

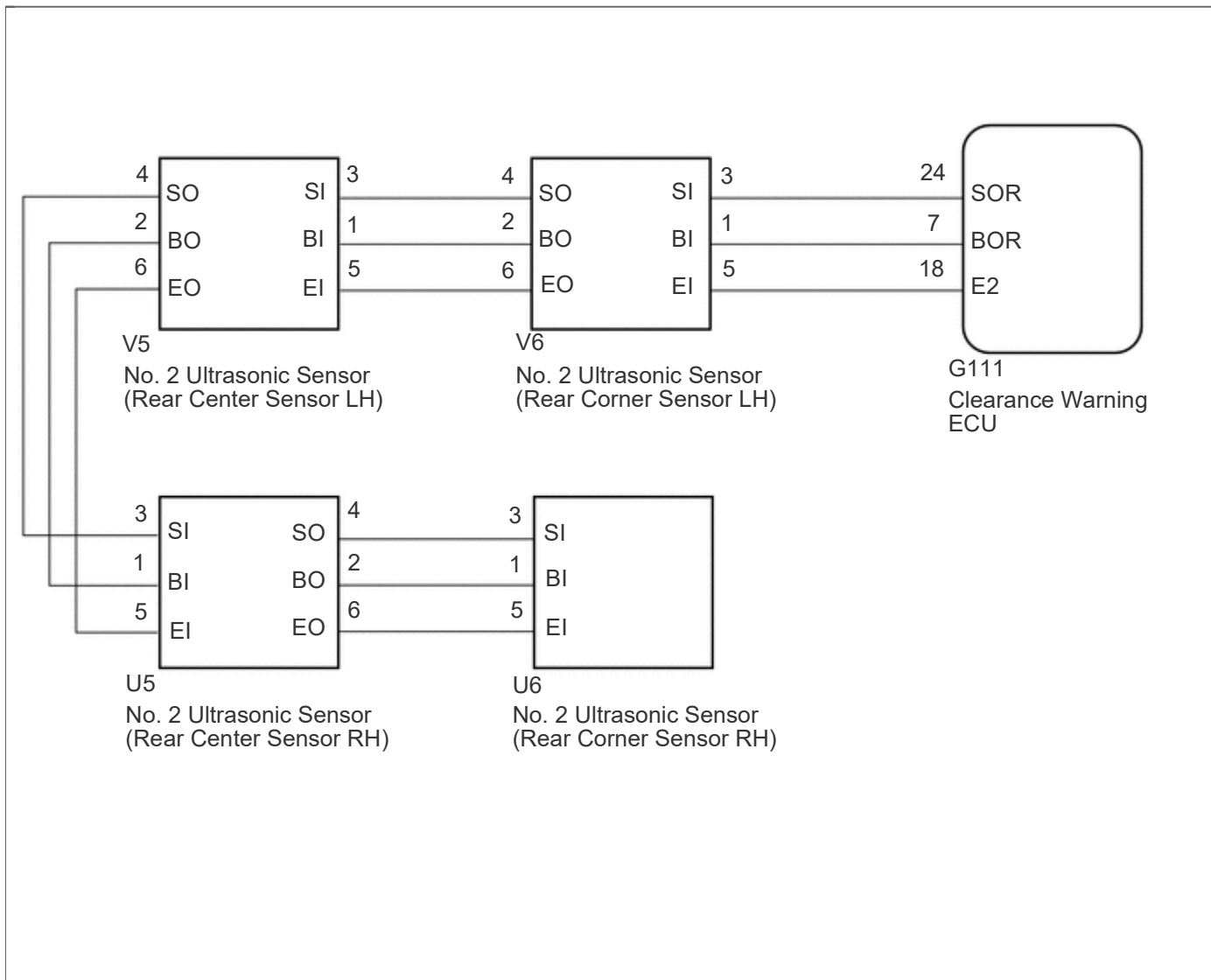
## PARK ASSIST / MONITORING LEXUS PARKING ASSIST-SENSOR SYSTEM C1AED Rear Sensor Communication Malfunction

### DESCRIPTION

This DTC is stored when there is an open or short circuit in the communication line between the rear sensors and ECU, or when there is a malfunction in a rear sensor.

