DTC: 29:Er01 [AUDIO]

## Note

• "iPod" is a registered trademark of Apple Inc. in the United States and other countries.

## Audio unit (with color LCD)

Audio unit (with color LCD)				
Description				
<b>Detection condition</b>	When iPod is connected, audio unit read error is detected			
Fail-safe function	Not applicable			
Possible cause	USB device/iPod malfunction     Incompatible USB device (format) used     Audio unit connector or terminal malfunction     Auxiliary jack/USB port connector or terminal malfunction     Open circuit in wiring harness between the following terminals:     — Audio unit terminal 4A and auxiliary jack/USB port terminal UD     — Audio unit terminal 4B and auxiliary jack/USB port terminal UC			
ΔΙΙ	AUXILIARY JACK/USB PORT   4A  4B  4C  4C  4D  AUXILIARY JACK/USB PORT WIRING  AUXILIARY JACK/USB PORT WIRING  AUXILIARY JACK/USB PORT WIRING			
	CONNECTOR  HARNESS-SIDE CONNECTOR  UD UC UB UA  E D C B A			

**Diagnostic Procedure** 

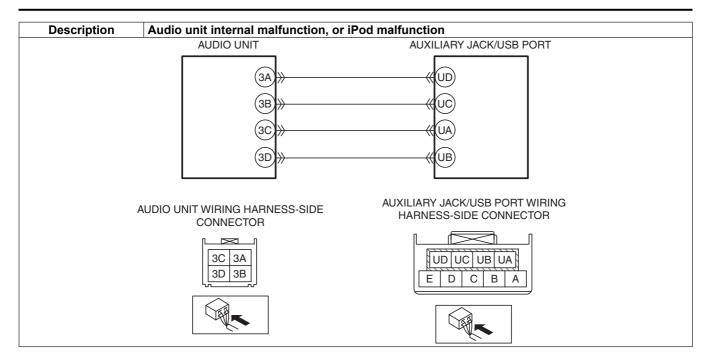
Step	Inspection		Action
1	INSPECT USB DEVICE/iPod	Yes	Go to the next step.
	Connect the USB device/iPod to another vehicle (model/unit).	No	System is normal. (USB device/iPod malfunction or incompatible USB device.)
	Is the USB device/iPod connection detected/ unit plays back.		Go to Step 7.
2	INSPECT AUXILIARY JACK/USB PORT	Yes	Repair or replace the connector, then go to Step 7.
	CONNECTOR CONDITION     Disconnect the auxiliary jack/USB port connector.	No	Go to the next step.
	Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.		
	Is there any malfunctioning part?		

Step	Inspection		Action
3	INSPECT AUXILIARY JACK/USB PORT	Yes	Replace the auxiliary jack/USB port, then go to Step 7.
	Inspect the auxiliary jack/USB port.     (See AUXILIARY JACK/USB PORT)		(See AUXILIARY JACK/USB PORT REMOVAL/INSTALLATION.)
	INSPECTION.) • Is there any malfunctioning part?	No	Go to the next step.
4	INSPECT AUDIO UNIT CONNECTOR	Yes	Repair or replace the connector, then go to Step 7.
	CONDITION  Switch the ignition off (LOCK).  Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)  Disconnect the audio unit connector.  Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.	No	Go to the next step.
5	Is there any malfunctioning part?  INSPECT WIRING HARNESS FOR OPEN	Yes	Go to the next step.
	CIRCUIT BETWEEN AUDIO UNIT AND AUXILIARY JACK/USB PORT  • Verify that the connectors for the audio unit and the auxiliary jack/USB port are disconnected.  • Inspect for continuity between the following terminals (vehicle wiring harness).  — Audio unit terminal 4A and auxiliary jack/USB port terminal UD  — Audio unit terminal 4B and auxiliary jack/USB port terminal UC  — Audio unit terminal 4C and auxiliary jack/USB port terminal UA  — Audio unit terminal 4D and auxiliary jack/USB port terminal UB  • Is there continuity?	No	Refer to the wiring diagram and verify if there is a common connector between the following terminals (vehicle wiring harness side).  • Audio unit terminal 4A and auxiliary jack/USB port terminal UD  • Audio unit terminal 4B and auxiliary jack/USB port terminal UC  • Audio unit terminal 4C and auxiliary jack/USB port terminal UA  • Audio unit terminal 4D and auxiliary jack/USB port terminal UB  If there is a common connector:  • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.  • Repair or replace the malfunctioning part.  If there is no common connector:  • Repair or replace the wiring harness which has an open circuit.  Go to Step 7.

