

2012 - Mazda6 - Body and Accessories

NO.4 NO SOUND FROM SOME SPEAKERS [ENTIRE AUDIO SYSTEM]

Without Bose®

4	No sound from certain speaker	
Possible DTC	Audio unit	—
Possible cause	• Speaker muted by audio unit sound adjustment • Open or short circuit in wiring harness between audio unit and speaker • Speaker malfunction (e.g., any foreign material, broken) • Short circuit inside speaker • Audio unit malfunction	

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Verify the audio unit sound adjustment. • Does the fader/balance operate?	Yes	The system is normal. Explain to the customer that the speaker is muted by the audio unit sound setting.
		No	Go to the next step.
2	• Switch the ignition to off. • Disconnect the audio unit connector (24-pin). • Inspect the connection of the audio unit connector (24-pin). (for sound signal line) • Is the connector connected securely?	Yes	Go to the next step.
		No	Connect the audio unit connector (24-pin) securely.

3	Switch the ignition to off. • Remove the audio unit. • Disconnect the audio unit connector (24-pin). • Inspect the continuity between the audio unit wiring harness-side connector terminal and ground: For front speaker ▪ Terminal 1A (LH+)—GND ▪ Terminal 1C (LH-)—GND ▪ Terminal 1D (RH+)—GND ▪ Terminal 1F (RH-)—GND For rear speaker ▪ Terminal 1S (LH+)—GND ▪ Terminal 1U (LH-)—GND ▪ Terminal 1V (RH+)—GND ▪ Terminal 1X (RH-)—GND • Is there continuity?	Yes	Repair or replace the suspect wiring harness or speaker unit.
4	• Disconnect the speaker connector (4-pin) and inspect the resistance of speaker. • Inspect the continuity between the audio unit wiring harness-side connector terminal and speaker wiring harness-side connector: Audio unit—front speaker ▪ Terminal 1A (LH+)—terminal C ▪ Terminal 1C (LH-)—terminal B ▪ Terminal 1D (RH+)—terminal C ▪ Terminal 1F (RH-)—terminal B	Yes	Go to the next step.
		No	Go to the next Step. NOTE: • If there is a short circuit between the speaker harness or speaker lead wire and ground, the protector circuit inside the audio unit operates to cut the sound.

	Audio unit—rear speaker ▪ Terminal 1S (LH+)—terminal C ▪ Terminal 1U (LH-)—terminal B ▪ Terminal 1V (RH+)—terminal C ▪ Terminal 1X (RH-)—terminal B • Is there continuity?		
5	• Inspect the suspect speaker. • Is the speaker normal? NOTE: • If the speaker lead wire contacts to either ground or vehicle frame, replace the speaker.	Yes	Replace the audio unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.)
		No	Replace the speaker. (See FRONT DOOR SPEAKER REMOVAL/ INSTALLATION.) (See TWEETER REMOVAL/ INSTALLATION.) (See REAR DOOR SPEAKER REMOVAL/ INSTALLATION.)

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4	No sound from certain speaker		
Possible DTC	Audio unit		—
	Car-navigation unit		—
Possible cause	• Speaker muted by audio unit sound adjustment • Poor connection of audio unit/car-navigation unit connector, terminal damage • Poor connection of audio amplifier connector • Open or short circuit in wiring harness between audio amplifier and audio unit/car-navigation unit • Open or short circuit in wiring harness between audio amplifier and speaker • Audio unit malfunction		

- Car-navigation unit malfunction
- Short circuit inside speaker
- Speaker malfunction (e.g., foreign material, broken)