DTC No.	Detection Item	DTC Detection Condition	Trouble Area
C1AED	Rear Sensor Communication Malfunction	An open or short circuit in the communication line between the rear sensors and ECU or a malfunction in a rear sensor during initialization mode after the engine switch is turned on (IG).	<ul style="list-style-type: none"> <li>Rear ultrasonic sensor circuit</li> <li>Clearance warning ECU</li> </ul>

### WIRING DIAGRAM



# PROCEDURE

## 1.CHECK FOR DTC (C1AED)

- a. Clear the DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

**Body Electrical > Clearance Sonar > Clear DTCs**

Execute

- b. Recheck for DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

**Body Electrical > Clearance Sonar > Trouble Codes**

Execute

### Result:

Result	Proceed to
DTC C1AED is output	A
No DTC is output	B

A

## 2.CHECK HARNESS AND CONNECTOR (CLEARANCE WARNING ECU - REAR CORNER SENSOR LH)

B

### USE SIMULATION METHOD TO CHECK

Click here [General>INTRODUCTION>HOW TO TROUBLESHOOT ECU CONTROLLED SYSTEMS>HOW TO PROCEED WITH TROUBLESHOOTING](#)

## 2.CHECK HARNESS AND CONNECTOR (CLEARANCE WARNING ECU - REAR CORNER SENSOR LH)

- a. Disconnect the G111 clearance warning ECU connector.
- b. Disconnect the V6 No. 2 ultrasonic sensor (rear corner sensor LH) connector.
- c. Measure the resistance according to the value(s) in the table below.

### Standard Resistance:

Tester Connection	Condition	Specified Condition
G111-7 (BOR) - V6-1 (BI)	Always	Below 1 $\Omega$
G111-24 (SOR) - V6-3 (SI)	Always	Below 1 $\Omega$
G111-18 (E2) - V6-5 (EI)	Always	Below 1 $\Omega$
G111-7 (BOR) - Body ground	Always	10 k $\Omega$ or higher
G111-24 (SOR) - Body ground	Always	10 k $\Omega$ or higher
	Always	10 k $\Omega$ or higher

Tester Connection	Condition	Specified Condition
G111-18 (E2) - Body ground		

**Result:**

Result
OK
NG

OK

**3.CHECK HARNESS AND CONNECTOR (REAR CORNER SENSOR LH - REAR CENTER SENSOR LH)**

NG

**REPAIR OR REPLACE HARNESS OR CONNECTOR**

**3.CHECK HARNESS AND CONNECTOR (REAR CORNER SENSOR LH - REAR CENTER SENSOR LH)**

- a. Disconnect the V6 No. 2 ultrasonic sensor (rear corner sensor LH) connector.
- b. Disconnect the V5 No. 2 ultrasonic sensor (rear center sensor LH) connector.
- c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

Tester Connection	Condition	Specified Condition
V6-2 (BO) - V5-1 (BI)	Always	Below 1 $\Omega$
V6-4 (SO) - V5-3 (SI)	Always	Below 1 $\Omega$
V6-6 (EO) - V5-5 (EI)	Always	Below 1 $\Omega$
V6-2 (BO) - Body ground	Always	10 k $\Omega$ or higher
V6-4 (SO) - Body ground	Always	10 k $\Omega$ or higher
V6-6 (EO) - Body ground	Always	10 k $\Omega$ or higher

**Result:**

Result
OK
NG

OK

**4.CHECK HARNESS AND CONNECTOR (REAR CENTER SENSOR LH - REAR CENTER SENSOR RH)**

NG

**REPAIR OR REPLACE HARNESS OR CONNECTOR**

**4.CHECK HARNESS AND CONNECTOR (REAR CENTER SENSOR LH - REAR CENTER SENSOR RH)**

- a. Disconnect the V5 No. 2 ultrasonic sensor (rear center sensor LH) connector.
- b. Disconnect the U5 No. 2 ultrasonic sensor (rear center sensor RH) connector.
- c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

