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Model Year Start: 2023	Model: Prius Prime	Prod Date Range: [12/2022 -]
Title: AUDIO / VIDEO: AUDIO AND VISUAL SYSTEM: Speaker Circuit; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

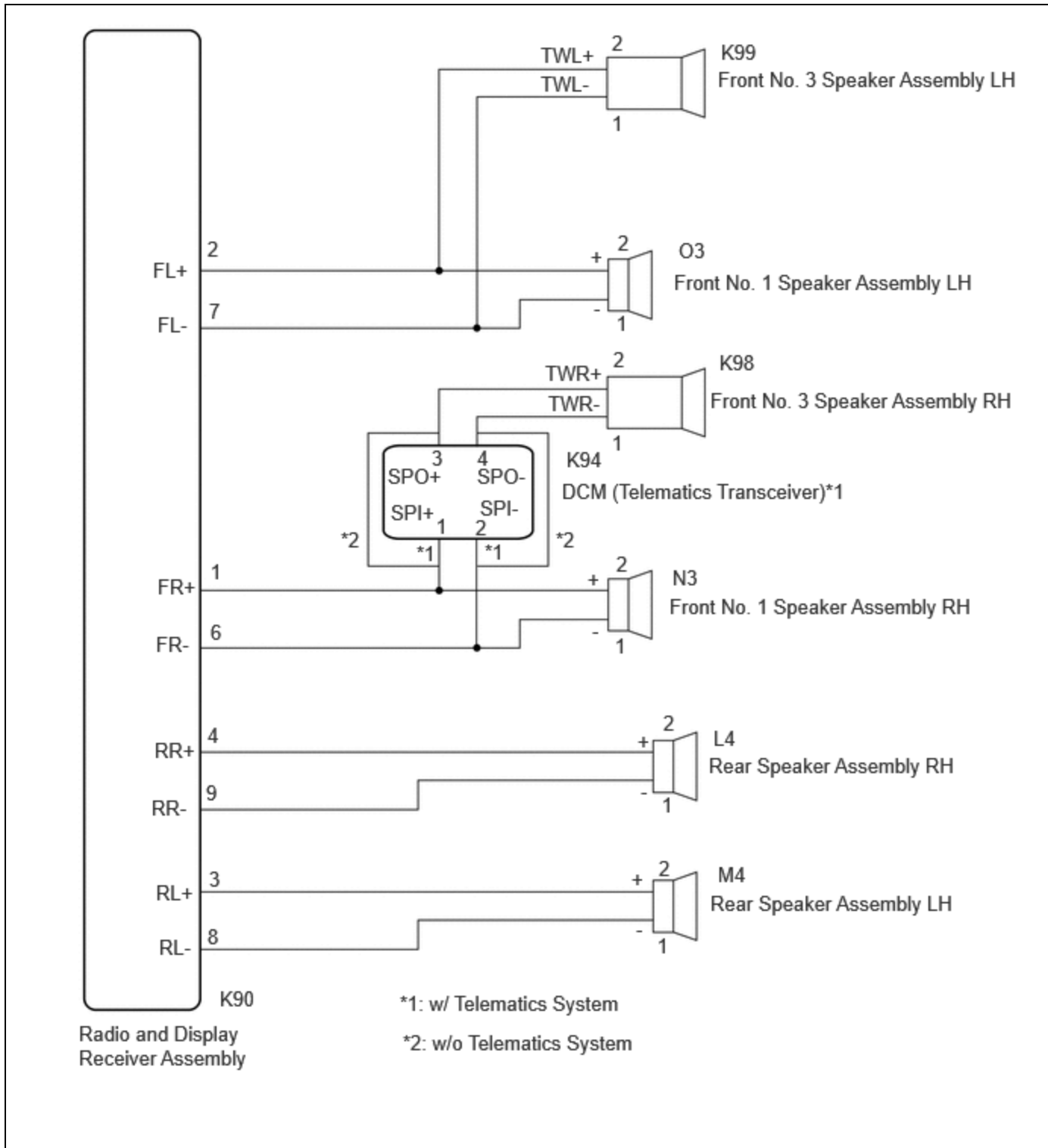
[Speaker Circuit](#)

DESCRIPTION

If there is a short in a speaker circuit, the radio and display receiver assembly detects it and stops output to the speakers.

As a result, sound cannot be heard from the speakers even if there is no malfunction in the radio and display receiver assembly or speakers.

WIRING DIAGRAM



CAUTION / NOTICE / HINT

NOTICE:

Depending on the parts that are replaced during vehicle inspection or maintenance, performing initialization, registration or calibration may be needed. Refer to Precaution for Audio and Visual System.