Diagnostic procedure

STEP	INSPECTION	ACTION
1	• Verify the audio unit sound adjustment. • Does the fader/balance operate?	Yes The system is normal. Explain to the customer that the speaker is muted by the audio unit sound setting.
		No Go to the next step.
2	• Does the same speaker have no sound if changing the sound source? (Radio, CD)	Yes Go to the next step.
		No Replace the audio unit/car-navigation unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.) (See CAR-NAVIGATION UNIT REMOVAL/ INSTALLATION.) NOTE: • If the different speaker has no sound now, the audio unit is malfunctioning.
3	• Switch the ignition to off. • Inspect the connection of the audio unit/car-navigation unit connector (24-pin). (for sound signal line) • Is the connector connected securely?	Yes Go to the next step.
		No Connect the audio unit/car-navigation unit connector (24-pin) securely.
4	• Switch the ignition to off. • Remove the audio unit/car-navigation unit. • Disconnect the audio unit/car-navigation unit connector (24-pin). • Inspect the continuity between the audio unit/car-navigation unit wiring harness-side connector and ground.	Yes Repair or replace the related wiring harness. NOTE: • If there is a short to ground in wiring harness between the audio unit and audio amplifier, the protector circuit inside the audio unit operates to cut the sound.
		No Go to the next step. ▪ Terminal 1A (LH+)

	—GND ▪ Terminal 1C (LH-) —GND ▪ Terminal 1D (RH+) —GND ▪ Terminal 1F (RH-) —GND ▪ Terminal 1S (LH+) —GND ▪ Terminal 1U (LH-) —GND ▪ Terminal 1V (RH+) —GND ▪ Terminal 1X (RH-) —GND • Is there continuity?		
5	• Inspect the continuity between the following terminals of the audio amplifier wiring harness-side connector (16-pin) and the audio unit/car-navigation unit wiring harness-side connector (24-pin). ▪ Terminal 1A (LH+) —Terminal 1D ▪ Terminal 1C (LH-) —Terminal 1C ▪ Terminal 1D (RH+) —Terminal 1F ▪ Terminal 1F (RH-) —Terminal 1E ▪ Terminal 1S (LH+) — Terminal 1H ▪ Terminal 1U (LH-) — Terminal 1G ▪ Terminal 1V (RH+) — Terminal 1J ▪ Terminal 1X (RH-) — Terminal 1I • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the related wiring harness between the audio amplifier and the audio unit/car-navigation unit. Then go to the next step. NOTE: • If there is a open in wiring harness between the audio unit and audio amplifier, the protector circuit inside the audio unit operates to cut the sound.
6	• Inspect the connection of the audio amplifier connector.	Yes	Go to the next step.

	Is the connector connected securely?	No	Connect the audio amplifier securely.
7	- Switch the ignition to off. - Disconnect the audio amplifier connector. - Inspect continuity between the following terminals of the audio amplifier connector and speaker connector. For front door speaker (LH) - Terminal 3D—Terminal C (speaker) - Terminal 3C—Terminal B (speaker) For front door speaker (RH) - Terminal 3F—Terminal C (speaker) - Terminal 3E—Terminal B (speaker) For tweeter (LH) - Terminal 3D—Terminal B (tweeter) - Terminal 3C—Terminal A (tweeter) For tweeter (RH) - Terminal 3F—Terminal B (tweeter) - Terminal 3E—Terminal A (tweeter) For rear door speaker (LH) - Terminal 2D—	Yes	Go to the next step.
		No	Repair or replace the repair related wiring harnesses.

	Terminal C (speaker) - Terminal 2B— Terminal B (speaker) For rear door speaker (RH) - Terminal 2M— Terminal C (speaker) - Terminal 2O— Terminal B (speaker) For front center speaker - Terminal 2I— Terminal B (speaker) - Terminal 2K— Terminal A (speaker) For rear center speaker - Terminal 3H— Terminal B (speaker) - Terminal 3G— Terminal D (speaker) For rear speaker - Terminal 2E— Terminal B (speaker) - Terminal 2G— Terminal A (speaker) - Is there continuity?	
8	- Switch the ignition to off. - Disconnect the audio amplifier connector. - Inspect the continuity between the audio amplifier connector and ground:	Yes Repair or replace the related wiring harness or speaker unit. (See FRONT DOOR SPEAKER REMOVAL/ INSTALLATION.) (See REAR DOOR SPEAKER REMOVAL/ INSTALLATION.)

