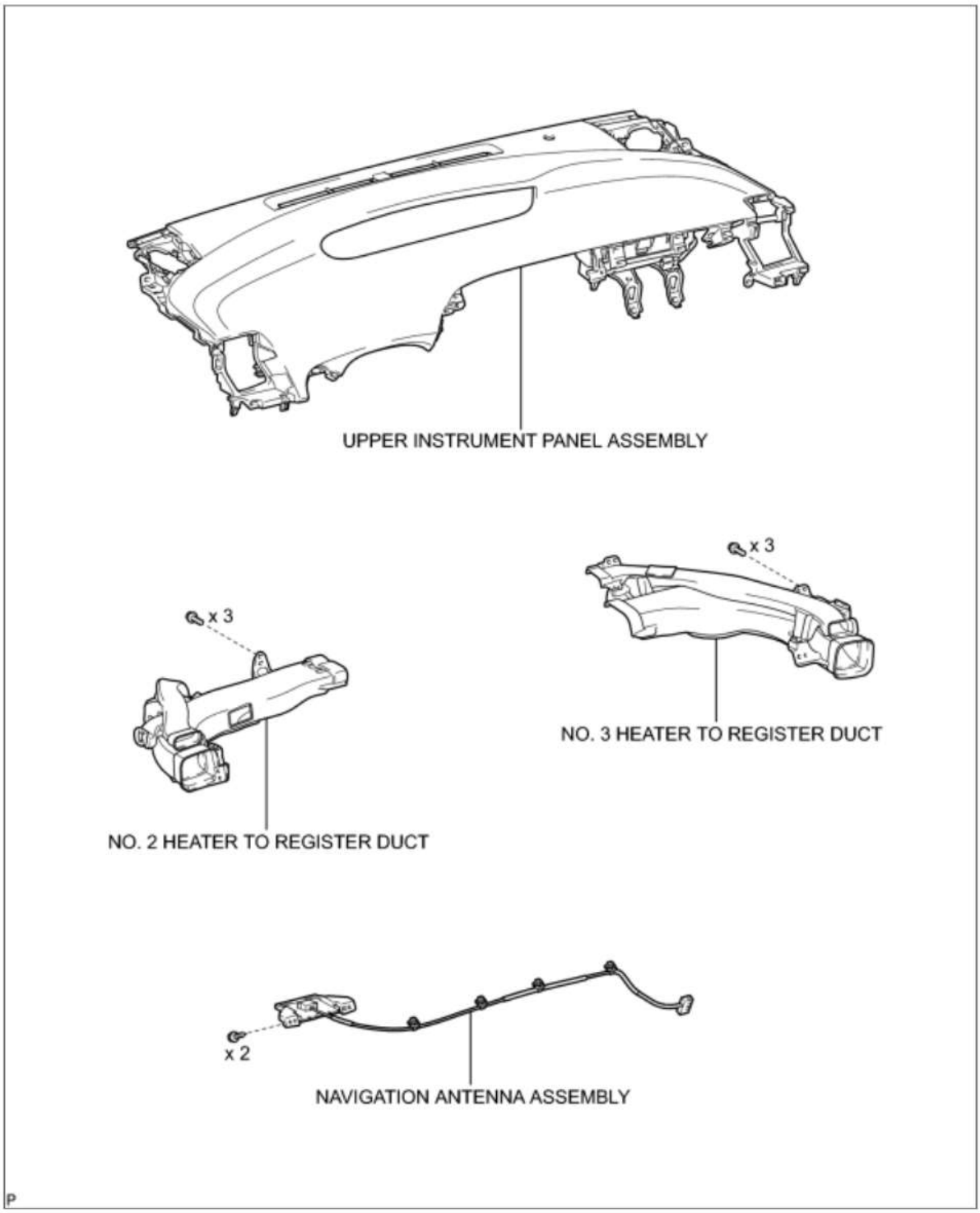
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION ANTENNA: COMPONENTS (2010 Prius)

COMPONENTS

ILLUSTRATION



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION ANTENNA: REMOVAL (2010 Prius)

REMOVAL

1. REMOVE UPPER INSTRUMENT PANEL ASSEMBLY

HINT:

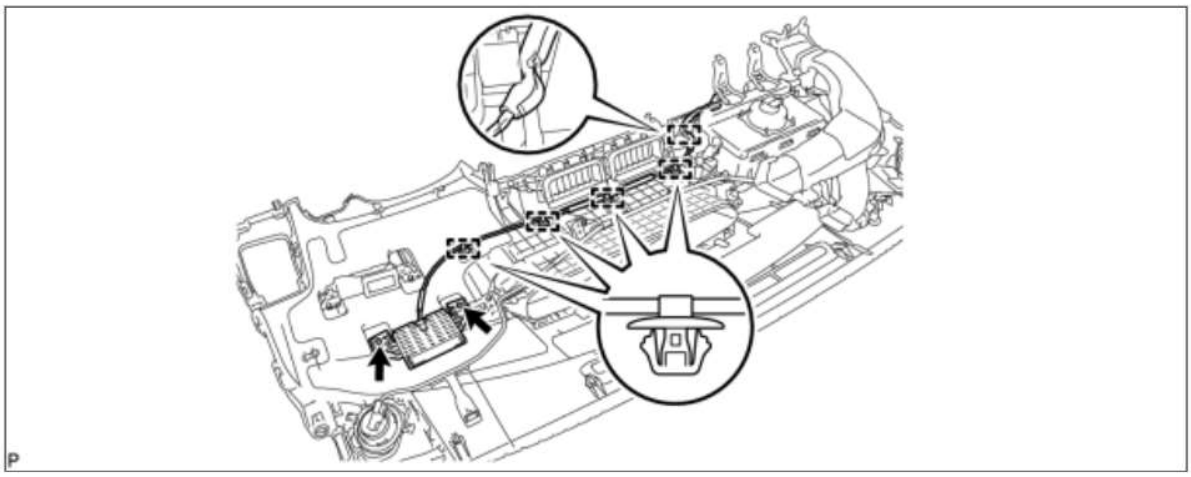
Refer to the procedure up to Remove Upper Instrument Panel Assembly INFO .

2. REMOVE NO. 3 HEATER TO REGISTER DUCT INFO

3. REMOVE NO. 2 HEATER TO REGISTER DUCT INFO

4. REMOVE NAVIGATION ANTENNA ASSEMBLY

(a) Disengage the 5 clamps.



(b) Remove the 2 screws and navigation antenna assembly.

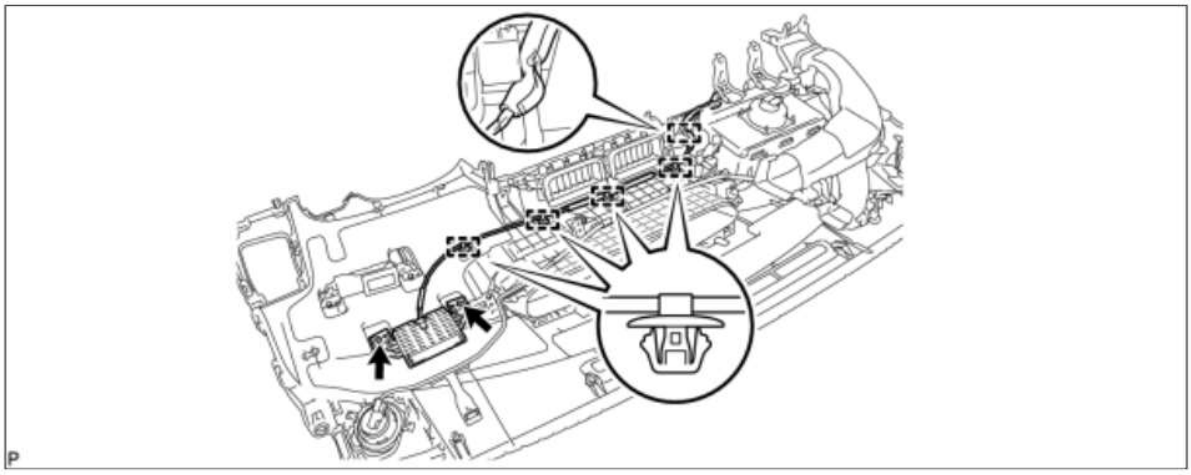
cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION ANTENNA: INSTALLATION (2010 Prius)

INSTALLATION

1. INSTALL NAVIGATION ANTENNA ASSEMBLY

(a) Install the navigation antenna assembly with the 2 screws.



(b) Engage the 5 clamps.

2. INSTALL NO. 2 HEATER TO REGISTER DUCT INFO

3. INSTALL NO. 3 HEATER TO REGISTER DUCT INFO

4. INSTALL UPPER INSTRUMENT PANEL ASSEMBLY

HINT:

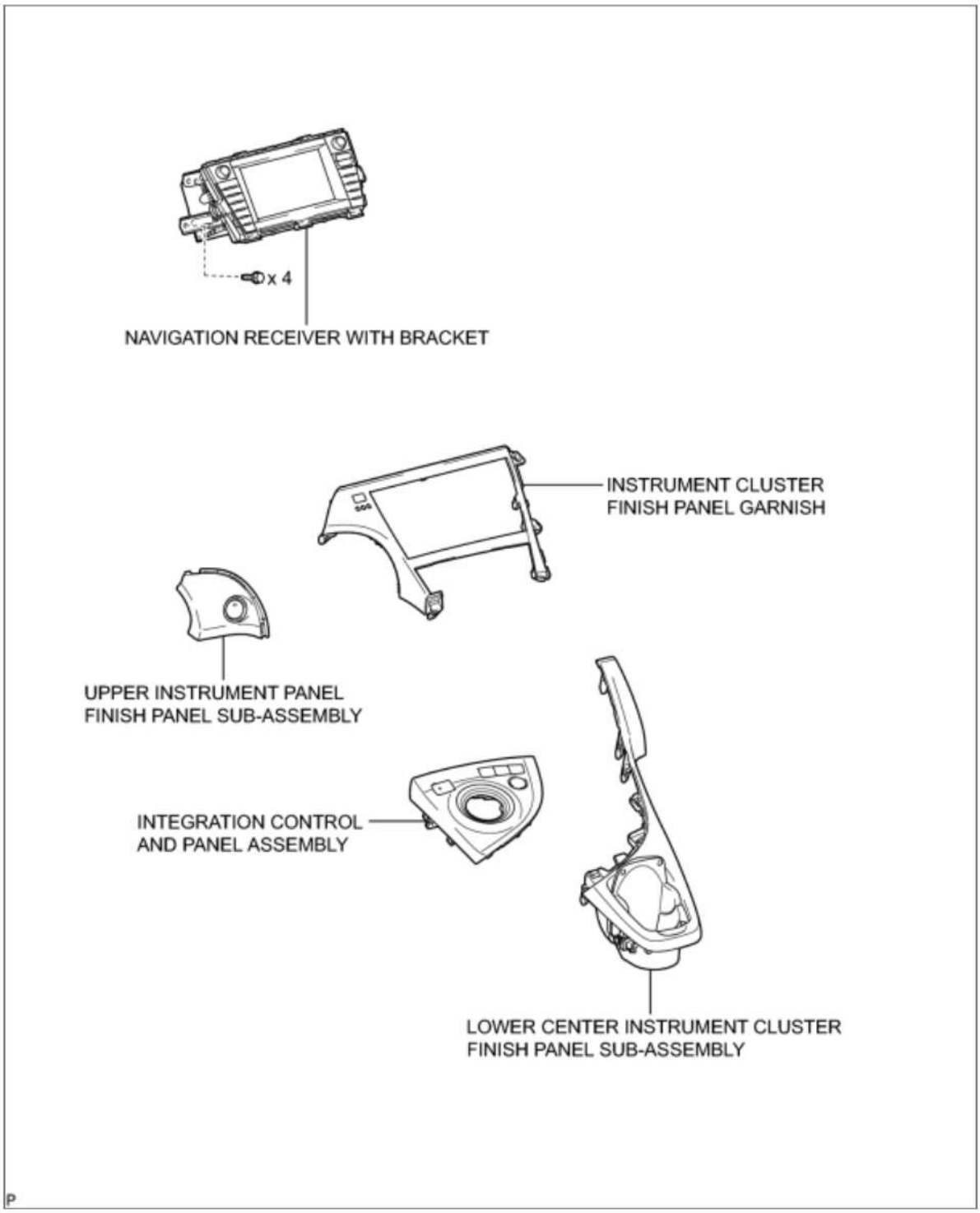
Refer to the procedure from Upper Instrument Panel Assembly INFO .

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION RECEIVER: COMPONENTS (2010 Prius)

COMPONENTS

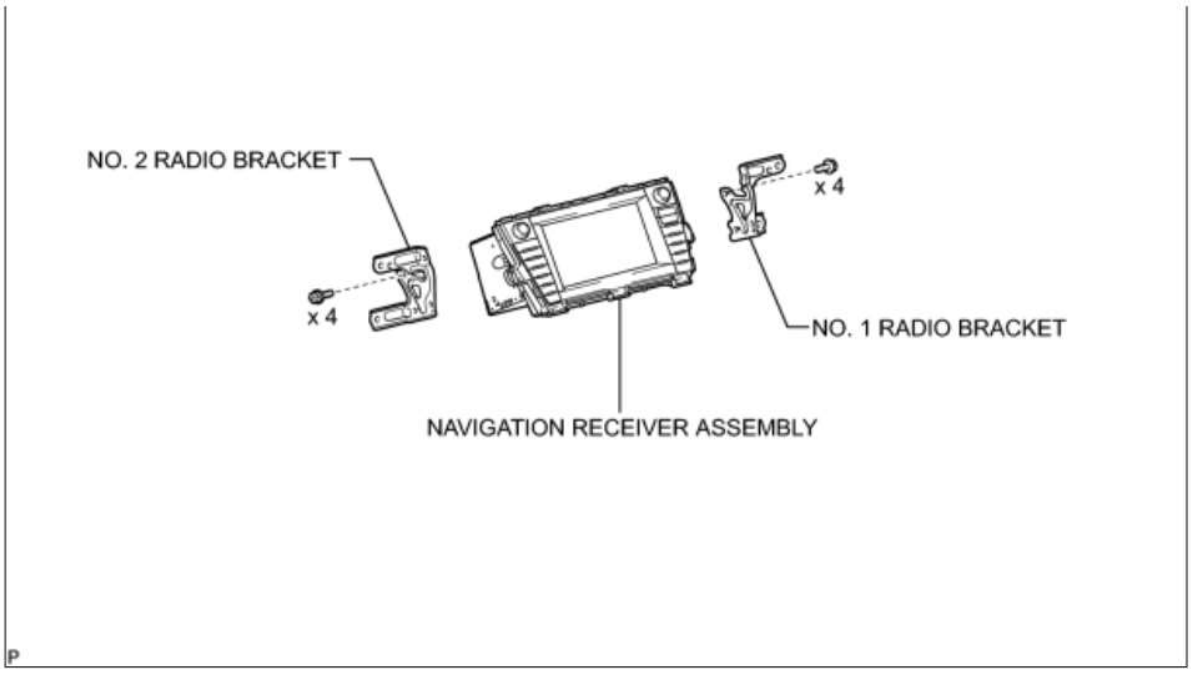
ILLUSTRATION



ILLUSTRATION

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION RECEIVER: COMPONENTS (2010 Prius)



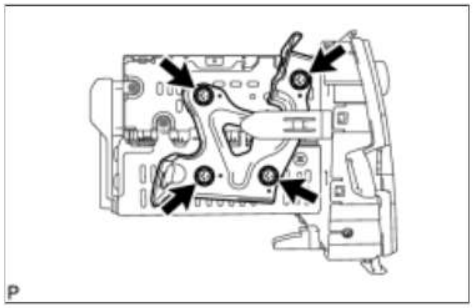
cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION RECEIVER: INSTALLATION (2010 Prius)

INSTALLATION

1. INSTALL NAVIGATION RECEIVER ASSEMBLY

2. INSTALL NO. 2 RADIO BRACKET



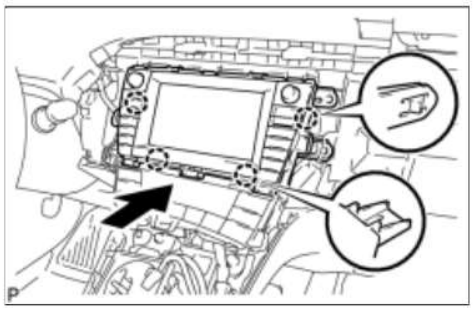
(a) Install the No. 2 radio bracket with the 4 screws.