Click here [INFO](#)

PROCEDURE

1.	CHECK MODEL
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(a) Choose the model to be inspected.

RESULT	PROCEED TO
w/ DCM (Telematics Transceiver)	A
w/o DCM (Telematics Transceiver)	B

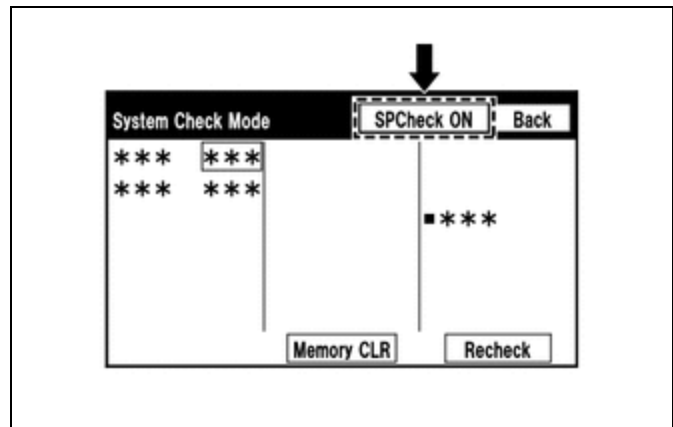
B **GO TO STEP 9**

A

2.	CHECK SPEAKER (OPERATION CHECK)
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(a) Enter diagnostic mode.

Click here [INFO](#)



(b) Select "Failure Diagnosis" from the "Service Menu" screen.

(c) Select "System Check" from the "Failure Diagnosis" screen.

(d) Select "SPCheck ON" from the "System Check Mode" screen and perform speaker check.

OK:

Each speaker outputs sound from the selected audio source properly.

RESULT	PROCEED TO
Front No. 1 speaker assembly or front No. 3 speaker assembly does not outputs sound	A

RESULT	PROCEED TO
Rear speaker assembly does not outputs sound	B

B **GO TO STEP 7**

A

3.	CHECK HARNESS AND CONNECTOR (SPEAKER CIRCUIT)
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- (a) Disconnect the K90 radio and display receiver assembly connector.
- (b) Disconnect the N3 and O3 front No. 1 speaker assembly connectors.
- (c) Disconnect the K98 and K99 front No. 3 speaker assembly connectors.
- (d) Disconnect the K94 DCM (telematics transceiver) connector.
- (e) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(K90,K99,O3,K94,K98\)](#)

[Click Connector\(K90\)](#)

[Click Connector\(K99\)](#)

[Click Connector\(O3\)](#)

[Click Connector\(K94\)](#)

[Click Connector\(K98\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K90-2 (FL+) - K99-2 (TWL+)	Always	Below 1 Ω
K90-7 (FL-) - K99-1 (TWL-)	Always	Below 1 Ω
K90-2 (FL+) - O3-2 (+)	Always	Below 1 Ω
K90-7 (FL-) - O3-1 (-)	Always	Below 1 Ω
K90-1 (FR+) - K99-1 (SPI+)	Always	Below 1 Ω
K90-6 (FR-) - K94-2 (SPI-)	Always	Below 1 Ω
K94-3 (SPO+) - K98-4 (TWR+)	Always	Below 1 Ω
K94-4 (SPO-) - K98-2 (TWR-)	Always	Below 1 Ω
K90-2 (FL+) or K99-2 (TWL+) - Body ground	Always	10 kΩ or higher
K90-7 (FL-) or K99-1 (TWL-) - Body ground	Always	10 kΩ or higher
K90-1 (FR+) or K94-1 (SPI+) - Body ground	Always	10 kΩ or higher


TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K90-6 (FR-) or K94-2 (SPI-) - Body ground	Always	10 kΩ or higher
K94-3 (SPO+) or K98-2 (TWR+) - Body ground	Always	10 kΩ or higher
K94-4 (SPO-) or I76-1 (TWR-) - Body ground	Always	10 kΩ or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK


4. INSPECT DCM (TELEMATICS TRANSCEIVER)

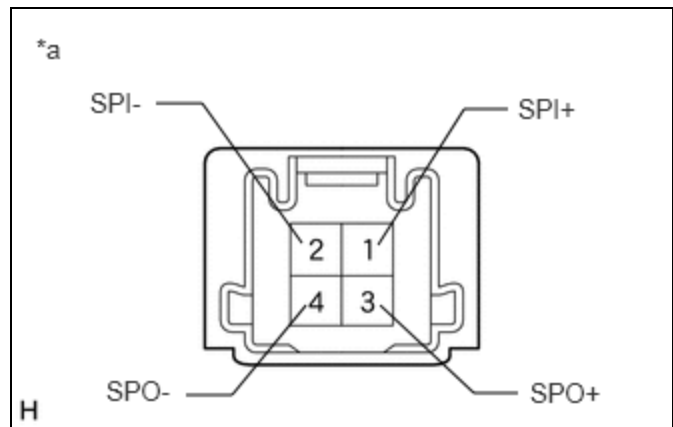
(a) Remove the DCM (telematics transceiver).