Step	Inspection		Action
6	INSPECT WIRING HARNESS FOR SHORT TO	Yes	Refer to the wiring diagram and verify if there is a common
	GROUND BETWEEN AUDIO UNIT AND	103	connector between the following terminals (vehicle wiring
	AUXILIARY JACK/USB PORT		harness side).
	Inspect for continuity between the following		Auxiliary jack/USB port terminal UD
	wiring harness terminals (vehicle wiring harness		Auxiliary jack/USB port terminal UC
	side) and body ground.		Auxiliary jack/USB port terminal UA
	Auxiliary jack/USB port terminal UD		Auxiliary jack/USB port terminal UB
	Auxiliary jack/USB port terminal UC		If there is a common connector:
	Auxiliary jack/USB port terminal UA		Determine the malfunctioning part by inspecting the
	Auxiliary jack/USB port terminal UB		common connector and the terminal for corrosion, damage,
	Is there continuity?		or pin disconnection, and the common wiring harness for a
	,		short to ground.
			Repair or replace the malfunctioning part.
			If there is no common connector:
			Repair or replace the wiring harness which has a short to
			ground.
			Go to Step 7.
		No	Go to the next step.
7	VERIFY THAT REPAIRS HAVE BEEN	Yes	Return to Step 1 and inspect for other possible causes.
	COMPLETED		If the malfunction recurs, replace the audio unit, then go to
	Reconnect all the disconnected connectors.		the next step.
	Connect the negative battery cable.		(See AUDIO UNIT REMOVAL/INSTALLATION.)
	(See NEGATIVE BATTERY CABLE	No	Go to the next step.
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5		
	(WITHOUT i-stop)].)		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-D 2.2].)		
	Clear the audio unit DTCs.		
	(See CLEARING DTC [AUDIO].)		
	Perform the audio unit DTC inspection.		
	(See DTC INSPECTION [AUDIO].)		
	• Is the same DTC displayed?	V	Description and the small continuous and a small continuous to the
8	VERIFY IF OTHER DTCs DISPLAYED	Yes	Repair the malfunctioning part according to the applicable
	Are any other DTCs displayed?		DTC troubleshooting.
		NI.	(See DTC TABLE [AUDIO].)
		No	DTC troubleshooting completed.

## Audio unit (without color LCD)

Description	Audio unit internal malfunction, or iPod malfunction	
<b>Detection condition</b>	When iPod is connected, audio unit read error is detected	
Fail-safe function	Fail-safe function Not applicable	
Possible cause	<ul> <li>USB device/iPod malfunction</li> <li>Incompatible USB device (format) used</li> <li>Audio unit connector or terminal malfunction</li> <li>Auxiliary jack/USB port connector or terminal malfunction</li> <li>Open circuit in wiring harness between the following terminals: <ul> <li>Audio unit terminal 3A and auxiliary jack/USB port terminal UD</li> <li>Audio unit terminal 3B and auxiliary jack/USB port terminal UC</li> <li>Audio unit terminal 3D and auxiliary jack/USB port terminal UB</li> </ul> </li> <li>Short to ground in wiring harness between the following terminals: <ul> <li>Audio unit terminal 3A and auxiliary jack/USB port terminal UD</li> <li>Audio unit terminal 3B and auxiliary jack/USB port terminal UC</li> <li>Audio unit terminal 3C and auxiliary jack/USB port terminal UA</li> <li>Audio unit terminal 3D and auxiliary jack/USB port terminal UB</li> </ul> </li> <li>Auxiliary jack/USB port malfunction</li> <li>Audio unit malfunction</li> </ul>	