Tester Connection	Condition	Specified Condition
V5-2 (BO) - U5-1 (BI)	Always	Below 1 $\Omega$
V5-4 (SO) - U5-3 (SI)	Always	Below 1 $\Omega$
V5-6 (EO) - U5-5 (EI)	Always	Below 1 $\Omega$
V5-2 (BO) - Body ground	Always	10 k $\Omega$ or higher
V5-4 (SO) - Body ground	Always	10 k $\Omega$ or higher
V5-6 (EO) - Body ground	Always	10 k $\Omega$ or higher

**Result:**

Result
OK
NG

OK

**5.CHECK HARNESS AND CONNECTOR (REAR CENTER SENSOR RH - REAR CORNER SENSOR RH)**

NG

**REPAIR OR REPLACE HARNESS OR CONNECTOR**

**5.CHECK HARNESS AND CONNECTOR (REAR CENTER SENSOR RH - REAR CORNER SENSOR RH)**

- a. Disconnect the U5 No. 2 ultrasonic sensor (rear center sensor RH) connector.
- b. Disconnect the U6 No. 2 ultrasonic sensor (rear corner sensor RH) connector.
- c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

Tester Connection	Condition	Specified Condition
U5-2 (BO) - U6-1 (BI)	Always	Below 1 $\Omega$
U5-4 (SO) - U6-3 (SI)	Always	Below 1 $\Omega$
U5-6 (EO) - U6-5 (EI)	Always	Below 1 $\Omega$

Tester Connection	Condition	Specified Condition
U5-2 (BO) - Body ground	Always	10 kΩ or higher
U5-4 (SO) - Body ground	Always	10 kΩ or higher
U5-6 (EO) - Body ground	Always	10 kΩ or higher

**Result:**

Result
OK
NG

OK

**6.INSPECT NO. 2 ULTRASONIC SENSOR (REAR CORNER SENSOR LH)**

NG

**REPAIR OR REPLACE HARNESS OR CONNECTOR**

**6.INSPECT NO. 2 ULTRASONIC SENSOR (REAR CORNER SENSOR LH)**

- a. Remove the No. 2 ultrasonic sensor (rear corner sensor LH).  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)
- b. Inspect the No. 2 ultrasonic sensor (rear corner sensor LH).  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>INSPECTION](#)

**Result:**

Result
OK
NG

OK

**7.INSPECT NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR LH)**

NG

**REPLACE NO. 2 ULTRASONIC SENSOR (REAR CORNER SENSOR LH)**

Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)

**7.INSPECT NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR LH)**

- a. Remove the No. 2 ultrasonic sensor (rear center sensor LH).  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)
- b. Inspect the No. 2 ultrasonic sensor (rear center sensor LH).  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>INSPECTION](#)

**Result:**

Result
OK
NG

OK

**8.INSPECT NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR RH)**

NG

**REPLACE NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR LH)**

Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)

**8.INSPECT NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR RH)**

- a. Remove the No. 2 ultrasonic sensor (rear center sensor RH).  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)
- b. Inspect the No. 2 ultrasonic sensor (rear center sensor RH).  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>INSPECTION](#)

**Result:**

Result
OK
NG

OK

**9.REPLACE NO. 2 ULTRASONIC SENSOR (REAR CORNER SENSOR LH)**

NG

**REPLACE NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR RH)**

Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)

**9.REPLACE NO. 2 ULTRASONIC SENSOR (REAR CORNER SENSOR LH)**

- a. Replace the No. 2 ultrasonic sensor (rear corner sensor LH) with a normally functioning sensor.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)