3. INSTALL NO. 1 RADIO BRACKET

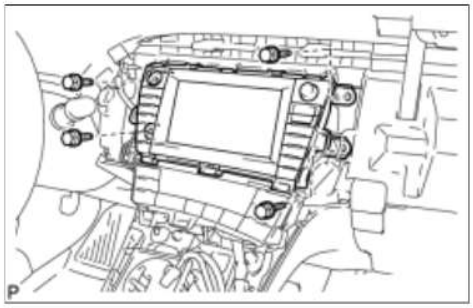
HINT:

Use the same procedure as for the No. 2 radio bracket.

4. INSTALL NAVIGATION RECEIVER WITH BRACKET



(a) Engage the 4 claws and temporarily install the navigation receiver with bracket as shown in the illustration.



(b) Install the navigation receiver with bracket with the 4 bolts.

5. INSTALL UPPER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY INFO

6. INSTALL INSTRUMENT CLUSTER FINISH PANEL GARNISH INFO

7. INSTALL LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY INFO

cardiagn.com

8. INSTALL INTEGRATION CONTROL AND PANEL ASSEMBLY INFO

9. INSERT MAP DISC

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION RECEIVER: REMOVAL (2010 Prius)

REMOVAL

1. EJECT MAP DISC

(a) Turn the power switch on (ACC).

(b) Push the "INFO" button.

(c) Touch "Map Data" on the navigation screen.

(d) Touch "EJECT DVD" on the navigation screen to eject the map disc.

(e) Turn the power switch off.

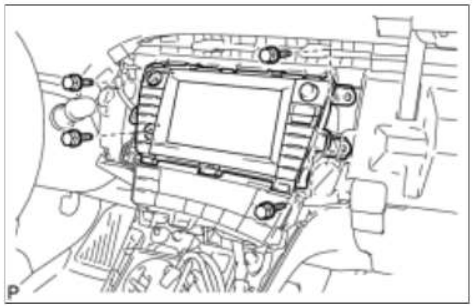
2. REMOVE INTEGRATION CONTROL AND PANEL ASSEMBLY INFO

3. REMOVE LOWER CENTER INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY INFO

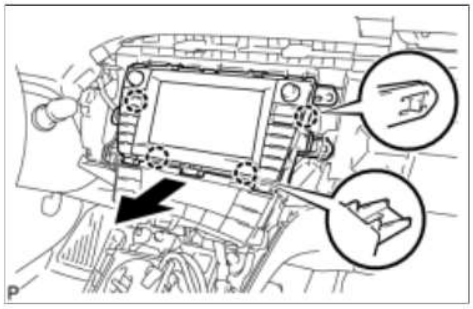
4. REMOVE INSTRUMENT CLUSTER FINISH PANEL GARNISH INFO

5. REMOVE UPPER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY INFO

6. REMOVE NAVIGATION RECEIVER WITH BRACKET



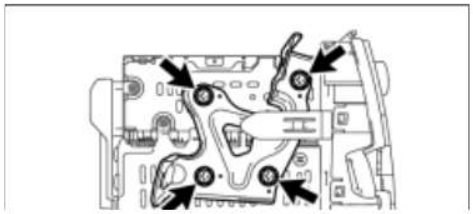
(a) Remove the 4 bolts.



(b) Disengage the 4 claws and remove the navigation receiver with bracket as shown in the illustration.

(c) Disconnect each connector.

7. REMOVE NO. 2 RADIO BRACKET



(a) Remove the 4 screws and No. 2 radio bracket.

cardiagn.com



8. REMOVE NO. 1 RADIO BRACKET

HINT:

Use the same procedure as for the No. 2 radio bracket.

9. REMOVE NAVIGATION RECEIVER ASSEMBLY

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: PRECAUTION (2010 Prius)

PRECAUTION

1. PRECAUTION FOR DISCONNECTING CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

When disconnecting the cable from the negative (-) battery terminal, initialize the following system after the terminal is reconnected.

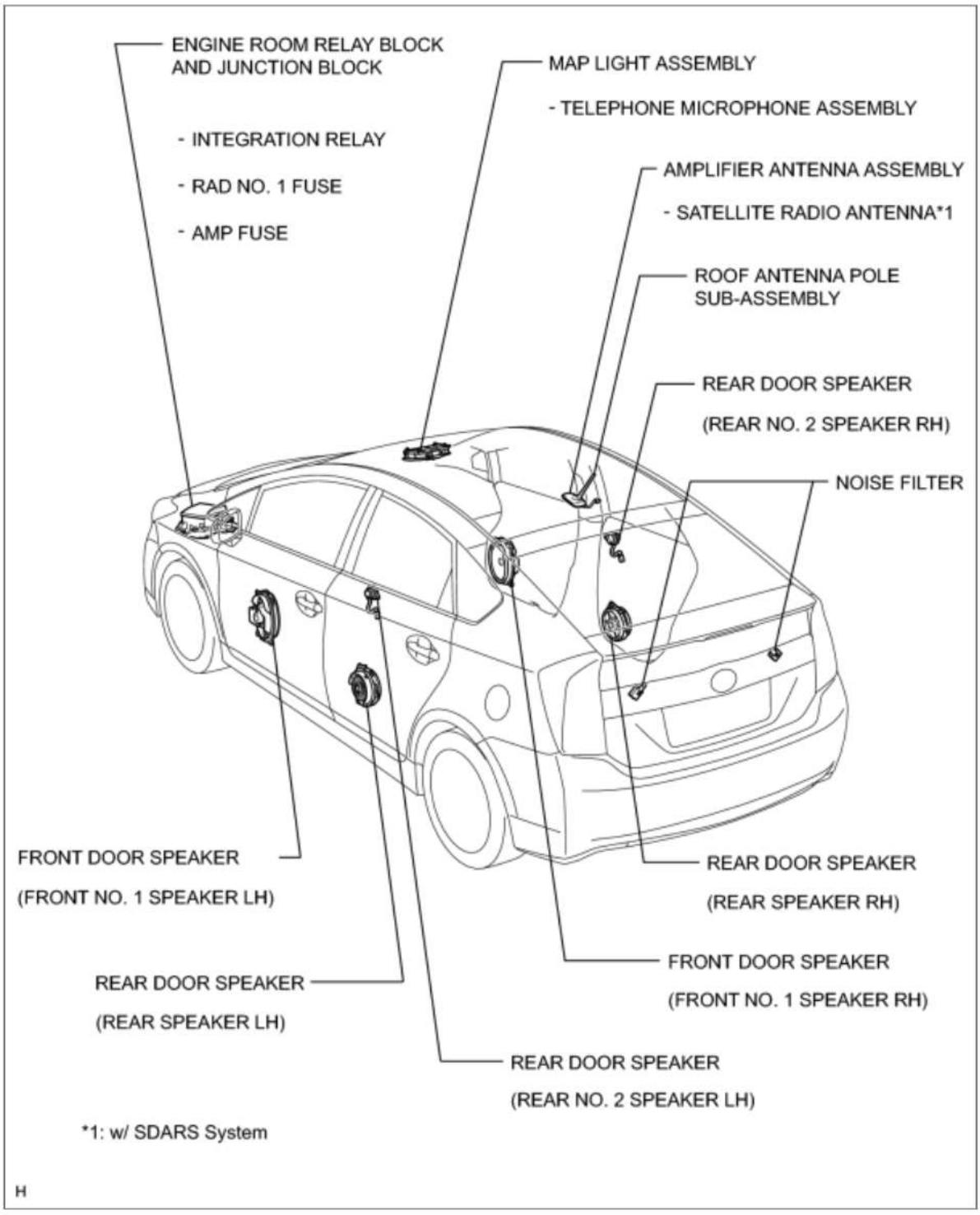
SYSTEM NAME	SEE PROCEDURE
Advanced Parking Guidance System	INFO

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: PARTS LOCATION (2010 Prius)

PARTS LOCATION

ILLUSTRATION

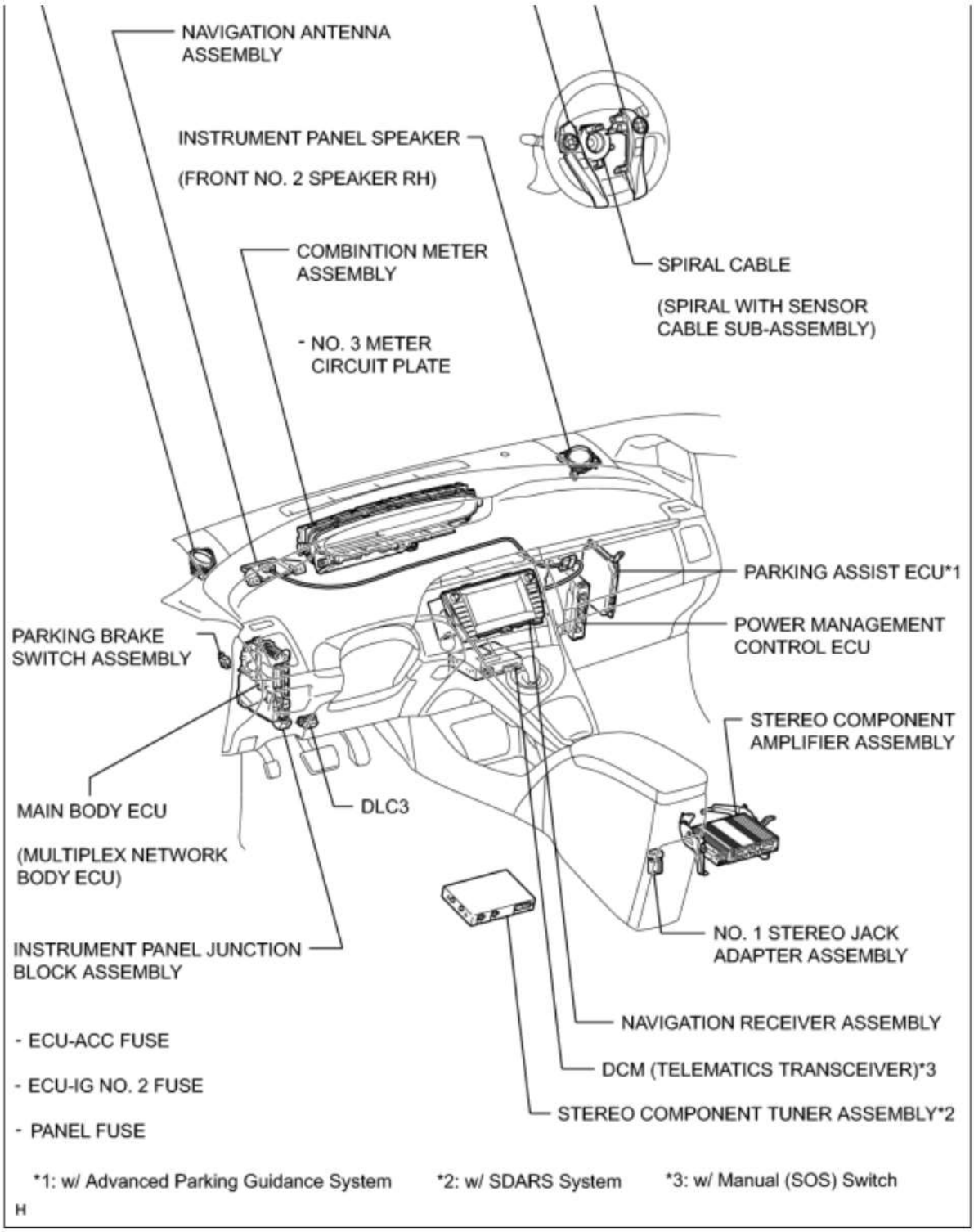


ILLUSTRATION



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: PARTS LOCATION (2010 Prius)

