

# DTC: U0197:00 [Bluetooth SYSTEM (HANDS-FREE TELEPHONE (HF/TEL) SYSTEM)]

id0902g8441300

<b>Description</b>	<b>Communication error with audio unit</b>
<b>Detection condition</b>	CAN signal is not sent from Bluetooth unit
<b>Fail-safe function</b>	—
<b>Possible cause</b>	<ul style="list-style-type: none"> <li>• Short in wiring harness between Bluetooth unit and audio unit, short to power supply, short or open circuit to ground</li> <li>• Audio unit malfunction</li> <li>• Bluetooth unit malfunction</li> </ul>

## Diagnostic Procedure

Diagnostic Procedure			
Step	Inspection	Action	
1	<b>INSPECT FOR SHORT BETWEEN CAN CIRCUITS</b> <ul style="list-style-type: none"><li>• Remove the glove compartment. (See GLOVE COMPARTMENT REMOVAL/ INSTALLATION.)</li><li>• Switch the ignition ON (engine off or on).</li><li>• Measure the voltage between the following terminals:<ul style="list-style-type: none"><li>— Between Bluetooth unit terminal S and body ground</li><li>— Between Bluetooth unit terminal T and body ground</li></ul></li><li>• Are the measured voltage values between the 2 terminals the same?</li></ul>	Yes	Go to the next step.
		No	Go to Step 4.

Step	Inspection		Action
2	<b>DETERMINE IF SHORT OCCURRING BETWEEN LINES IS IN AUDIO UNIT</b> <ul style="list-style-type: none"><li>• Switch the ignition off (LOCK).</li><li>• Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li><li>• Remove the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.)</li><li>• Disconnect the audio unit connector.</li><li>• Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li><li>• Switch the ignition ON (engine off or on).</li><li>• Measure the voltage between the following terminals:<ul style="list-style-type: none"><li>— Audio unit connector (vehicle wiring harness) terminal 2I and body ground</li><li>— Audio unit connector (vehicle wiring harness) terminal 2J and body ground</li></ul></li><li>• Are the measured voltage values between the 2 terminals the same?</li></ul>	Yes	Go to the next step.
		No	Replace the audio unit because there is a short between circuits in the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.) After replacement, go to Step 13.

Step	Inspection	Action	
3	<b>DETERMINE IF SHORT OCCURRING BETWEEN LINES IS IN BLUETOOTH UNIT</b> <ul style="list-style-type: none"><li>• Switch the ignition off (LOCK).</li><li>• Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)]). (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li><li>• Remove the Bluetooth unit. (See Bluetooth UNIT REMOVAL/INSTALLATION.)</li><li>• Disconnect the Bluetooth unit connector.</li><li>• Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)]). (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li><li>• Switch the ignition ON (engine off or on).</li><li>• Measure the voltage between the following terminals:<ul style="list-style-type: none"><li>— Audio unit connector (vehicle wiring harness) terminal 2I and body ground</li><li>— Audio unit connector (vehicle wiring harness) terminal 2J and body ground</li></ul></li><li>• Are the measured voltage values between the 2 terminals the same?</li></ul>	Yes	Repair or replace the wiring harness between the audio unit and the Bluetooth unit because the wiring harness is shorted between circuits, then go to Step 13.
		No	Replace the Bluetooth unit because there is a short between circuits in the Bluetooth unit. (See Bluetooth UNIT REMOVAL/INSTALLATION.) After replacement, go to Step 13.
4	<b>INSPECT FOR SHORT TO POWER SUPPLY IN CAN CIRCUIT</b> <ul style="list-style-type: none"><li>• Measure the voltage between the following terminals:<ul style="list-style-type: none"><li>— Between Bluetooth unit terminal S and body ground</li><li>— Between Bluetooth unit terminal T and body ground</li></ul></li><li>• Can B+ voltage be measured?</li></ul> <b>Note</b> <ul style="list-style-type: none"><li>• If a short to power supply other than the B+ power supply has occurred, a constant voltage other than B+ can be measured.</li></ul>	Yes	Go to the next step.
		No	Go to Step 7.

Step	Inspection	Action	
5	<b>DETERMINE IF SHORT TO POWER SUPPLY IS OCCURRING IN AUDIO UNIT</b> <ul style="list-style-type: none"><li>• Switch the ignition off (LOCK).</li><li>• Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li><li>• Remove the audio unit. (See AUDIO UNIT REMOVAL/ INSTALLATION.)</li><li>• Disconnect the audio unit connector.</li><li>• Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li><li>• Switch the ignition ON (engine off or on).</li><li>• Measure the voltage between the following terminals:<ul style="list-style-type: none"><li>— Audio unit connector (vehicle wiring harness) terminal 2I and body ground</li><li>— Audio unit connector (vehicle wiring harness) terminal 2J and body ground</li></ul></li><li>• Can B+ voltage be measured?</li></ul> <b>Note</b> <ul style="list-style-type: none"><li>• If a short to power supply other than the B+ power supply has occurred, a constant voltage other than B+ can be measured.</li></ul>	Yes	Go to the next step.
		No	Replace the audio unit because there is a short to the power supply in the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.) After replacement, go to Step 13.