For front door speaker

- Terminal 3D (LH+) —GND
- Terminal 3C (LH-) —GND
- Terminal 3F (RH+) —GND
- Terminal 3E (RH-) —GND

For tweeter

- Terminal 3D (LH+) —GND
- Terminal 3C (LH-) —GND
- Terminal 3F (RH+) —GND
- Terminal 3E (RH-) —GND

For rear door speaker

- Terminal 2D (LH+) —GND
- Terminal 2B (LH-) —GND
- Terminal 2M (RH+) —GND
- Terminal 2O (RH-) —GND

For front center speaker

- Terminal 2I (+)—GND
- Terminal 2K (—) —GND

For rear center speaker

- Terminal 3H (+)—GND
- Terminal 3G (—) —GND

(See **FRONT CENTER SPEAKER REMOVAL/ INSTALLATION.**)

(See **TWEETER REMOVAL/ INSTALLATION.**)

(See **REAR CENTER SPEAKER REMOVAL/ INSTALLATION.**)

(See **REAR SPEAKER REMOVAL/ INSTALLATION.**)

NOTE:

- If there is a short circuit between the speaker harness or speaker lead wire and ground, the protector circuit inside the audio unit/car-navigation unit operates to cut the sound.

No Go to the next step.

	For rear speaker ▪ Terminal 2E—GND ▪ Terminal 2G—GND • Is there continuity?		
9	• Inspect the suspect speaker. • Is the speaker normal? NOTE: • If the speaker lead wire contacts to either ground or vehicle frame, replace the speaker.	Yes	With audio unit (with display) • Go to the next step. With car-navigation unit or audio unit (without display) • Replace the audio unit/car-navigation unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.) (See CAR-NAVIGATION UNIT REMOVAL/ INSTALLATION.)
		No	Replace the speaker. (See FRONT DOOR SPEAKER REMOVAL/ INSTALLATION.) (See REAR DOOR SPEAKER REMOVAL/ INSTALLATION.) (See FRONT CENTER SPEAKER REMOVAL/ INSTALLATION.) (See TWEETER REMOVAL/ INSTALLATION.) (See REAR CENTER SPEAKER REMOVAL/ INSTALLATION.) (See REAR SPEAKER REMOVAL/ INSTALLATION.)
10	• Verify that all of the audio unit reset conditions for the customer's audio unit are met. (See AUDIO UNIT RESET PROCEDURE [ENTIRE AUDIO SYSTEM].) • Are all of the audio unit reset conditions for the customer's audio unit met?	Yes	Perform the audio unit reset. (See AUDIO UNIT RESET PROCEDURE [ENTIRE AUDIO SYSTEM].)
		No	Replace the audio unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.)

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Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Verify the audio unit sound adjustment. • Does the fader/balance operate?	Yes	The system is normal. Explain to the customer that the speaker is muted by the audio unit sound setting.
		No	Go to the next step.
2	• Switch the ignition to off. • Disconnect the audio unit connector (24-pin). • Inspect the connection of the audio unit connector (24-pin). (for sound signal line) • Is the connector connected securely?	Yes	Go to the next step.
		No	Connect the audio unit connector (24-pin) securely.

3	Switch the ignition to off. • Remove the audio unit. • Disconnect the audio unit connector (24-pin). • Inspect the continuity between the audio unit wiring harness-side connector terminal and ground: For front speaker ▪ Terminal 1A (LH+)—GND ▪ Terminal 1C (LH-)—GND ▪ Terminal 1D (RH+)—GND ▪ Terminal 1F (RH-)—GND For rear speaker ▪ Terminal 1S (LH+)—GND ▪ Terminal 1U (LH-)—GND ▪ Terminal 1V (RH+)—GND ▪ Terminal 1X (RH-)—GND • Is there continuity?	Yes	Repair or replace the suspect wiring harness or speaker unit.
4	• Disconnect the speaker connector (4-pin) and inspect the resistance of speaker. • Inspect the continuity between the audio unit wiring harness-side connector terminal and speaker wiring harness-side connector: Audio unit—front speaker ▪ Terminal 1A (LH+)—terminal C ▪ Terminal 1C (LH-)—terminal B ▪ Terminal 1D (RH+)—terminal C ▪ Terminal 1F (RH-)—terminal B	Yes	Go to the next step.
		No	Go to the next Step. NOTE: • If there is a short circuit between the speaker harness or speaker lead wire and ground, the protector circuit inside the audio unit operates to cut the sound.