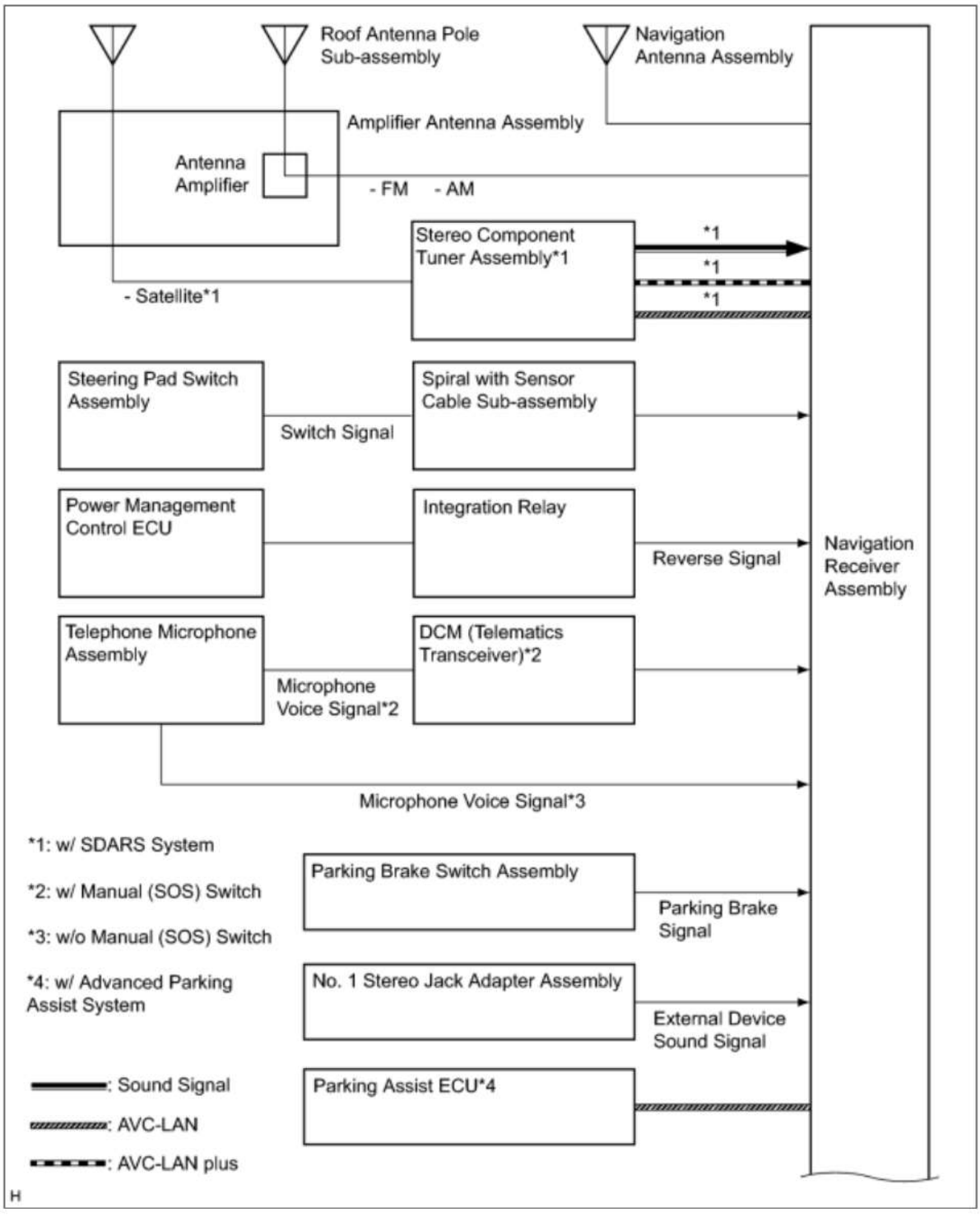


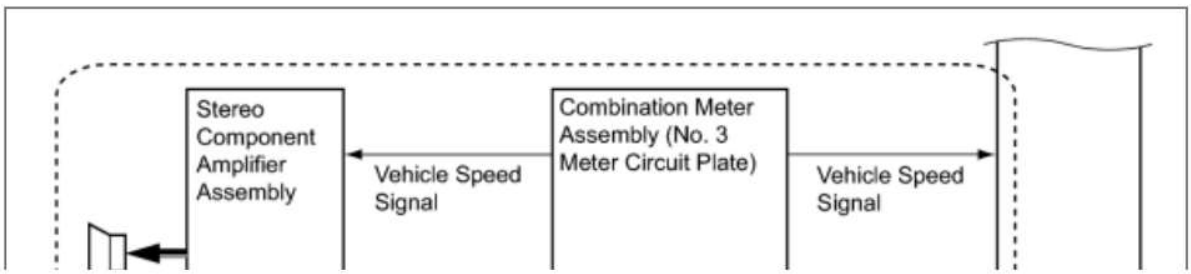
cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DIAGRAM (2010 Prius)

SYSTEM DIAGRAM

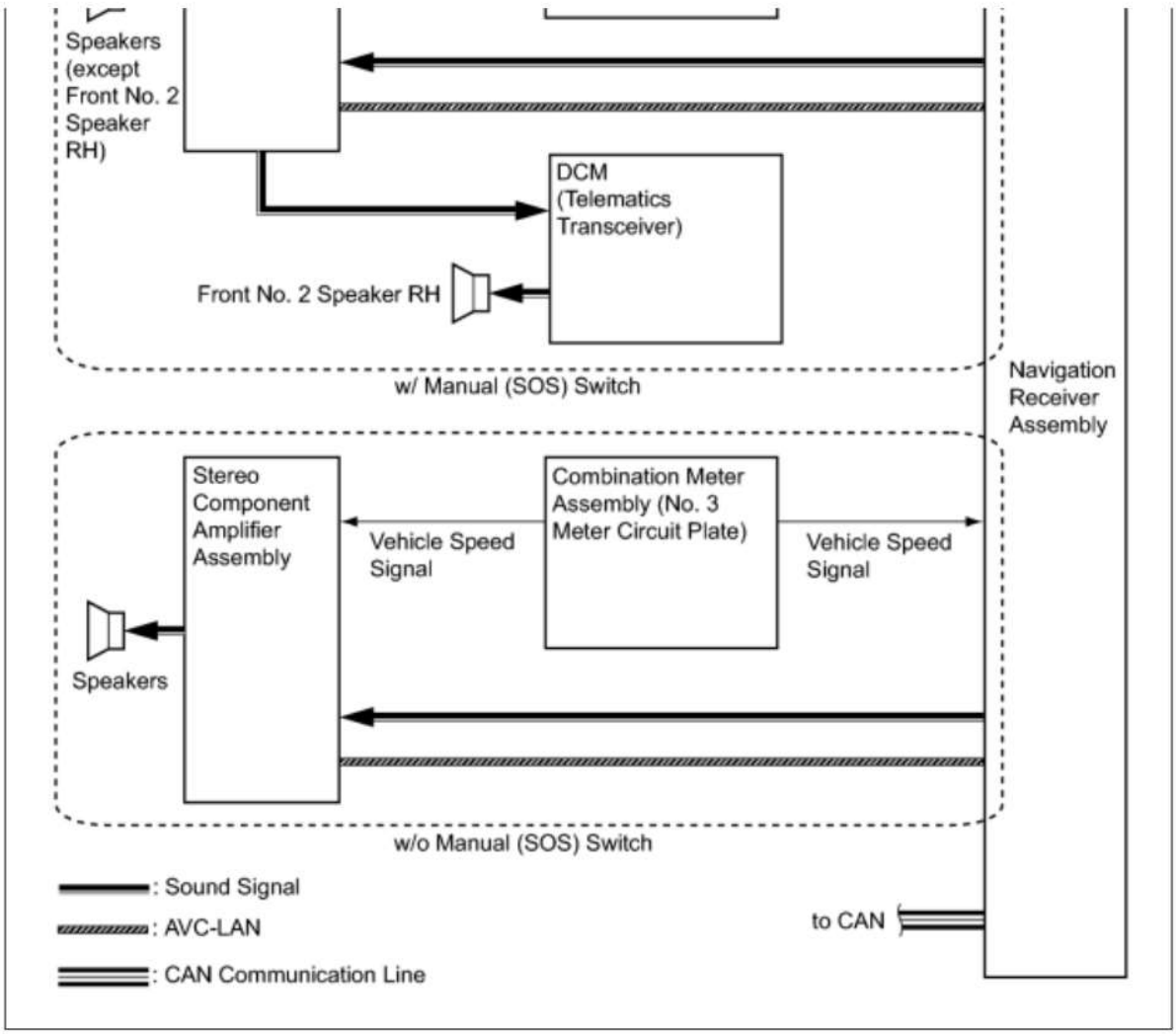
1. w/ "Bluetooth" Audio System



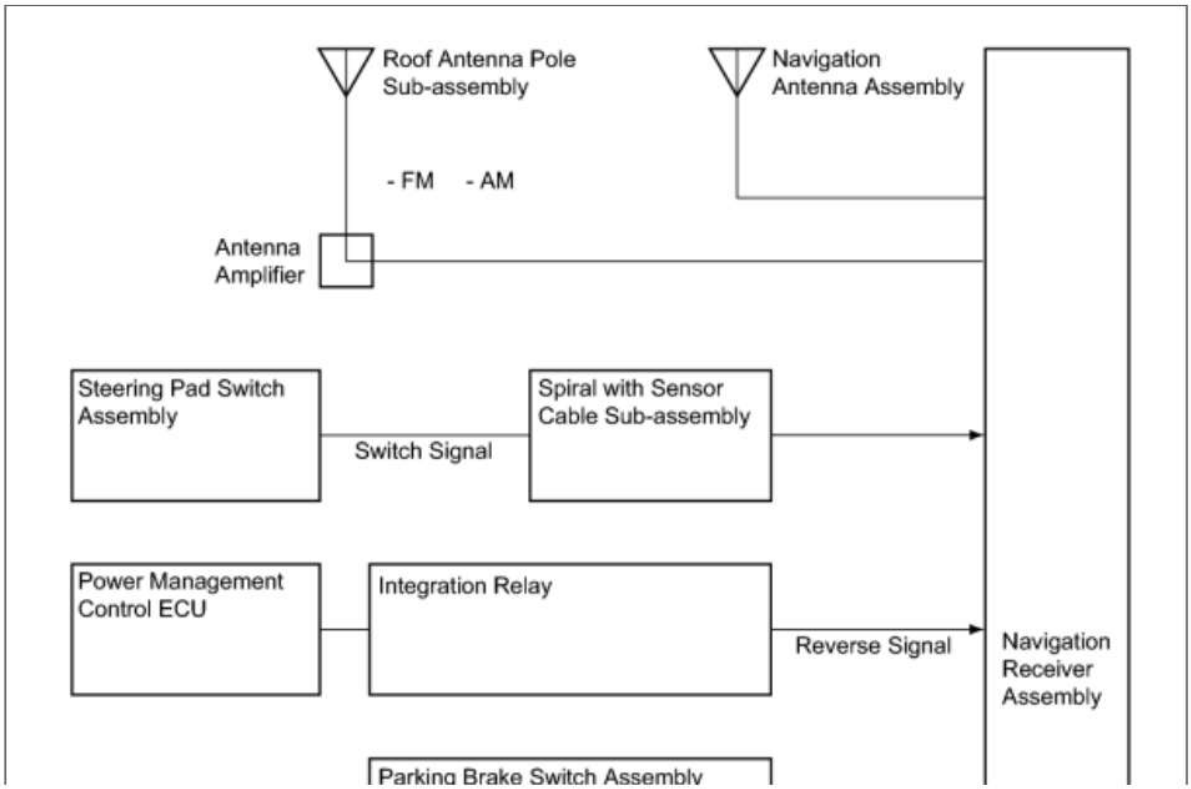


cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DIAGRAM (2010 Prius)

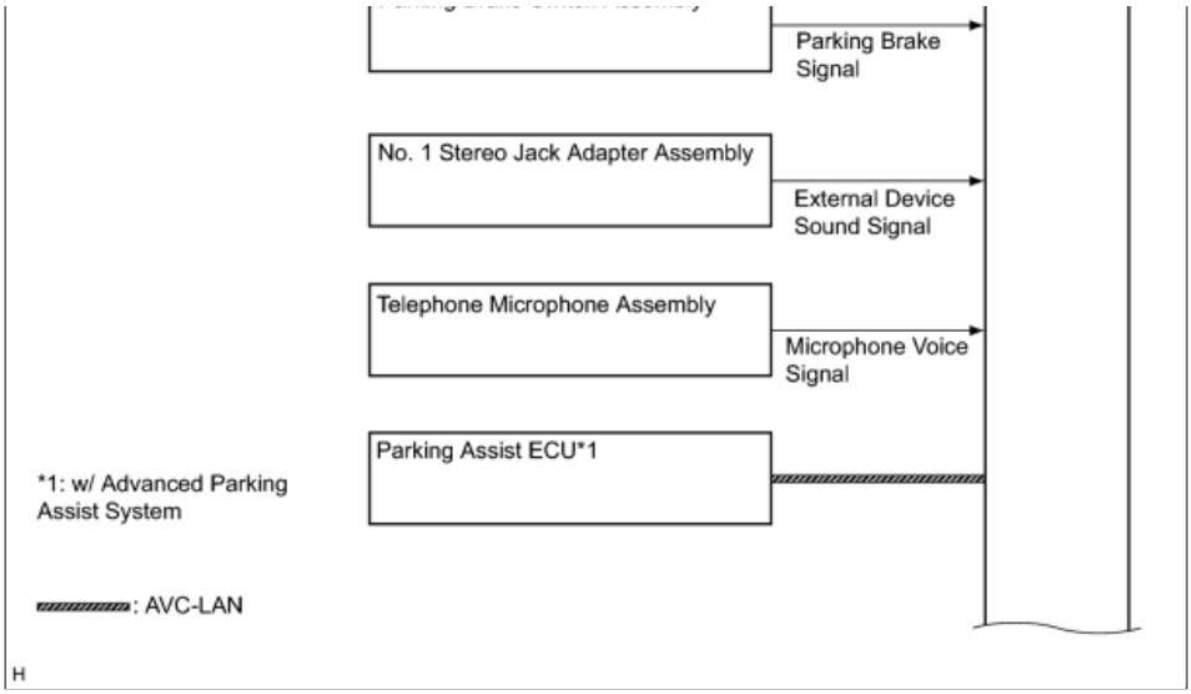


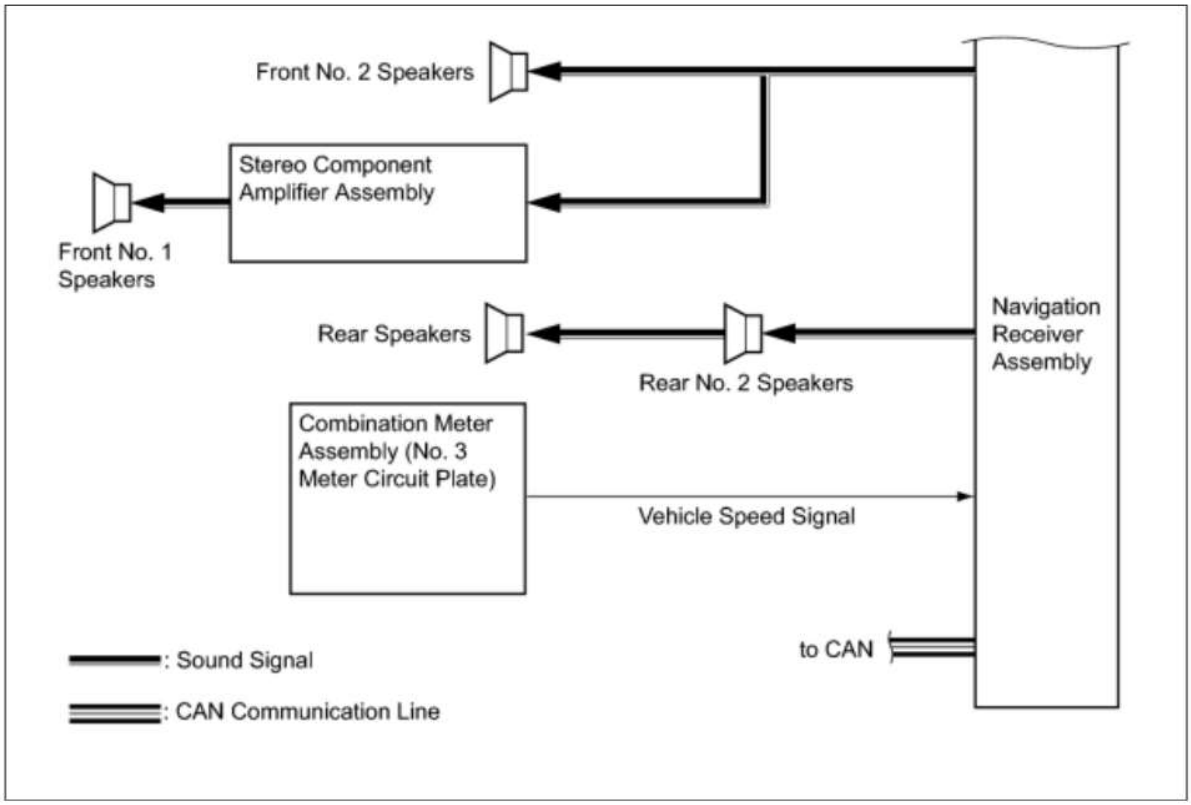
2. w/o "Bluetooth" Audio System



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DIAGRAM (2010 Prius)