Click here 

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (SPI+) - 3 (SPO+)	Always	Below 1 Ω
2 (SPI-) - 4 (SPO-)	Always	Below 1 Ω
1 (SPI+) - 2 (SPI-)	Always	10 kΩ or higher
3 (SPO+) - 4 (SPO-)	Always	10 kΩ or higher
1 (SPI+) or 3 (SPO+) - Body ground	Always	10 kΩ or higher
2 (SPI-) or 4 (SPO-) - Body ground	Always	10 kΩ or higher



*a Component without harness connected (DCM (Telematics Transceiver))

NG  **REPLACE DCM (TELEMATICS TRANSCEIVER)**

OK


5. INSPECT FRONT NO. 1 SPEAKER ASSEMBLY

Click here [INFO](#)

NG  **REPLACE FRONT NO. 1 SPEAKER ASSEMBLY**

OK


6. REPLACE FRONT NO. 3 SPEAKER ASSEMBLY

(a) Replace the front No. 2 speaker assembly with a new or known good one.

Click here [INFO](#)

(b) Check if the malfunction disappears.

RESULT	PROCEED TO
Malfunction disappears	A
Malfunction occurs	B

A  **END (FRONT NO. 3 SPEAKER ASSEMBLY IS DEFECTIVE)**

B  **REPLACE RADIO AND DISPLAY RECEIVER ASSEMBLY**

7. CHECK HARNESS AND CONNECTOR (SPEAKER CIRCUIT)

- (a) Disconnect the K90 radio and display receiver assembly connector.
- (b) Disconnect the M4 and L4 rear speaker assembly connectors.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:



[Click Location & Routing\(K90,M4,L4\)](#)

[Click Connector\(K90\)](#)

[Click Connector\(M4\)](#)

[Click Connector\(L4\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K90-3 (RL+) - M4-2 (+)	Always	Below 1 Ω
K90-8 (RL-) - M4-1 (-)	Always	Below 1 Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K90-4 (RR+) - L4-2 (+)	Always	Below 1 Ω
K90-9 (RR-) - L4-1 (-)	Always	Below 1 Ω
K90-3 (RL+) or M4-2 (+) - Body ground	Always	10 kΩ or higher
K90-8 (RL-) or M4-1 (-) - Body ground	Always	10 kΩ or higher
K90-4 (RR+) or L4-2 (+) - Body ground	Always	10 kΩ or higher
K90-9 (RR-) or L4-1 (-) - Body ground	Always	10 kΩ or higher

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK
▼

8. INSPECT REAR SPEAKER ASSEMBLY

Click here [INFO](#)

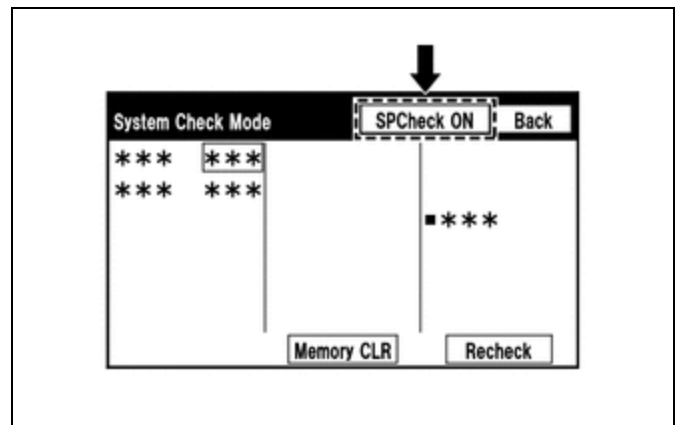
OK ► REPLACE RADIO & DISPLAY RECEIVER ASSEMBLY

NG ► REPLACE REAR SPEAKER ASSEMBLY

9. CHECK SPEAKER (OPERATION CHECK)

(a) Enter diagnostic mode.

Click here [INFO](#)



(b) Select "Failure Diagnosis" from the "Service Menu" screen.

(c) Select "System Check" from the "Failure Diagnosis" screen.