	Audio unit—rear speaker ▪ Terminal 1S (LH+)—terminal C ▪ Terminal 1U (LH-)—terminal B ▪ Terminal 1V (RH+)—terminal C ▪ Terminal 1X (RH-)—terminal B • Is there continuity?		
5	• Inspect the suspect speaker. • Is the speaker normal? NOTE: • If the speaker lead wire contacts to either ground or vehicle frame, replace the speaker.	Yes	Replace the audio unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.)
		No	Replace the speaker. (See FRONT DOOR SPEAKER REMOVAL/ INSTALLATION.) (See TWEETER REMOVAL/ INSTALLATION.) (See REAR DOOR SPEAKER REMOVAL/ INSTALLATION.)

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- Car-navigation unit malfunction
- Short circuit inside speaker
- Speaker malfunction (e.g., foreign material, broken)

Diagnostic procedure

STEP	INSPECTION	ACTION
1	• Verify the audio unit sound adjustment. • Does the fader/balance operate?	Yes The system is normal. Explain to the customer that the speaker is muted by the audio unit sound setting.
		No Go to the next step.
2	• Does the same speaker have no sound if changing the sound source? (Radio, CD)	Yes Go to the next step.
		No Replace the audio unit/car-navigation unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.) (See CAR-NAVIGATION UNIT REMOVAL/ INSTALLATION.) NOTE: • If the different speaker has no sound now, the audio unit is malfunctioning.
3	• Switch the ignition to off. • Inspect the connection of the audio unit/car-navigation unit connector (24-pin). (for sound signal line) • Is the connector connected securely?	Yes Go to the next step.
		No Connect the audio unit/car-navigation unit connector (24-pin) securely.
4	• Switch the ignition to off. • Remove the audio unit/car-navigation unit. • Disconnect the audio unit/car-navigation unit connector (24-pin). • Inspect the continuity between the audio unit/car-navigation unit wiring harness-side connector and ground.	Yes Repair or replace the related wiring harness. NOTE: • If there is a short to ground in wiring harness between the audio unit and audio amplifier, the protector circuit inside the audio unit operates to cut the sound.
		No Go to the next step. ▪ Terminal 1A (LH+)

	—GND ▪ Terminal 1C (LH-) —GND ▪ Terminal 1D (RH+) —GND ▪ Terminal 1F (RH-) —GND ▪ Terminal 1S (LH+) —GND ▪ Terminal 1U (LH-) —GND ▪ Terminal 1V (RH+) —GND ▪ Terminal 1X (RH-) —GND • Is there continuity?		
5	• Inspect the continuity between the following terminals of the audio amplifier wiring harness-side connector (16-pin) and the audio unit/car-navigation unit wiring harness-side connector (24-pin). ▪ Terminal 1A (LH+) —Terminal 1D ▪ Terminal 1C (LH-) —Terminal 1C ▪ Terminal 1D (RH+) —Terminal 1F ▪ Terminal 1F (RH-) —Terminal 1E ▪ Terminal 1S (LH+) — Terminal 1H ▪ Terminal 1U (LH-) — Terminal 1G ▪ Terminal 1V (RH+) — Terminal 1J ▪ Terminal 1X (RH-) — Terminal 1I • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the related wiring harness between the audio amplifier and the audio unit/car-navigation unit. Then go to the next step. NOTE: • If there is a open in wiring harness between the audio unit and audio amplifier, the protector circuit inside the audio unit operates to cut the sound.
6	• Inspect the connection of the audio amplifier connector.	Yes	Go to the next step.