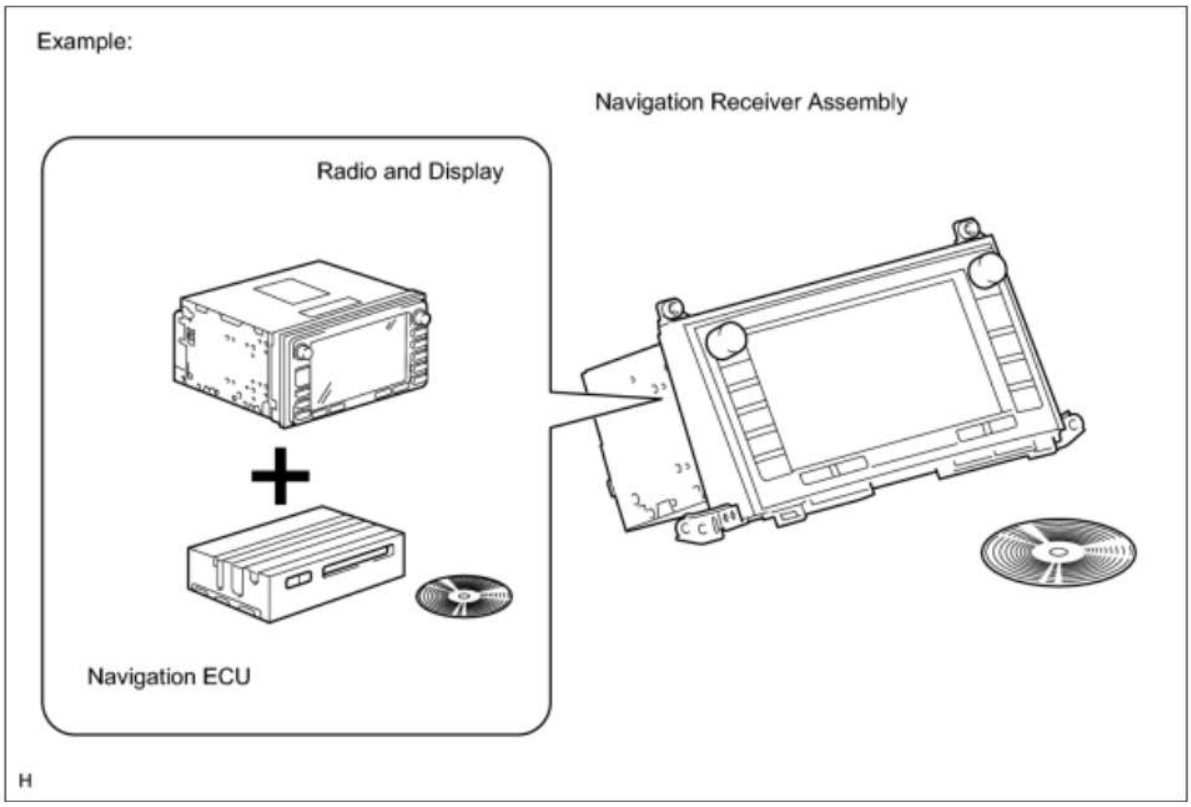
cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)

SYSTEM DESCRIPTION

1. NAVIGATION RECEIVER ASSEMBLY OUTLINE

(a) Conventionally, 2 separate devices, a "radio and display" and a "navigation ECU" are used. This model has adopted a type that combines these devices into a single unit.

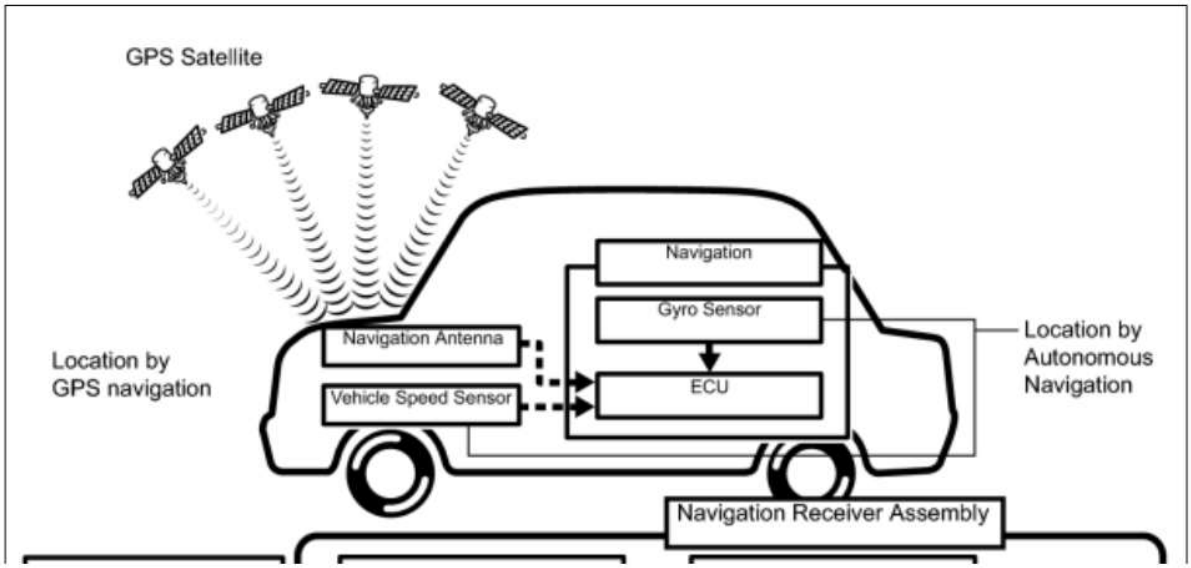


2. NAVIGATION SYSTEM OUTLINE

(a) Vehicle position tracking methods

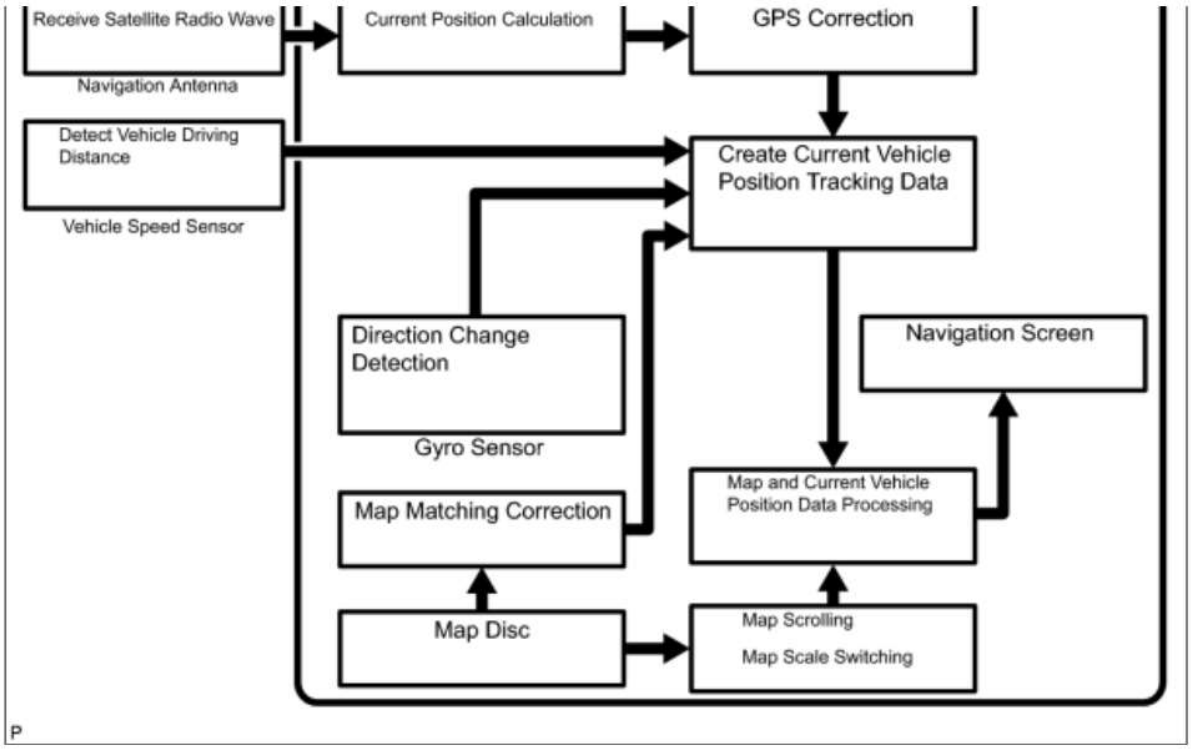
It is essential that the navigation system correctly tracks the current vehicle position and displays it on the map. There are 2 methods to track the current vehicle position: autonomous (dead reckoning) and GPS* (satellite) navigation. Both navigation methods are used in conjunction with each other.

*GPS (Global Positioning System)

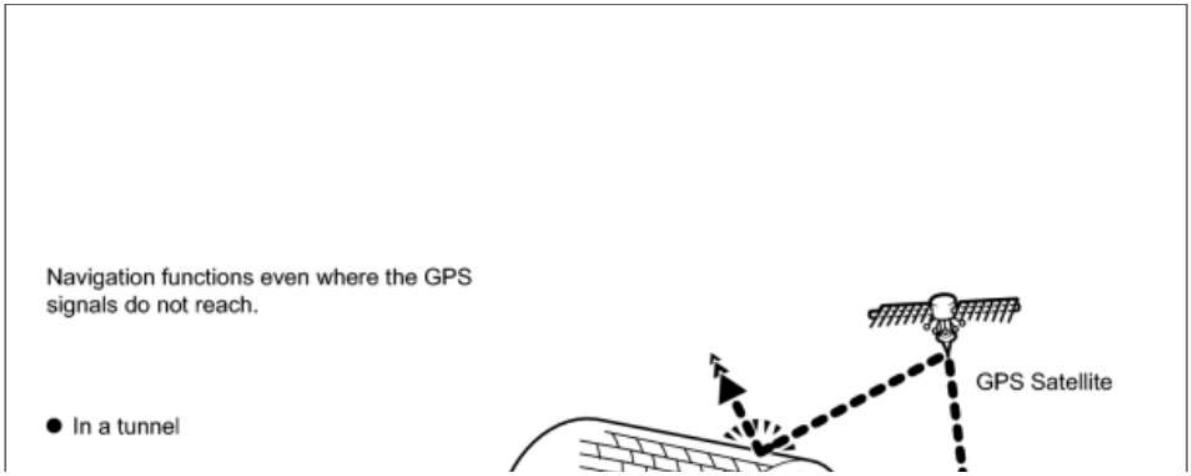


cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)

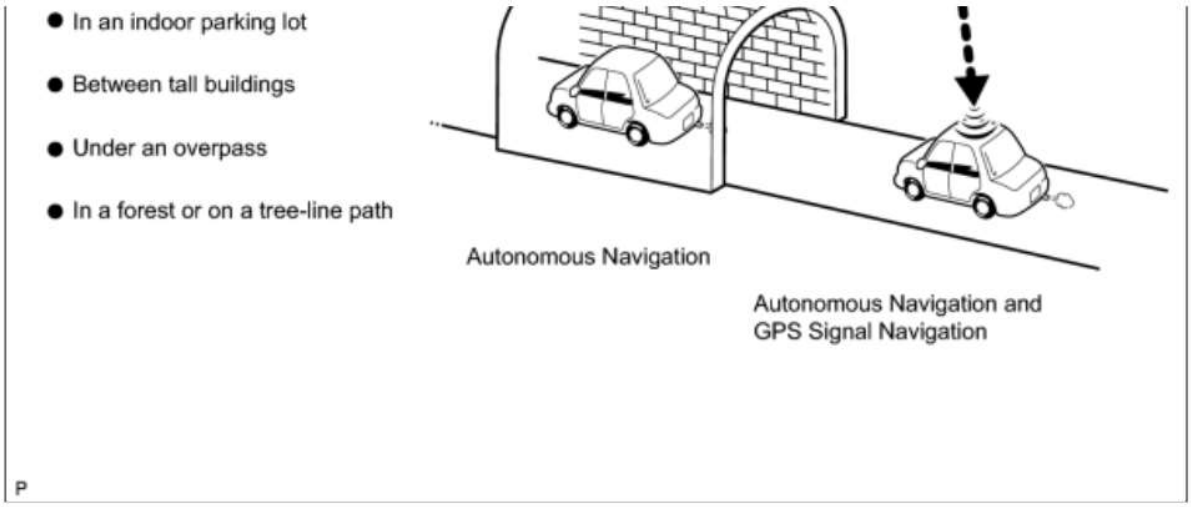


OPERATION	DESCRIPTION
Vehicle Position Calculation	The navigation receiver assembly calculates the current vehicle position (direction and current position) using the direction deviation signal from the gyro sensor and running distance signal from the vehicle speed sensor and creates the driving route.
Map Display Processing	The navigation receiver assembly processes the vehicle position data, vehicle running track and map data from the map disc.
Map Matching	The map data from the map disc is compared to the vehicle position and running track data. Then, the vehicle position is matched with the nearest road.
GPS Correction	The vehicle position is matched to the position measured by GPS. Then, the GPS measurement position data is compared with the vehicle position and running track data. If the position is very different, the GPS measurement position is used.
Distance Correction	The running distance signal from the vehicle speed sensor includes the error caused by tire wear and slippage between the tires and road surface. Distance correction is performed to account for this. The navigation receiver assembly automatically offsets the running distance signal to make up for the difference between it and the distance data of the map. The offset is automatically updated.



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)



HINT:

The combination of autonomous and GPS navigation makes it possible to display the vehicle position even when the vehicle is in places where the GPS cannot receive a signal. When only autonomous navigation is used, however, the mapping accuracy may slightly decrease.

(b) Autonomous navigation

This method determines the relative vehicle position based on the running track determined by the gyro located in the navigation receiver assembly and the vehicle speed sensor signal.

(1) Gyro sensor

Used to calculate the direction by detecting angular velocity. It is located in the navigation receiver assembly.