Step	Inspection	Action	
6	<b>DETERMINE IF SHORT TO POWER IS OCCURRING IN BLUETOOTH UNIT</b> <ul style="list-style-type: none"> <li>Switch the ignition off (LOCK).</li> <li>Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>Remove the Bluetooth unit. (See Bluetooth UNIT REMOVAL/INSTALLATION.)</li> <li>Disconnect the Bluetooth unit connector.</li> <li>Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>Switch the ignition ON (engine off or on).</li> <li>Measure the voltage between the following terminals: <ul style="list-style-type: none"> <li>Audio unit connector (vehicle wiring harness) terminal 2I and body ground</li> <li>Audio unit connector (vehicle wiring harness) terminal 2J and body ground</li> </ul> </li> <li>Can B+ voltage be measured?</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>If a short to power supply other than the B+ power supply has occurred, a constant voltage other than B+ can be measured.</li> </ul>	Yes	Repair or replace the wiring harness between the audio unit and the Bluetooth unit because the wiring harness is shorted to the power supply, then go to Step 13.
		No	Replace the Bluetooth unit because there is a short to the power supply in the Bluetooth unit. (See Bluetooth UNIT REMOVAL/INSTALLATION.) After replacement, go to Step 13.
7	<b>INSPECT FOR SHORT TO GROUND IN CAN CIRCUIT</b> <ul style="list-style-type: none"> <li>Switch the ignition off (LOCK).</li> <li>Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>Inspect for continuity between the following terminals: <ul style="list-style-type: none"> <li>Between Bluetooth unit terminal S and body ground</li> <li>Between Bluetooth unit terminal T and body ground</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Go to Step 10.

Step	Inspection	Action	
8	<b>DETERMINE IF SHORT TO GROUND IS OCCURRING IN AUDIO UNIT</b> <ul style="list-style-type: none"> <li>Remove the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.)</li> <li>Disconnect the audio unit connector.</li> <li>Inspect for continuity between the following terminals: <ul style="list-style-type: none"> <li>Audio unit connector (vehicle wiring harness) terminal 2I and body ground</li> <li>Audio unit connector (vehicle wiring harness) terminal 2J and body ground</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Replace the audio unit because there is a short to ground inside the unit. (See AUDIO UNIT REMOVAL/INSTALLATION.) After replacement, go to Step 13.
9	<b>DETERMINE IF SHORT TO GROUND IS OCCURRING IN BLUETOOTH UNIT</b> <ul style="list-style-type: none"> <li>Remove the Bluetooth unit. (See Bluetooth UNIT REMOVAL/INSTALLATION.)</li> <li>Disconnect the Bluetooth unit connector.</li> <li>Inspect for continuity between the following terminals: <ul style="list-style-type: none"> <li>Audio unit connector (vehicle wiring harness) terminal 2I and body ground</li> <li>Audio unit connector (vehicle wiring harness) terminal 2J and body ground</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Repair or replace the wiring harness between the audio unit and the Bluetooth unit because the wiring harness is shorted to ground, then go to Step 13.
		No	Replace the Bluetooth unit because there is a short to ground inside the unit. (See Bluetooth UNIT REMOVAL/INSTALLATION.) After replacement, go to Step 13.
10	<b>INSPECT CAN CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Remove the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.)</li> <li>Disconnect the audio unit connector.</li> <li>Remove the Bluetooth unit. (See Bluetooth UNIT REMOVAL/INSTALLATION.)</li> <li>Disconnect the Bluetooth unit connector.</li> <li>Inspect for continuity between the following terminals: <ul style="list-style-type: none"> <li>Inspect the wiring harness for continuity between Bluetooth unit connector (vehicle wiring harness side) terminal S and audio unit connector (vehicle wiring harness side) terminal 2I.</li> <li>Inspect the wiring harness for continuity between Bluetooth unit connector (vehicle wiring harness side) terminal T and audio unit connector (vehicle wiring harness side) terminal 2J.</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Go to Step 13.
11	<b>INSPECT AUDIO UNIT RESISTANCE</b> <ul style="list-style-type: none"> <li>Inspect the resistance between the audio unit terminal 2I and terminal 2J (part side).</li> <li>Is the resistance <b>118—130 Ω</b>?</li> </ul>	Yes	Go to the next step.
		No	Replace the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.) After replacement, go to Step 13.
12	<b>INSPECT BLUETOOTH UNIT RESISTANCE</b> <ul style="list-style-type: none"> <li>Inspect the resistance between Bluetooth unit terminals S and T (part side).</li> <li>Is the resistance <b>118—130 Ω</b>?</li> </ul>	Yes	Go to the next step.
		No	Replace the Bluetooth unit. (See Bluetooth UNIT REMOVAL/INSTALLATION.) After replacement, go to the next step.

Step	Inspection	Action
13	<b>VERIFY THAT REPAIRS HAVE BEEN COMPLETED</b> <ul style="list-style-type: none"> <li>• Connect all the connectors.</li> <li>• Perform an inspection of the Bluetooth unit DTCs. (See DTC INSPECTION [Bluetooth SYSTEM (HANDS-FREE TELEPHONE (HF/TEL) SYSTEM)].)</li> <li>• Is the same DTC displayed?</li> </ul>	Yes Return to Step 1 and inspect for other possible causes. If the malfunction recurs, replace the Bluetooth unit, then go to the next step. (See Bluetooth UNIT REMOVAL/INSTALLATION.)
		No Go to the next step.
14	<b>VERIFY IF OTHER DTCs DISPLAYED</b> <ul style="list-style-type: none"> <li>• Are any other DTCs displayed?</li> </ul>	Yes Repair the malfunctioning part according to the applicable DTC troubleshooting.
		No DTC troubleshooting completed.