	Is the connector connected securely?	No	Connect the audio amplifier securely.
7	- Switch the ignition to off. - Disconnect the audio amplifier connector. - Inspect continuity between the following terminals of the audio amplifier connector and speaker connector. For front door speaker (LH) - Terminal 3D—Terminal C (speaker) - Terminal 3C—Terminal B (speaker) For front door speaker (RH) - Terminal 3F—Terminal C (speaker) - Terminal 3E—Terminal B (speaker) For tweeter (LH) - Terminal 3D—Terminal B (tweeter) - Terminal 3C—Terminal A (tweeter) For tweeter (RH) - Terminal 3F—Terminal B (tweeter) - Terminal 3E—Terminal A (tweeter) For rear door speaker (LH) - Terminal 2D—	Yes	Go to the next step.
		No	Repair or replace the repair related wiring harnesses.

	Terminal C (speaker) - Terminal 2B— Terminal B (speaker) For rear door speaker (RH) - Terminal 2M— Terminal C (speaker) - Terminal 2O— Terminal B (speaker) For front center speaker - Terminal 2I— Terminal B (speaker) - Terminal 2K— Terminal A (speaker) For rear center speaker - Terminal 3H— Terminal B (speaker) - Terminal 3G— Terminal D (speaker) For rear speaker - Terminal 2E— Terminal B (speaker) - Terminal 2G— Terminal A (speaker) - Is there continuity?	
8	- Switch the ignition to off. - Disconnect the audio amplifier connector. - Inspect the continuity between the audio amplifier connector and ground:	Yes Repair or replace the related wiring harness or speaker unit. (See FRONT DOOR SPEAKER REMOVAL/ INSTALLATION.) (See REAR DOOR SPEAKER REMOVAL/ INSTALLATION.)

For front door speaker

- Terminal 3D (LH+)—GND
- Terminal 3C (LH-)—GND
- Terminal 3F (RH+)—GND
- Terminal 3E (RH-)—GND

For tweeter

- Terminal 3D (LH+)—GND
- Terminal 3C (LH-)—GND
- Terminal 3F (RH+)—GND
- Terminal 3E (RH-)—GND

For rear door speaker

- Terminal 2D (LH+)—GND
- Terminal 2B (LH-)—GND
- Terminal 2M (RH+)—GND
- Terminal 2O (RH-)—GND

For front center speaker

- Terminal 2I (+)—GND
- Terminal 2K (—)—GND

For rear center speaker

- Terminal 3H (+)—GND
- Terminal 3G (—)—GND

(See **FRONT CENTER SPEAKER REMOVAL/ INSTALLATION.**)

(See **TWEETER REMOVAL/ INSTALLATION.**)

(See **REAR CENTER SPEAKER REMOVAL/ INSTALLATION.**)

(See **REAR SPEAKER REMOVAL/ INSTALLATION.**)

NOTE:

- If there is a short circuit between the speaker harness or speaker lead wire and ground, the protector circuit inside the audio unit/car-navigation unit operates to cut the sound.

No Go to the next step.

	For rear speaker ▪ Terminal 2E—GND ▪ Terminal 2G—GND • Is there continuity?		
9	• Inspect the suspect speaker. • Is the speaker normal? NOTE: • If the speaker lead wire contacts to either ground or vehicle frame, replace the speaker.	Yes	With audio unit (with display) • Go to the next step. With car-navigation unit or audio unit (without display) • Replace the audio unit/car-navigation unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.) (See CAR-NAVIGATION UNIT REMOVAL/ INSTALLATION.)
		No	Replace the speaker. (See FRONT DOOR SPEAKER REMOVAL/ INSTALLATION.) (See REAR DOOR SPEAKER REMOVAL/ INSTALLATION.) (See FRONT CENTER SPEAKER REMOVAL/ INSTALLATION.) (See TWEETER REMOVAL/ INSTALLATION.) (See REAR CENTER SPEAKER REMOVAL/ INSTALLATION.) (See REAR SPEAKER REMOVAL/ INSTALLATION.)
10	• Verify that all of the audio unit reset conditions for the customer's audio unit are met. (See AUDIO UNIT RESET PROCEDURE [ENTIRE AUDIO SYSTEM].) • Are all of the audio unit reset conditions for the customer's audio unit met?	Yes	Perform the audio unit reset. (See AUDIO UNIT RESET PROCEDURE [ENTIRE AUDIO SYSTEM].)
		No	Replace the audio unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.)