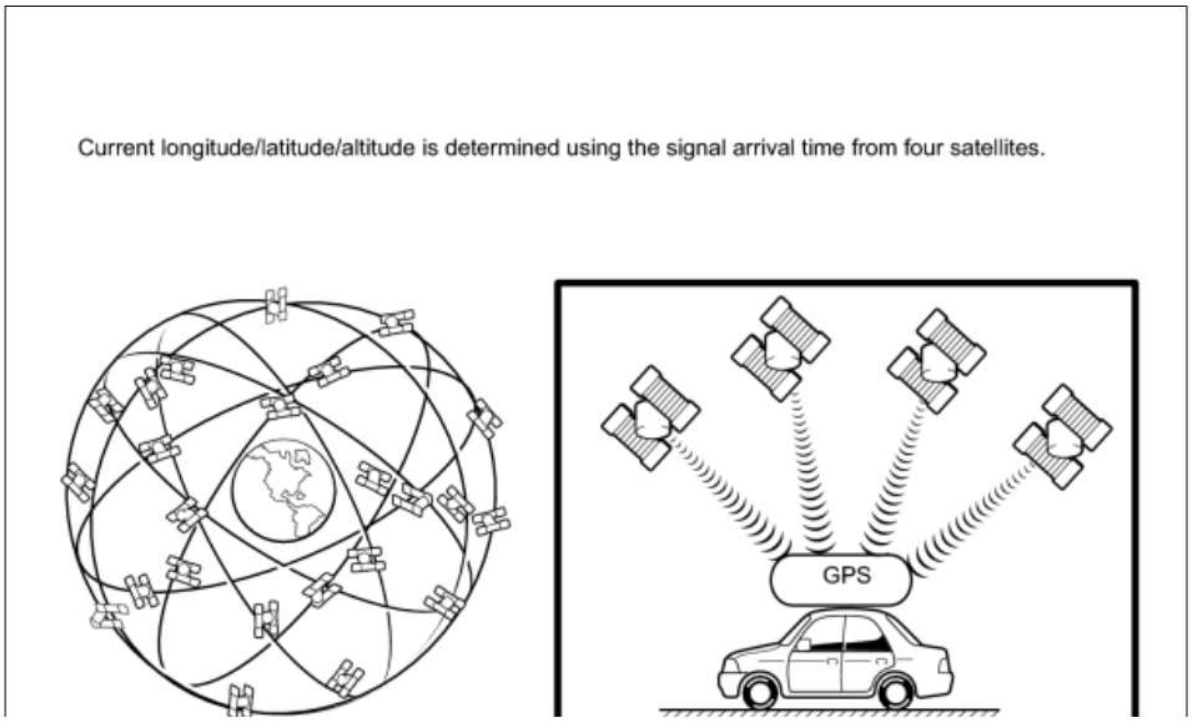
(2) Vehicle speed sensor signal

Used to calculate the vehicle running distance.

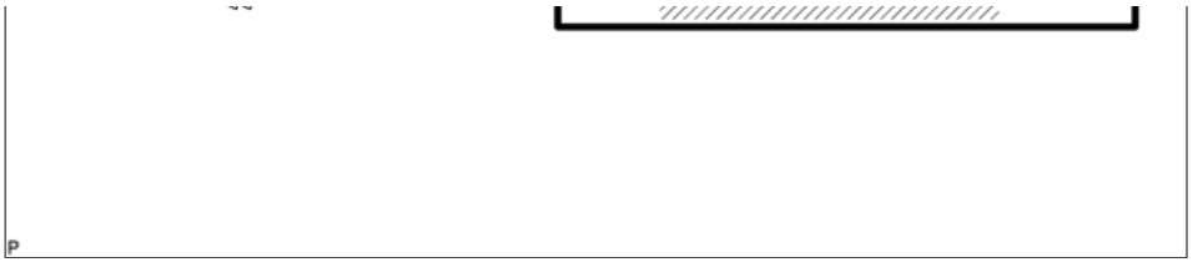
(c) GPS* navigation (Satellite navigation)

This method detects the absolute vehicle position using radio waves from GPS satellites.

*GPS satellites were launched by the U.S. Department of Defense for military purposes.



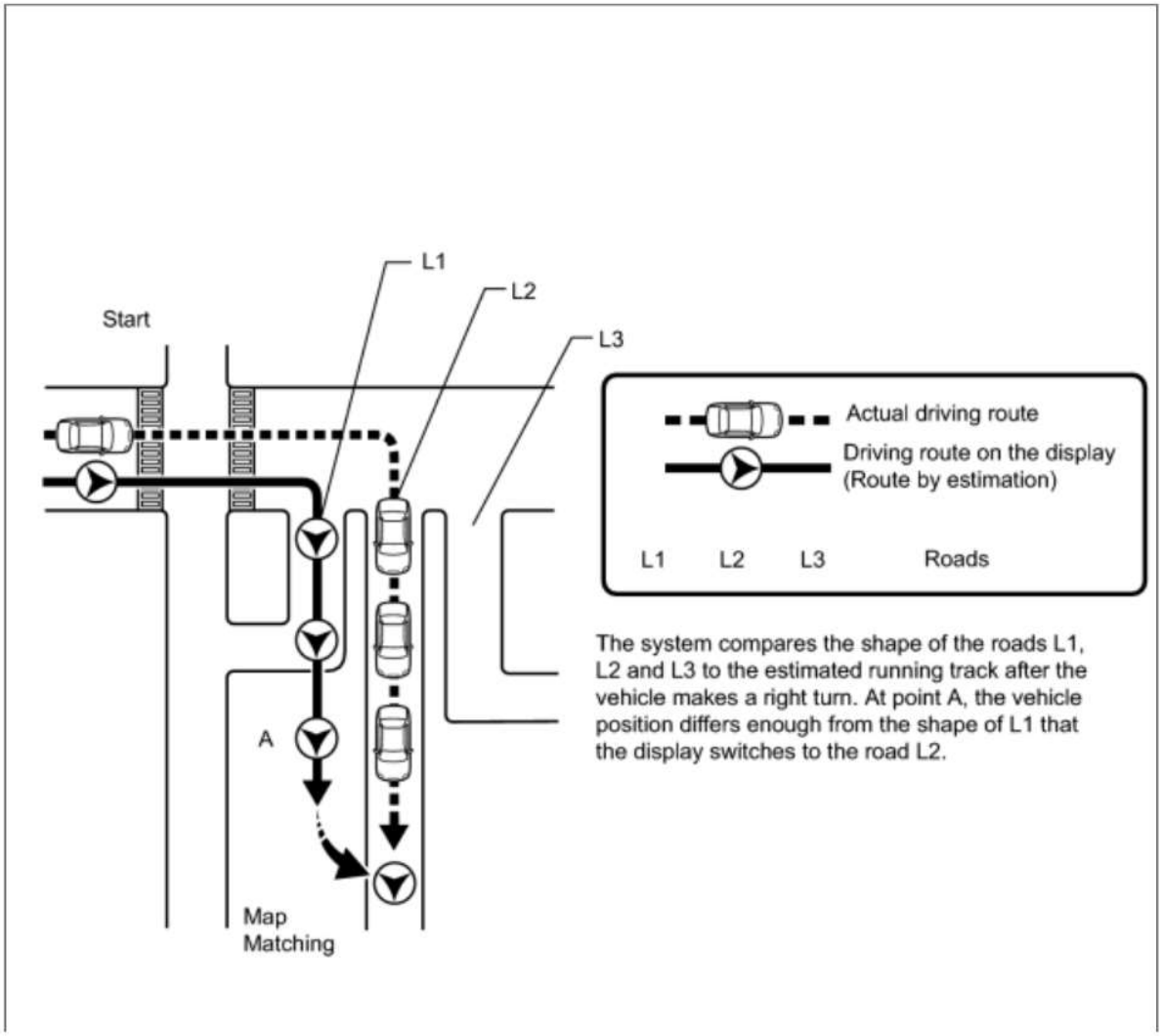
cardiagn.com



NUMBER OF SATELLITES	MEASUREMENT	DESCRIPTION
2 or less	Measurement is impossible	Vehicle position cannot be obtained because the number of satellites is not enough.
3	2-dimensional measurement is possible	Vehicle position is obtained based on the current longitude and latitude. (This is less precise than 3-dimensional measurement.)
4	3-dimensional measurement is possible	Vehicle position is obtained based on the current longitude, latitude and altitude.

(d) Map matching

The current driving route is calculated by autonomous navigation (according to the gyro sensor and vehicle speed sensor) and GPS navigation. This information is then compared with possible road shapes from the map data in the map disc and the vehicle position is set onto the most appropriate road.

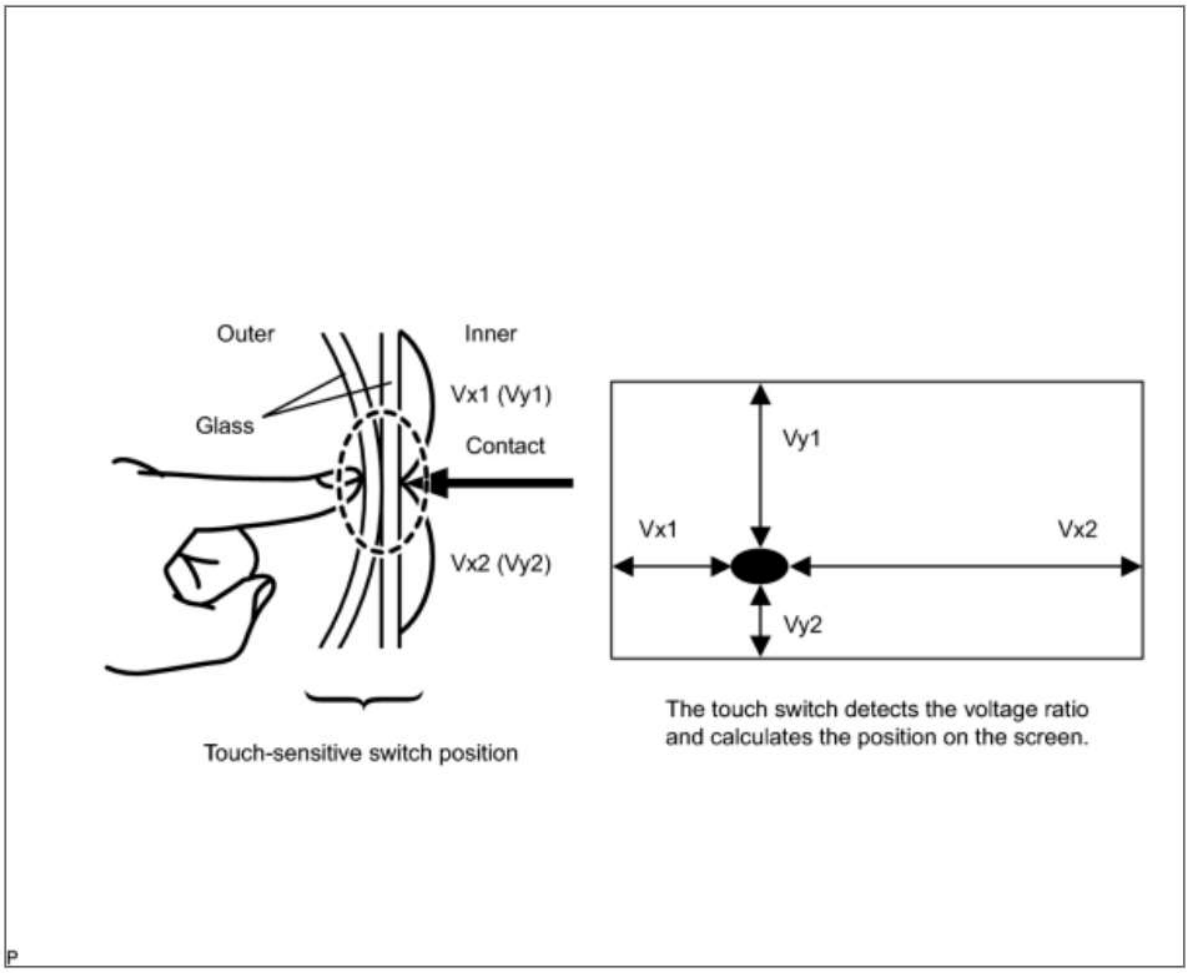


cardiagn.com

P

(e) Touch switch

Touch switches are touch-sensitive (interactive) switches operated by touching the screen. When a switch is pressed, the outer glass bends in to contact the inner glass at the pressed position. By doing this, the voltage ratio is measured and the pressed position is detected.



P

3. DVD (DIGITAL VERSATILE DISC) PLAYER OUTLINE (for navigation map)

(a) The navigation receiver assembly (built-in navigation ECU) uses a laser pickup to read the digital signals recorded on a DVD.

CAUTION:

Do not look directly at the laser pickup because the navigation receiver assembly (built-in navigation ECU) uses an invisible laser beam.

Be sure to operate the navigation system only as instructed.

NOTICE:

- Do not disassemble any part of the navigation receiver assembly (built-in navigation ECU).
- Do not apply oil to the navigation receiver assembly (built-in navigation ECU).
- Do not insert anything but a DVD into the navigation receiver assembly (built-in navigation ECU).

cardiagn.com

4. DVD (Digital Versatile Disc) PLAYER OUTLINE (for DVD Player Model)

(a) The DVD player can only play DVD videos that have any of the following marks:



(1) Precaution for use of discs

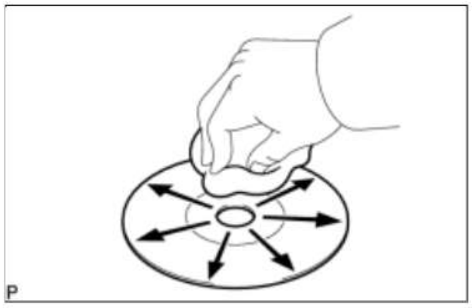
NOTICE:

- PAL or SECAM color television standard discs cannot be played (only NTSC discs can be played).
- Keep the discs away from dirt. Be careful not to damage the discs or leave fingerprints on them.
- Hold discs by the outer edge and center hole with the label side up.
- Leaving the disc exposed halfway out of the slot for a long time after pressing the disc eject button may cause deformation of the disc, making the disc unusable.
- Do not use odd-shaped CDs because these may cause player malfunctions.
- Do not use discs whose recording portion is transparent or translucent because they may not be inserted, ejected or played normally.
- DualDiscs that mate DVD recorded material on one side with CD digital audio material on the other cannot be played.

(b) Cleaning

NOTICE:

Do not use a lens cleaner because it may cause a malfunction in the pickup portion of the player.



(1) If dirt is on the disc surface, wipe it clean with a soft dry cloth such as an eyeglass cleaner for plastic lenses from the inside to the outside in a radial direction.

- Pressing on the disc by hand or rubbing the disc with a hard cloth may scratch the disc surface.
- Use of solvent such as a record spray, antistatic agent, alcohol, benzine and thinner or a chemical cloth may cause damage to the disc, making the disc unusable.

5. CD (COMPACT DISC) PLAYER OUTLINE

(a) A compact disc player uses a laser pickup to read digital signals recorded on a compact disc (CD). By converting the digital signals to analog, it can play music and audio.