**Result:**

Result
NEXT

NEXT

**10.CHECK FOR DTC (C1AED)**

## 10.CHECK FOR DTC (C1AED)

- a. Clear the DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

**Body Electrical > Clearance Sonar > Clear DTCs**

Execute

- b. Check for DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

**Body Electrical > Clearance Sonar > Trouble Codes**

Execute

### Result:

Result	Proceed to
DTC C1AED is output	A
No DTC is output	B

A

**11.REPLACE NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR LH)**

B

**END ((NO. 2 ULTRASONIC SENSOR [REAR CORNER SENSOR LH] WAS DEFECTIVE))**

## 11.REPLACE NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR LH)

- a. Replace the No. 2 ultrasonic sensor (rear center sensor LH) with a normally functioning sensor.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)

### HINT:

All of the sensors are interchangeable. To confirm whether a sensor is functioning normally, switch it with a known good sensor from the other end of the vehicle.

### Result:

Result
NEXT

NEXT

**12.CHECK FOR DTC (C1AED)**

## 12.CHECK FOR DTC (C1AED)

- a. Clear the DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

**Body Electrical > Clearance Sonar > Clear DTCs**

Execute

- b. Check for DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

**Body Electrical > Clearance Sonar > Trouble Codes**

Execute

**Result:**

Result	Proceed to
DTC C1AED is output	A
No DTC is output	B

A

**13.REPLACE NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR RH)**

B

**END (NO. 2 ULTRASONIC SENSOR [REAR CENTER SENSOR LH] WAS DEFECTIVE)**

**13.REPLACE NO. 2 ULTRASONIC SENSOR (REAR CENTER SENSOR RH)**

- a. Replace the No. 2 ultrasonic sensor (rear center sensor RH) with a normally functioning sensor.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)

**HINT:**

All of the sensors are interchangeable. To confirm whether a sensor is functioning normally, switch it with a known good sensor from the other end of the vehicle.

**Result:**

Result
NEXT

NEXT

**14.CHECK FOR DTC (C1AED)**

**14.CHECK FOR DTC (C1AED)**

- a. Clear the DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

**Body Electrical > Clearance Sonar > Clear DTCs**

Execute

- b. Check for DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)



Body Electrical > Clearance Sonar > Trouble Codes

Execute

Result:

Result	Proceed to
DTC C1AED is output	A
No DTC is output	B

A

15.REPLACE NO. 2 ULTRASONIC SENSOR (REAR CORNER SENSOR RH)

B

END (NO. 2 ULTRASONIC SENSOR [REAR CENTER SENSOR RH] WAS DEFECTIVE)

15.REPLACE NO. 2 ULTRASONIC SENSOR (REAR CORNER SENSOR RH)

- a. Replace the No. 2 ultrasonic sensor (rear corner sensor RH) with a normally functioning sensor.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>ULTRASONIC SENSOR\(for Rear\)>REMOVAL](#)

**HINT:**

All of the sensors are interchangeable. To confirm whether a sensor is functioning normally, switch it with a known good sensor from the other end of the vehicle.

Result:

Result
NEXT

NEXT

16.CHECK FOR DTC (C1AED)

16.CHECK FOR DTC (C1AED)

- a. Clear the DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

Body Electrical > Clearance Sonar > Clear DTCs

Execute

- b. Check for DTCs.  
Click here [Audio / Visual / Telematics>PARK ASSIST / MONITORING>LEXUS PARKING ASSIST-SENSOR SYSTEM>DTC CHECK / CLEAR](#)

Body Electrical > Clearance Sonar > Trouble Codes

Execute

Result:

<b>Result</b>	<b>Proceed to</b>
DTC C1AED is output	A
No DTC is output	B

**A**

**REPLACE CLEARANCE WARNING ECU**

Click here [Audio / Visual / Telematics > PARK ASSIST / MONITORING > CLEARANCE WARNING ECU > REMOVAL](#)

**B**

**END (NO. 2 ULTRASONIC SENSOR [REAR CORNER SENSOR RH] WAS DEFECTIVE)**