

P2 CHECK FOR AN AC (ALTERNATING CURRENT) VOLTAGE SIGNAL ON THE APIM (SYNC MODULE) STEREO OUTPUT CIRCUITS TO THE ACM (AUDIO FRONT CONTROL MODULE)



NOTE: This pinpoint test step directs testing circuits using a back-probe method. Use the special back-probe tool POM6411. Do not force test leads or other probes into connectors. Adequate care must be exercised to avoid connector terminal damage, while ensuring that good electrical contact is made with the circuit or terminal. Failure to follow these instructions may cause damage to wiring, terminals, or connectors, and may cause subsequent electrical faults.

Play an audio file through the audio system using a SYNC ® audio source (Bluetooth, USB ports, audio input jack).

While back-probing ACM C240B , measure the AC voltage.

Positive Lead	Measurement / Action	Negative Lead
C240B-12		C240B-25
C240B-13		C240B-26

Is a fluctuating AC voltage present?

Yes	GO to P8
No	GO to P3

P3 CHECK THE APIM (SYNC MODULE) STEREO OUTPUT CIRCUITS TO THE ACM (AUDIO FRONT CONTROL MODULE) FOR A SHORT TO VOLTAGE

Ignition OFF.

Disconnect: ACM C240B .

Disconnect: APIM C2383 .

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C240B-12		Ground
C240B-13		Ground
C240B-25		Ground
C240B-26		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to P4

P4 CHECK THE APIM (SYNC MODULE) STEREO OUTPUT CIRCUITS TO THE ACM (AUDIO FRONT CONTROL MODULE) FOR A SHORT TO GROUND

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C240B-12	Ω	Ground
C240B-13	Ω	Ground
C240B-25	Ω	Ground
C240B-26	Ω	Ground

Are the resistances greater than 10, 000 ohms?

Yes	GO to P5
No	REPAIR the circuit in question.

P5 CHECK THE APIM (SYNC MODULE) STEREO OUTPUT CIRCUITS TO THE ACM (AUDIO FRONT CONTROL MODULE) FOR AN OPEN

Measure:

Positive Lead	Measurement / Action	Negative Lead
C240B-12	Ω	C2383-25
C240B-13	Ω	C2383-23
C240B-25	Ω	C2383-26
C240B-26	Ω	C2383-24

Are the resistances less than 3 ohms?

Yes	GO to P6
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No	REPAIR the circuit in question.
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P6 CHECK THE APIM (SYNC MODULE) STEREO OUTPUT CIRCUITS TO THE ACM (AUDIO FRONT CONTROL MODULE) FOR A SHORT TOGETHER

Measure:

Positive Lead	Measurement / Action	Negative Lead
C240B-12	Ω	C240B-13
C240B-12	Ω	C240B-25
C240B-12	Ω	C240B-26
C240B-13	Ω	C240B-25
C240B-13	Ω	C240B-26
C240B-25	Ω	C240B-26

Are the resistances greater than 10, 000 ohms?

Yes	GO to P7
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No	REPAIR the circuit in question.
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P7 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

Ignition OFF.

Disconnect and inspect the APIM connector.

Repair:

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

Damaged or bent pins (install new terminals or pins)