CAUTION:

Do not look directly at the laser pickup because the CD player uses an invisible laser beam. Be sure to operate the player only as instructed.

NOTICE:

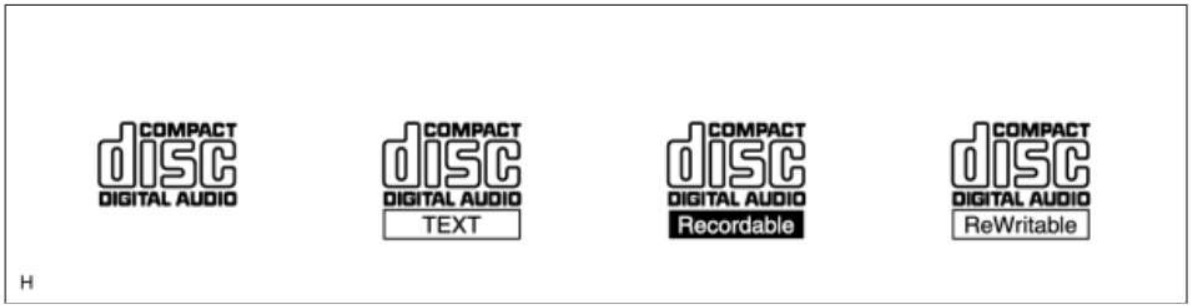
- Do not disassemble any part of the CD player.
- Do not apply oil to the CD player.
- Do not insert anything but a CD into the CD player.

(b) Usable discs

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)

(1) This player can play only audio CDs, CD-Rs (CD-Recordable) and CD-RWs (CD-ReWritable) that have any of the following marks:



(c) Precautions for use of discs

NOTICE:

- Copy-protected CDs cannot be played.
- CD-Rs and CD-RWs may not be played depending on the recording conditions or characteristics of the discs, or due to damage, dirt or deterioration caused by leaving the discs in the cabin for a long time.
- Unfinalized CD-Rs and CD-RWs cannot be played.
- DualDiscs that mate DVD recorded material on one side with CD digital audio material on the other cannot be played.
- Keep the discs away from dirt. Be careful not to damage the discs or leave your fingerprints on them.
- Hold discs by the outer edge and center hole with the label side up.
- Leaving the disc exposed halfway out of the slot for a long time after pressing the disc eject button may cause deformation of the disc, making the disc unusable.
- If discs have adhesive tape, stickers, CD labels or any traces of such labels attached, the discs may not be ejected or player malfunctions may result.
- Keep the discs away from direct sunlight. (Exposure to direct sunlight may cause deformation of the disc, making the disc unusable.)
- Do not use odd-shaped CDs because these may cause player malfunctions.
- Do not use discs whose recording portion is transparent or translucent because they may not be inserted, ejected or played normally.

HINT:

- When it is cold or it is raining, if the windows mist up, mist and condensation may form in the player. In such cases, the CD may skip or stop in the middle of play. Ventilate or dehumidify the cabin for a while before using the player.
- The CD may skip if the player experiences strong vibrations when the vehicle is driven on rough roads or similar uneven surface(s).

(d) Cleaning



NOTICE:

Do not use a lens cleaner because it may cause a malfunction in the pickup portion of the player.

(1) If dirt is on the disc surface, wipe it clean with a soft dry cloth such as an eyeglass cleaner for plastic lenses from the inside to the outside in a radial direction.

- Pressing on the disc by hand or rubbing the disc with a hard cloth may scratch the disc surface.
- Use of solvent such as a record spray, antistatic agent, alcohol, benzine and thinner or a chemical cloth may cause damage to the disc, making the disc unusable.

cardiagn.com

6. MP3/WMA OUTLINE

(a) Playable MP3 file standards

Compatible standard	MP3 (MPEG1 LAYER3, MPEG2 LSF LAYER3)
Compatible sampling frequency	• MPEG1 LAYER3: 32, 44.1, 48 (kHz) • MPEG2 LSF LAYER3: 16, 22.05, 24 (kHz)
Compatible bit rate	• MPEG1 LAYER3: 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 (kbps) • MPEG2 LSF LAYER3: 64, 80, 96, 112, 128, 144, 160 (kbps) • Compatible with VBR
Compatible channel mode	Stereo, joint stereo, dual channel, monaural

(b) Playable WMA file standards

Compatible standard	WMA Ver. 7, 8, and 9
Compatible sampling frequency	32, 44.1, 48 (kHz)
Compatible bit rate (Only compatible with 2-channel playback)	• Ver. 7, 8: CBR48, 64, 80, 96, 128, 160, 192 (kbps) • Ver. 9: CBR48, 64, 80, 96, 128, 160, 192, 256, 320 (kbps)

(c) ID3 tag and WMA tag

(1) Additional textual information called ID3 tag can be input to MP3 files. Information such as song titles and artist names can be stored.

HINT:

This player is compatible with the ID3 tags of ID3 Ver. 1.0 and 1.1, and ID3 Ver. 2.2 and 2.3. (Number of characters complies with ID3 Ver. 1.0 and 1.1.)

(2) Additional textual information called WMA tag can be input to WMA files. Information such as song titles and artist names can be stored.

(d) Usable media

(1) Only CD-ROMs, CD-Rs (CD-Recordable) and CD-RWs (CD-ReWritable) can be used to play MP3/WMA files.

NOTICE:

- CD-Rs and CD-RWs are more easily affected by a hot and humid environment than discs used for normal audio CDs. For this reason, some CD-Rs and CD-RWs do not play.
- If there are fingerprints or scratches on a disc, the disc may not play or the CD may skip.
- Some CD-Rs and CD-RWs may deteriorate if they are left in the cabin for a long time.
- Keep CD-Rs and CD-RWs in an opaque case.

(e) Usable media format

(1) Usable media format

Disc format	CD-ROM Mode 1, CD-ROM XA Mode 2 Form 1
File format	ISO9660 Level 1 and Level 2 (Joliet, Romeo)

cardiagn.com

HINT:

- As for MP3/WMA files written in any unlisted format, the contents of the files may not be played normally or the file names or folder names may not be displayed correctly.
- This player is compatible with multi-session discs and can play CD-Rs and CD-RWs on which MP3/WMA files are added. However, only the first session can be played.
- Discs whose first session includes both music data and MP3 or WMA format data cannot be played.

(2) Standard and restrictions

Maximum directory levels	8 levels
Maximum number of characters for a folder name/file name	32 characters
Maximum number of folders	192 (Including empty folders, route folders, and folders that do not contain MP3/WMA files)
Maximum number of files in a disc	255 (Including non-MP3/WMA files)

(f) File names

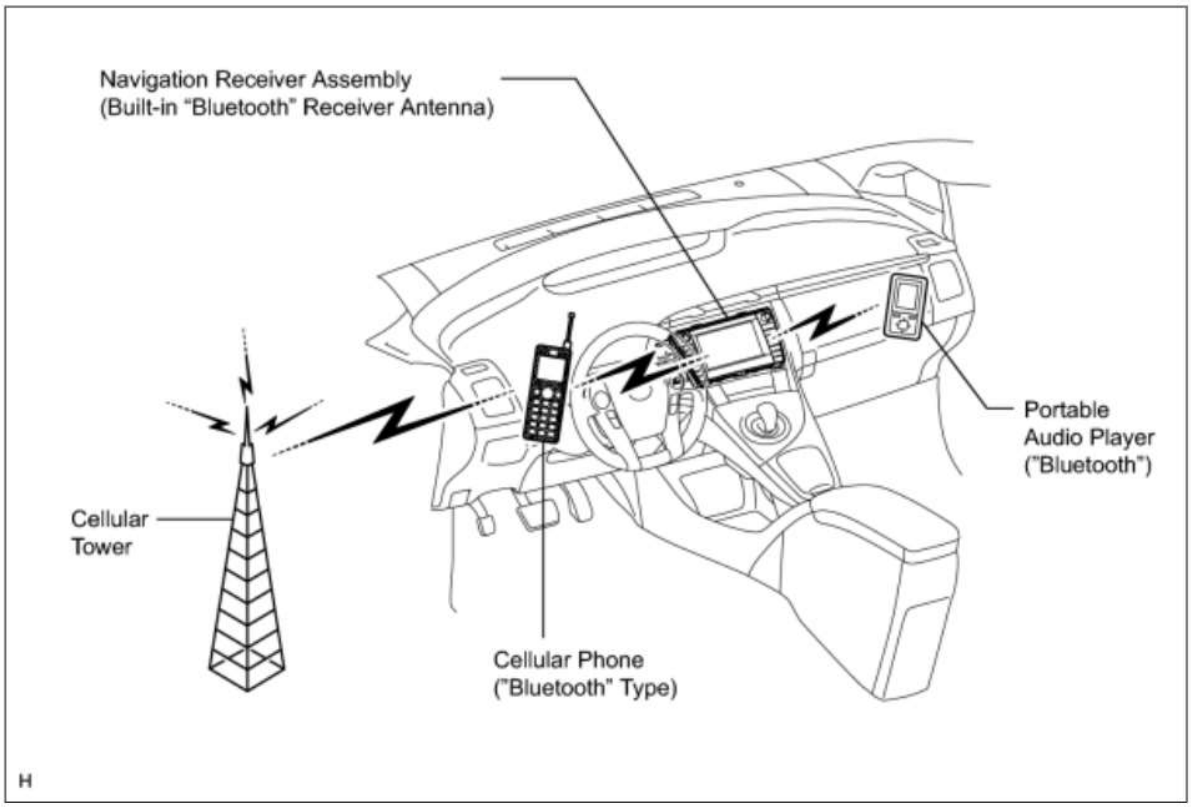
(1) Only files with an extension of ".mp3" or ".wma" can be recognized and played as MP3 or WMA files.

(2) Save MP3 or WMA files with an extension of ".mp3" or ".wma".

NOTICE:

If saving non-MP3 or non-WMA files with an extension of ".mp3" or ".wma", those files are wrongly recognized as MP3 or WMA files and played. A loud noise may occur and damage to the speaker may result.

7. "Bluetooth" OUTLINE



(a) "Bluetooth" is a trademark owned by Bluetooth SIG. Inc.

(b) "Bluetooth" is a wireless connection technology that uses the 2.4 GHz frequency band.

HINT:

cardiagn.com

The communication performance of "Bluetooth" may vary depending on obstructions or radio wave conditions between communication devices, electromagnetic radiation, communication device sensitivity or antenna capacity.

(c) Hands-free function

(1) The "Bluetooth" built-in navigation receiver assembly and a "Bluetooth" compatible cellular phone*1 can be connected using a "Bluetooth" wireless connection. This enables use of the hands-free function on the cellular phone even the phone may be in a pocket or bag. For this reason, it is not necessary to use a connector or cable to connect the cellular phone.

*1: Some versions of "Bluetooth" compatible cellular phones may not function.

(d) "Bluetooth" audio function (w/ "Bluetooth" Audio System)

(1) The "Bluetooth" built-in navigation receiver assembly and a "Bluetooth" compatible portable audio player*2 can be connected using a "Bluetooth" wireless connection. This enables files stored in the portable audio player to be heard from the vehicle speakers. In addition, operations such as play/stop can be performed directly from the navigation receiver assembly.

*2: Some versions of "Bluetooth" compatible audio players may not be able to operate the "Bluetooth" function, or music may play, but functions available using the navigation receiver assembly may be limited.

(2) Available "Bluetooth" audio devices

Required "Bluetooth" specifications	Ver. 1.1 or higher (Recommended: Ver. 2.0+EDR or higher)
Compatible profiles	• A2DP (Advanced Audio Distribution Profile) Ver. 1.0 or higher • AVRCP (Audio/Video Remote Control Profile) Ver. 1.0 or higher (Recommended: Ver. 1.3 or higher)
Maximum number of audio devices that can be registered	2

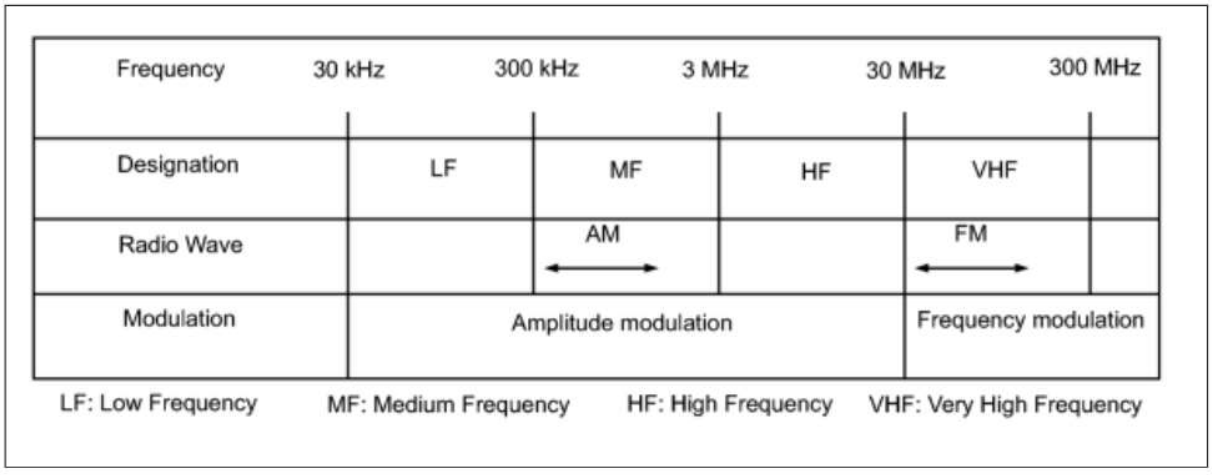
HINT:

The amount of remaining battery charge displayed on the navigation receiver assembly may be different from that of the portable player.

8. RADIO DESCRIPTION

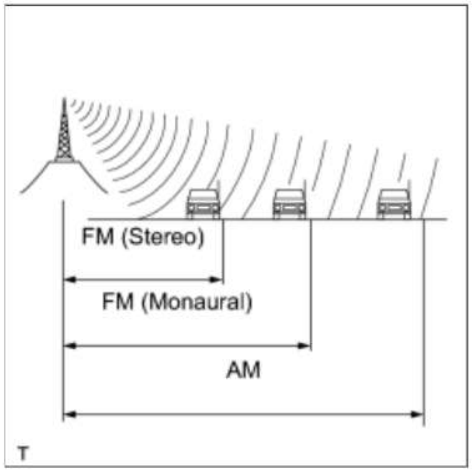
(a) Radio frequency band

(1) Radio broadcasts use the radio frequency bands shown in the table below.