(d) Select "SPCheck ON" from the "System Check Mode" screen and perform speaker check.

OK:

Each speaker outputs sound from the selected audio source properly.

NOT OPERATING SPEAKER	PROCEED TO
Front No. 1 speaker assembly or front No. 3 speaker assembly	A
Rear speaker assembly	B

B  **GO TO STEP 13**

A


10.	CHECK HARNESS AND CONNECTOR (RADIO AND DISPLAY RECEIVER ASSEMBLY - FRONT NO. 1 SPEAKER ASSEMBLY - FRONT NO. 3 SPEAKER ASSEMBLY)
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- (a) Disconnect the K90 radio and display receiver assembly connector.
- (b) Disconnect the N3 and O3 front No. 1 speaker assembly connectors.
- (c) Disconnect the K98 and K99 front No. 3 speaker assembly connectors.
- (d) Measure the resistance according to the value (s) in the table below.

Standard Resistance:



[Click Location & Routing\(K90,K98,N3,K99,O3\)](#)

[Click Connector\(K90\)](#)

[Click Connector\(K98\)](#)

[Click Connector\(N3\)](#)

[Click Connector\(K99\)](#)

[Click Connector\(O3\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K90-1 (FR+) - K98-2 (TWR+)	Always	Below 1 Ω
K90-6 (FR-) - K98-1 (TWR-)	Always	Below 1 Ω
K90-1 (FR+) - N3-2 (+)	Always	Below 1 Ω
K90-6 (FR-) - N3-1 (-)	Always	Below 1 Ω
K90-2 (FL+) - K99-2 (TWL+)	Always	Below 1 Ω
K90-7 (FL-) - K99-1 (TWL-)	Always	Below 1 Ω
K90-2 (FL+) - O3-2 (+)	Always	Below 1 Ω
K90-7 (FL-) - O3-1 (-)	Always	Below 1 Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K90-1 (FR+) or K98-2 (TWR+) - Body ground	Always	10 kΩ or higher
K90-6 (FR-) or K98-1 (TWR-) - Body ground	Always	10 kΩ or higher
K90-1 (FR+) or N3-2 (+) - Body ground	Always	10 kΩ or higher
K90-6 (FR-) or N3-1 (-) - Body ground	Always	10 kΩ or higher
K90-2 (FL+) or K99-2 (TWL+) - Body ground	Always	10 kΩ or higher
K90-7 (FL-) or K99-1 (TWL-) - Body ground	Always	10 kΩ or higher
K90-2 (FL+) or O3-2 (+) - Body ground	Always	10 kΩ or higher
K90-7 (FL-) or O3-1 (-) - Body ground	Always	10 kΩ or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



11.	INSPECT FRONT NO. 1 SPEAKER ASSEMBLY
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Click here 

NG  **REPLACE FRONT NO. 1 SPEAKER ASSEMBLY**

OK



12.	REPLACE FRONT NO. 3 SPEAKER ASSEMBLY
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Click here 

OK:
Malfunction disappears.

OK  **END**

NG  **REPLACE RADIO AND DISPLAY RECEIVER ASSEMBLY**

13.	CHECK HARNESS AND CONNECTOR (RADIO AND DISPLAY RECEIVER ASSEMBLY - REAR SPEAKER ASSEMBLY)
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(a) Disconnect the K90 radio and display receiver assembly connector.

(b) Disconnect the M4 and L4 rear speaker assembly connectors.

(c) Measure the resistance according to the value (s) in the table below.

Standard Resistance:



[Click Location & Routing\(L4,M4\)](#)

[Click Connector\(L4\)](#)

[Click Connector\(M4\)](#)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I71-4 (RR+) - L4-2 (+)	Always	Below 1 Ω
I71-9 (RR-) - I4-1 (-)	Always	Below 1 Ω
I71-3 (RL+) - M4-2 (+)	Always	Below 1 Ω
I71-8 (RL-) - M4-1 (-)	Always	Below 1 Ω
I71-4 (RR+) or L4-2 (+) - Body ground	Always	10 k Ω or higher
I71-9 (RR-) or L4-1 (-) - Body ground	Always	10 k Ω or higher
I71-3 (RL+) or M4-2 (+) - Body ground	Always	10 k Ω or higher
I71-8 (RL-) or M4-1 (-) - Body ground	Always	10 k Ω or higher

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK



14.	INSPECT REAR SPEAKER ASSEMBLY
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Click here [INFO](#)

OK ► REPLACE RADIO AND DISPLAY RECEIVER ASSEMBLY

NG ► REPLACE REAR SPEAKER ASSEMBLY