**Diagnostic Procedure** 

Step	Inspection		Action
1	INSPECT USB DEVICE/iPod	Yes	Go to the next step.
	Connect the USB device/iPod to another	No	System is normal. (USB device/iPod malfunction or
	vehicle (model/unit).		incompatible USB device.)
	Is the USB device/iPod connection detected/		Go to Step 7.
	unit plays back.		
2	INSPECT AUXILIARY JACK/USB PORT	Yes	Repair or replace the connector, then go to Step 7.
	CONNECTOR CONDITION	No	Go to the next step.
	Disconnect the auxiliary jack/USB port connector.		
	Inspect the connector engagement and		
	connection condition and inspect the terminals		
	for damage, deformation, corrosion, or		
	disconnection.		
	Is there any malfunctioning part?		
3	INSPECT AUXILIARY JACK/USB PORT	Yes	Replace the auxiliary jack/USB port, then go to Step 7.
	Inspect the auxiliary jack/USB port.		(See AUXILIARY JACK/USB PORT REMOVAL/
	(See AUXILIARY JACK/USB PORT		INSTALLATION.)
	INSPECTION.)	No	Go to the next step.
	Is there any malfunctioning part?		
4	INSPECT AUDIO UNIT CONNECTOR	Yes	Repair or replace the connector, then go to Step 7.
	CONDITION	No	Go to the next step.
	Switch the ignition off (LOCK).		
	• Disconnect the negative battery cable.		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	(See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION		
	SKYACTIV-G 2.0, SKYACTIV-G 2.5		
	(WITHOUT i-stop)].)		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-D 2.2].)		
	Disconnect the audio unit connector.		
	Inspect the connector engagement and		
	connection condition and inspect the terminals		
	for damage, deformation, corrosion, or		
	disconnection.		
	Is there any malfunctioning part?		

Step	Inspection		Action
5	INSPECT WIRING HARNESS FOR OPEN	Yes	Go to the next step.
	CIRCUIT BETWEEN AUDIO UNIT AND AUXILIARY JACK/USB PORT  • Verify that the connectors for the audio unit and the auxiliary jack/USB port are disconnected.  • Inspect for continuity between the following terminals (vehicle wiring harness).  — Audio unit terminal 3A and auxiliary jack/USB port terminal UD  — Audio unit terminal 3B and auxiliary jack/USB port terminal UC  — Audio unit terminal 3C and auxiliary jack/USB port terminal UA  — Audio unit terminal 3D and auxiliary jack/USB port terminal UB  • Is there continuity?	No	Refer to the wiring diagram and verify if there is a common connector between the following terminals (vehicle wiring harness side).  • Audio unit terminal 3A and auxiliary jack/USB port terminal UD  • Audio unit terminal 3B and auxiliary jack/USB port terminal UC  • Audio unit terminal 3C and auxiliary jack/USB port terminal UA  • Audio unit terminal 3D and auxiliary jack/USB port terminal UB  If there is a common connector:  • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.  • Repair or replace the malfunctioning part.  If there is no common connector:  • Repair or replace the wiring harness which has an open circuit.
6	INSPECT WIRING HARNESS FOR SHORT TO GROUND BETWEEN AUDIO UNIT AND AUXILIARY JACK/USB PORT  • Inspect for continuity between the following wiring harness terminals (vehicle wiring harness side) and body ground.  — Auxiliary jack/USB port terminal UD  — Auxiliary jack/USB port terminal UC  — Auxiliary jack/USB port terminal UA  — Auxiliary jack/USB port terminal UB  • Is there continuity?	Yes	Go to Step 7.  Refer to the wiring diagram and verify if there is a common connector between the following terminals (vehicle wiring harness side).  • Auxiliary jack/USB port terminal UD  • Auxiliary jack/USB port terminal UC  • Auxiliary jack/USB port terminal UA  • Auxiliary jack/USB port terminal UB  If there is a common connector:  • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.  • Repair or replace the malfunctioning part.  If there is no common connector:  • Repair or replace the wiring harness which has a short to ground.  Go to Step 7.  Go to the next step.
7	VERIFY THAT REPAIRS HAVE BEEN COMPLETED  Reconnect all the disconnected connectors.  Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)  Clear the audio unit DTCs. (See CLEARING DTC [AUDIO].)  Perform the audio unit DTC inspection. (See DTC INSPECTION [AUDIO].)	Yes	Return to Step 1 and inspect for other possible causes. If the malfunction recurs, replace the audio unit, then go to the next step. (See AUDIO UNIT REMOVAL/INSTALLATION.)  Go to the next step.
8	• Are any other DTCs displayed?	Yes	Repair the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [AUDIO].) DTC troubleshooting completed.