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)



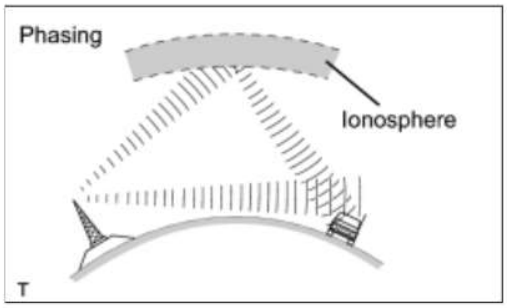
(b) Service area

(1) The service areas of AM and FM broadcasts are vastly different. Sometimes an AM broadcast can be received very clearly but an FM stereo cannot. FM stereo has the smallest service area, and is prone to pick up static and other types of interference such as noise.

(c) Radio reception problems

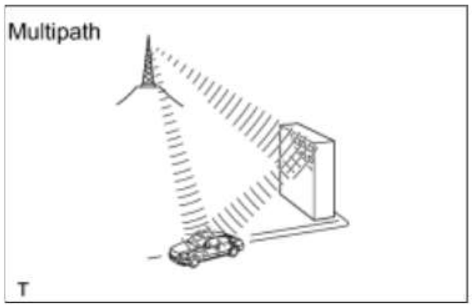
HINT:

In addition to static, other problems such as "phasing", "multipath" and "fade out" exist. These problems are not caused by electrical noise, but by the radio signal propagation method itself.



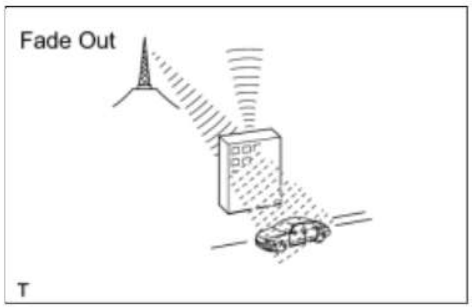
(1) Phasing

AM broadcasts are susceptible to electrical interference and another kind of interference called phasing. Occurring only at night, phasing is the interference created when a vehicle receives 2 radio wave signals from the same transmitter. One signal is reflected off the ionosphere and the other signal is received directly from the transmitter.



(2) Multipath

Multipath is a type of interference created when a vehicle receives 2 radio wave signals from the same transmitter. One signal is reflected off buildings or mountains and the other signal is received directly from the transmitter.



(3) Fade out

Fade out is caused by objects (buildings, mountains and other such large obstacles) that deflect away part of a signal, resulting in a weaker signal when the object is between the transmitter and vehicle. High frequency radio waves, such as FM broadcasts, are easily deflected by obstructions. Low frequency radio waves, such as AM broadcasts, are less likely to deflect.

cardiagn.com

(d) Noise problem

Technicians must have a clear understanding about each customer's noise complaint. Use the following table to diagnose noise problems.

RADIO FREQUENCY	NOISE OCCURRENCE CONDITION	PRESUMABLE CAUSE
AM	Noise occurs in a specified area	Foreign noise
AM	Noise occurs when listening to an intermittent broadcast	An identical program transmitted from multiple towers can cause noise where the signals overlap
AM	Noise occurs only at night	Signal phasing
FM	Noise occurs while driving in a specified area	Multipath noise resulting from a change in FM frequency

9. RBDS FUNCTION OUTLINE (BROADCAST IN NORTH AMERICA ONLY)

The Radio Broadcast Data System (RBDS) is broadcast through conventional FM radio broadcasts. Information such as song names, traffic information, broadcast station names, etc. can be received.

10. SDARS SYSTEM FUNCTION OUTLINE (BROADCAST IN NORTH AMERICA ONLY)

Satellite Digital Audio Radio Service (SDARS) is a satellite digital radio broadcast provided by Sirius XM Radio Inc. The broadcast (pay-type) is performed through satellites and terrestrial repeater networks. Several unique channels are available, and even if a vehicle changes locations, the same information can be received without breaks. Information such as song names, broadcast station names, etc. can be received. Also, traffic information can be received and displayed on the navigation screen.

NOTICE:

To receive an audio-visual pay-type broadcasts, the customer must enter into a pay-type contract with XM Satellite Radio Inc. After entering into a contract, registration of the XM Radio ID is required. Also, if parts are replaced, the XM Radio ID must be re-registered.

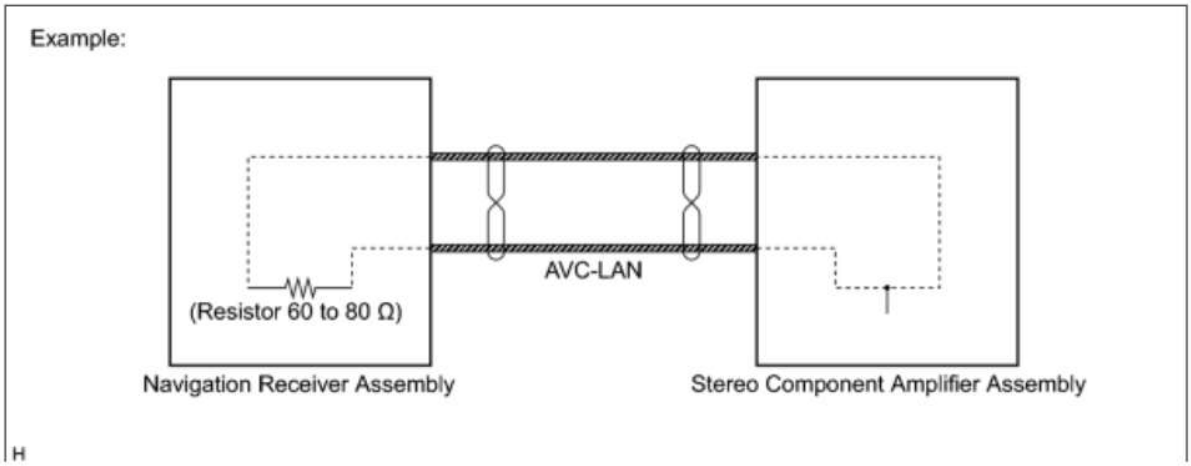
11. AUTOMATIC SOUND LEVELIZER (ASL) FUNCTION OUTLINE

(a) The Automatic Sound Levelizer (ASL) function automatically adjusts the sound volume in order to enable clear audio quality even when vehicle noise increases (as vehicle noise increases, the volume is turned up, etc.).

Vehicle speed signals are received from the combination meter assembly and used for the ASL control.

12. COMMUNICATION SYSTEM

(a) AVC-LAN Outline



cardiagn.com

(1) Components of the navigation system communicate with each other via the AVC-LAN.

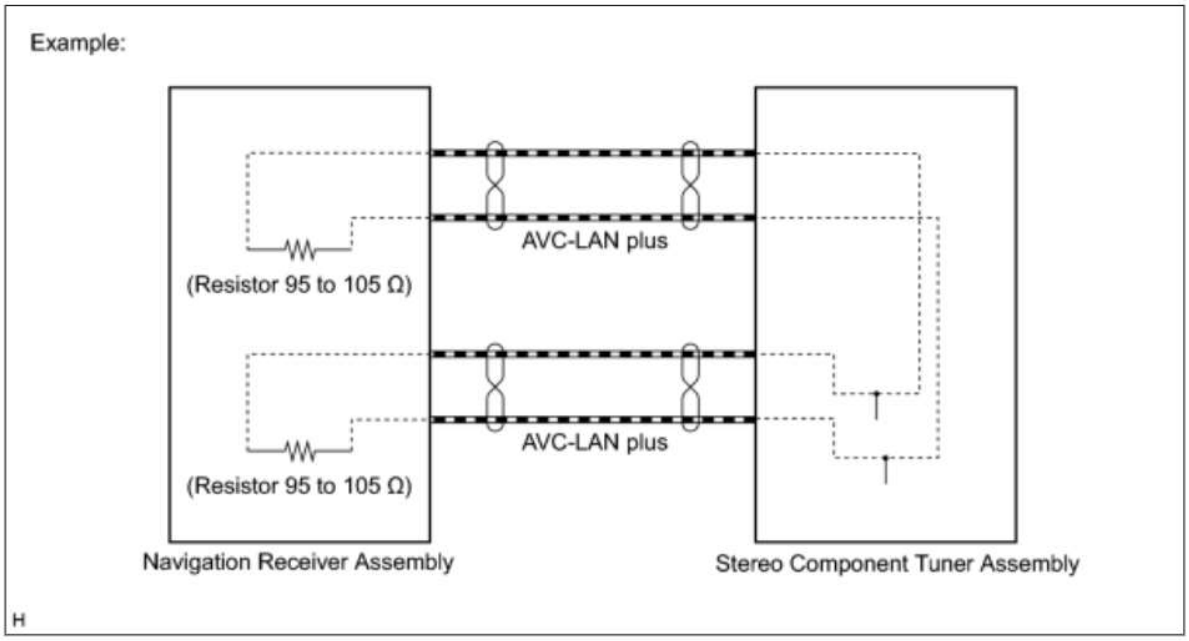
(2) The AVC-LAN uses a twisted pair of wires for its communication lines.

(3) The master unit of the AVC-LAN is the navigation receiver assembly.

HINT:

- The navigation receiver assembly has enough resistance (60 to 80 Ω) necessary for communication.
- If a short or open circuit occurs in the AVC-LAN circuit, communication is interrupted and system will not operate normally.

(b) AVC-LAN plus Outline



(1) Navigation system components communicate with each other via the AVC-LAN plus.

(2) The AVC-LAN plus uses two twisted pairs of cables for its communication lines.

(3) The master unit of the AVC-LAN plus is the navigation receiver assembly.

HINT:

- The navigation receiver assembly has enough resistance (95 to 105 Ω) necessary for communication.
- If a short or open circuit occurs in the AVC-LAN plus circuit, communication will be interrupted and the system will not operate normally.

13. DIAGNOSTIC FUNCTION OUTLINE

(a) The navigation system has a diagnostic function (the result will be displayed on the master unit or the Techstream).

14. DIAGNOSIS DISPLAY DETAILED DESCRIPTION

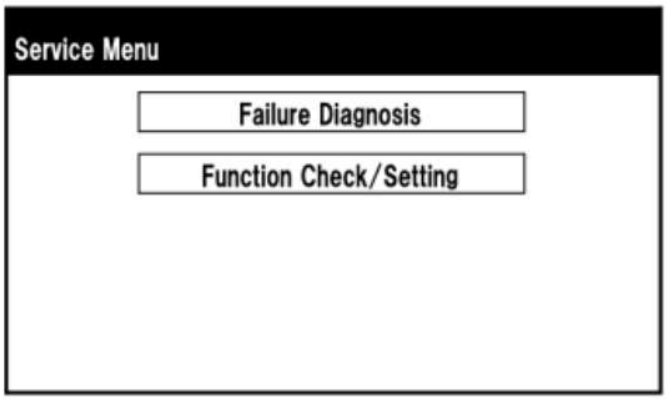
HINT:

- This section contains a detailed description of displays in diagnostic mode.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Service Menu Screen

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)

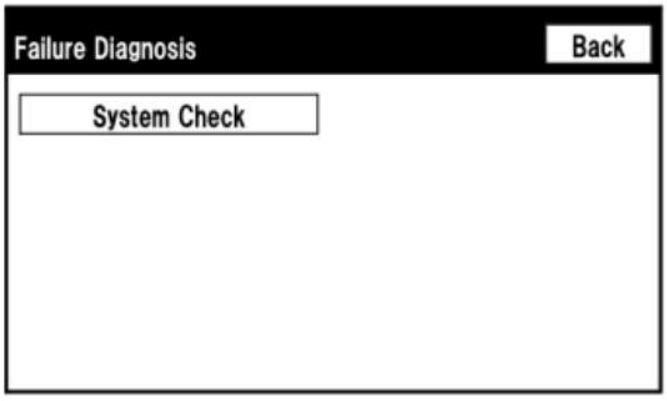


H

HINT:

Each item is grayed out or not displayed based on the device settings.

(b) Failure Diagnosis Screen



H

HINT:

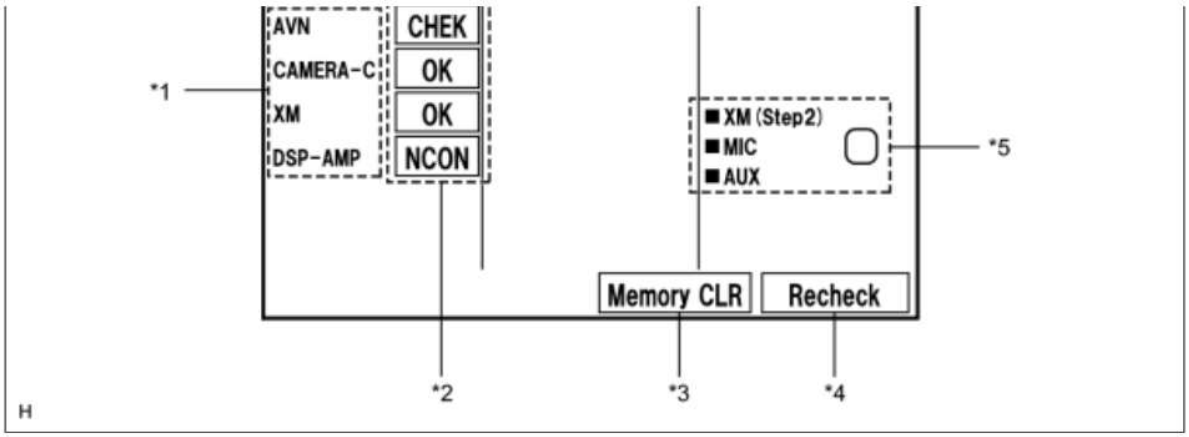
Each item is grayed out or not displayed based on the device settings.

(1) System Check Mode Screen



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)



*1: Device Name List No. 1

HINT:

Device Name List No. 1 displays some of the devices that make up the navigation system.
The names of the components from Device Name List No. 1 are shown in the following table.

NAME	COMPONENT	CONNECTION METHOD
AVN	Navigation receiver assembly	-
CAMERA-C	Parking assist ECU	Communication line for AVC-LAN
XM	Stereo component tuner assembly	Communication line for AVC-LAN
DSP-AMP	Stereo component amplifier assembly	Communication line for AVC-LAN

*2: Check Result

HINT:

Result codes for all devices are displayed.

RESULT	MEANING	ACTION
OK	The device does not respond with a DTC.	-
EXCH	The device responds with a "replace"-type DTC.	Look up the DTC in "Unit Check Mode" and replace the device.
CHEK	The device responds with a "check"-type DTC.	Look up the DTC in "Unit Check Mode".
NCON	The device was previously present, but does not respond in diagnostic mode.	- Check power supply wire harness of the device. - Check the AVC-LAN of the device.
NRES	The device responds in diagnostic mode, but gives no DTC information.	- Check power supply wire harness of the device. - Check the AVC-LAN of the device.

*3: Memory Clear

HINT:

Present and history DTCs and registered connected device names are cleared.
Press the "Memory CLR" switch for 3 seconds.

cardiagn.com

*4: Recheck

HINT:

- A system check will be performed again after the memory is cleared.
- The "Recheck" switch will dim during a system check.

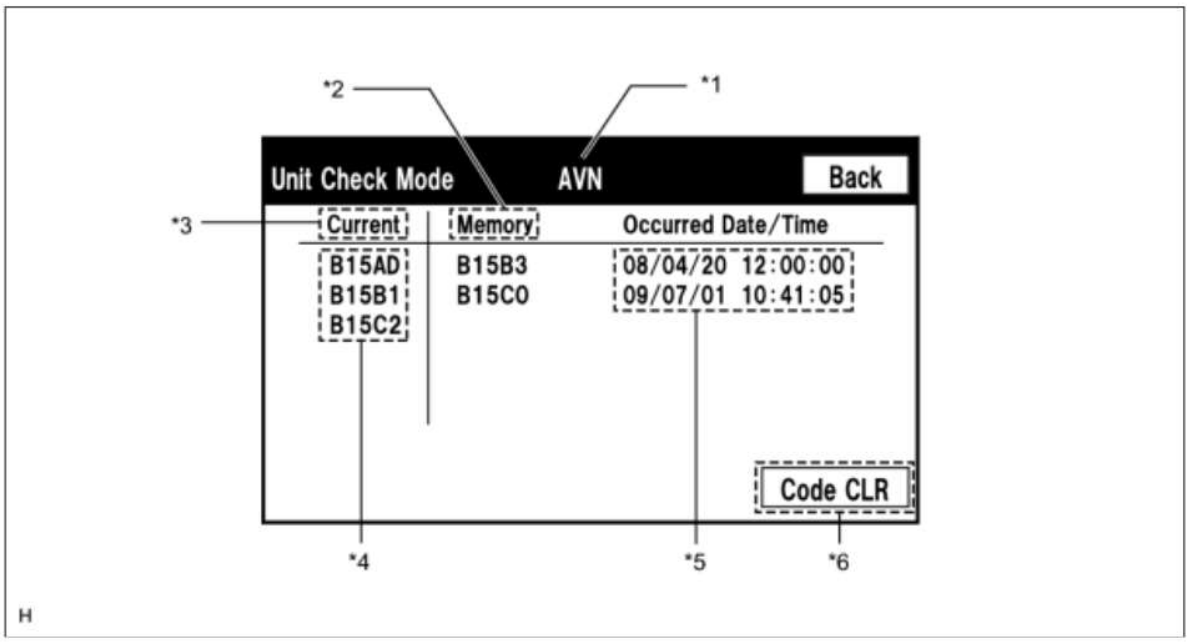
*5: Device Name List No. 2

HINT:

- Device Name List No. 2 displays some of the devices that make up the navigation system.
- The names of the components from Device Name List No. 2 are shown in the following table.

NAME	COMPONENT	CONNECTION METHOD
XM (Step2)	Stereo component tuner assembly	Communication line for AVC-LAN plus
MIC	Telephone microphone assembly	Vehicle wire harness
AUX	No. 1 stereo jack adapter assembly	Vehicle wire harness

(2) Unit Check Mode Screen



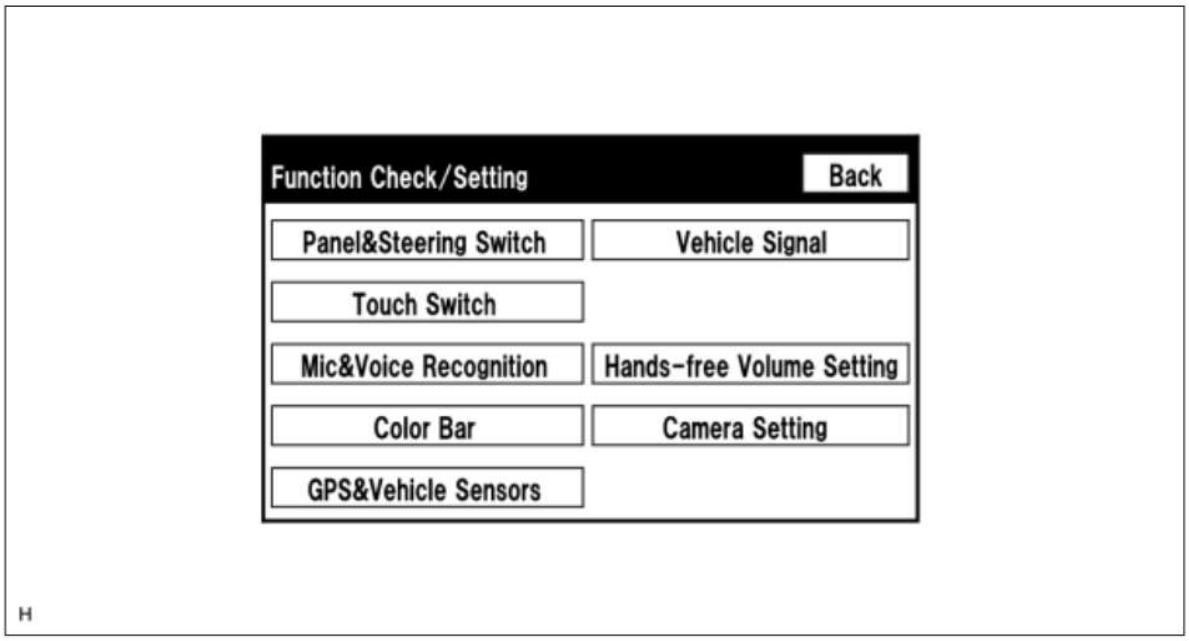
Screen Description

DISPLAY	CONTENT
*1: Device name	Target device
*2: History DTC	Diagnostic memory results and stored DTCs are displayed.
*3: Present DTC	DTCs output in the service check are displayed.
*4: DTC	DTC (Diagnostic Trouble Code)
*5: Timestamp	The time and date of history DTCs are displayed. (The year is displayed in 2-digit format.)
*6: Diagnosis clear switch	Pushing this switch for 3 seconds clears the diagnostic memory data of the target device. (Both response to diagnostic system check result and the displayed data are cleared.)

(c) Function Check/Setting Screen

cardiagn.com

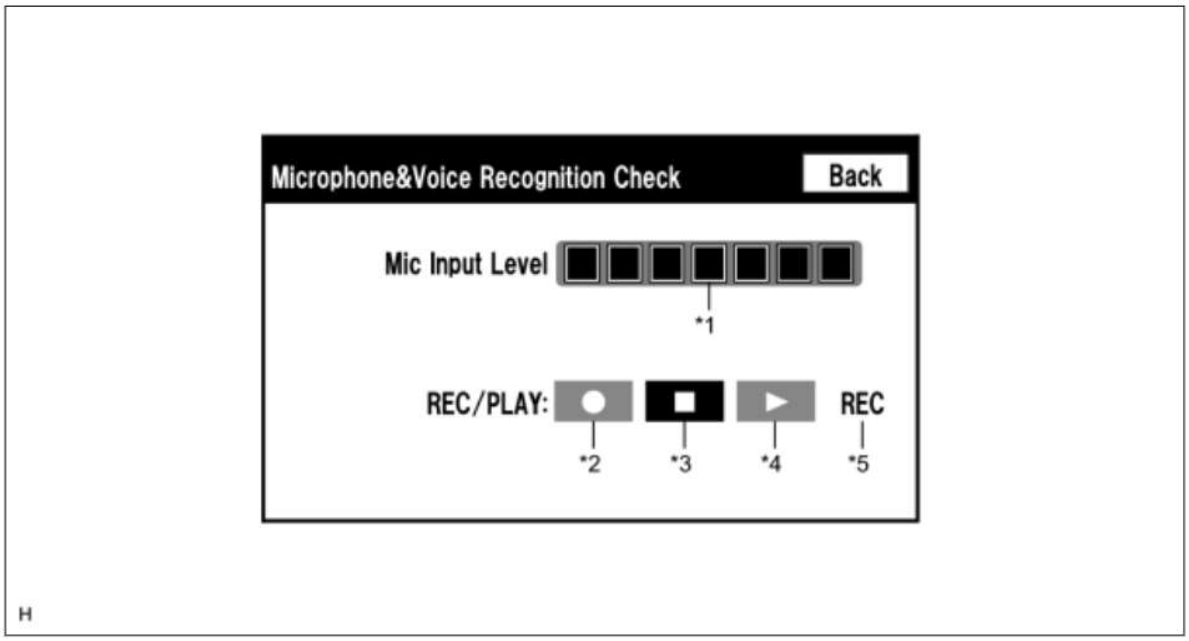
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)



HINT:

Each item is grayed out or not displayed based on the device settings.

(1) Microphone & Voice Recognition Check Screen



Screen Description

DISPLAY	CONTENT
*1: Microphone input level meter	Monitors the microphone input level every 0.1 sec. and displays the results in 8 different levels.
*2: Recording switch	Starts recording.
*3: Stop switch	Stops recording and playing.
*4: Play switch	Plays the recorded voice.

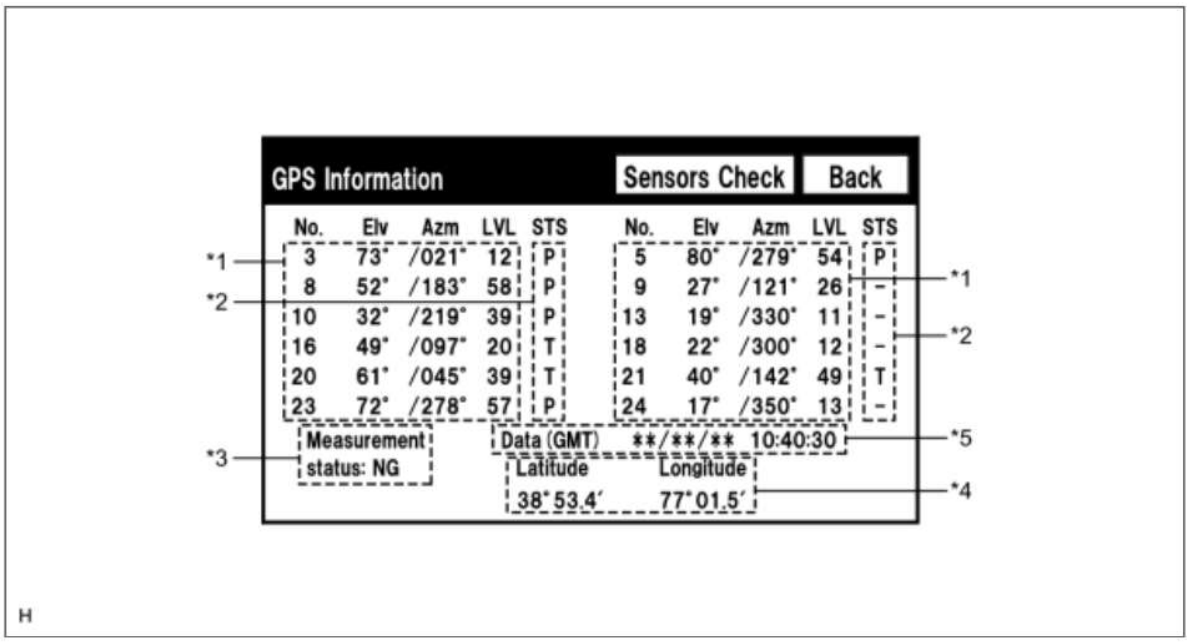
cardiagn.com

*5: Recording indicator	Comes on while recording.

HINT:

- The microphone is active at all times when this screen is displayed.
- While recording or playing, the switches other than the stop switch cannot be pushed.
- When no recording is present, the play switch cannot be pushed.
- Recording will stop after 5 seconds or when the stop switch is pushed.

(2) GPS Information Screen



*1: Satellite information

Information from a maximum of 12 satellites is displayed on the screen. This information includes the target GPS satellite number, elevation angle, direction and signal level.

*2: Receiving condition

Screen Description

DISPLAY	CONTENT
T	The system is receiving a GPS signal, but is not using it for location.
P	The system is using the GPS signal for location.
-	The system cannot receive a GPS signal.

*3: Measurement information

Screen Description

DISPLAY	CONTENT
2D	2-dimensional location method is being used.
3D	3-dimensional location method is being used.
NG	Location data cannot be used.
Error	Reception error has occurred.

cardiagn.com

-	Any other state.

*4: Position information

Screen Description

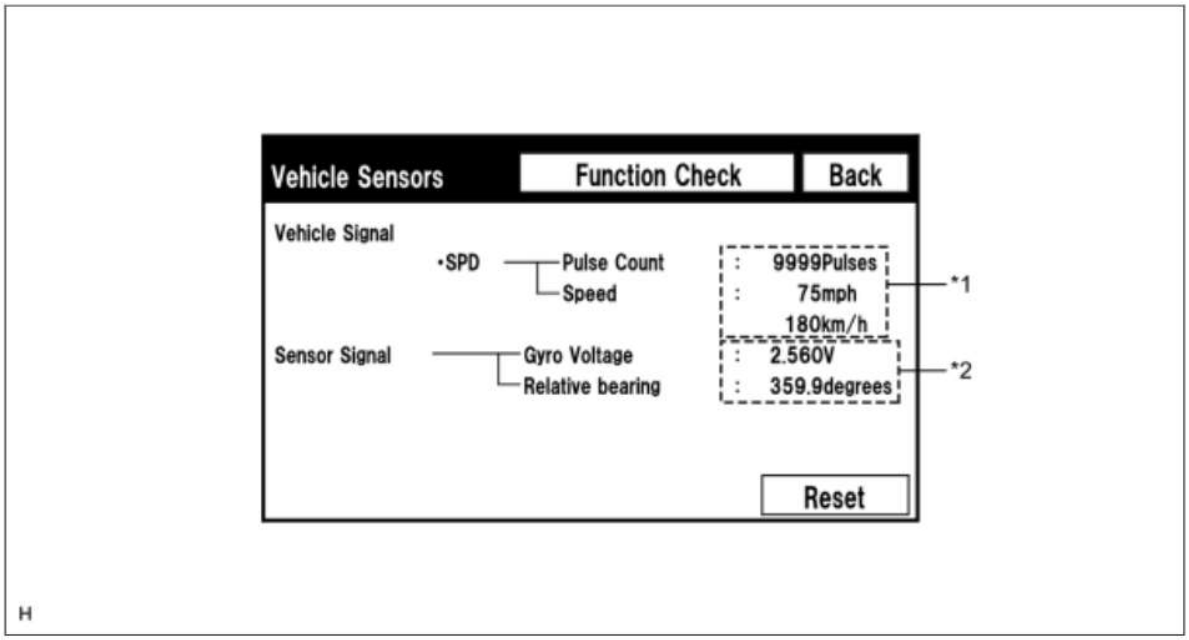
DISPLAY	CONTENT
Position	Latitude and longitude information on the current position is displayed.

*5: Date information

Screen Description

DISPLAY	CONTENT
Date	The date/time information obtained from GPS signal is displayed in Greenwich Mean Time (GMT).

(3) Vehicle Sensors Screen



Vehicle Signal

DISPLAY	CONTENT
*1: SPD	SPD signal condition is displayed.

Sensor Signal

DISPLAY	CONTENT
*2: Gyro sensor	Gyro sensor output condition is displayed.

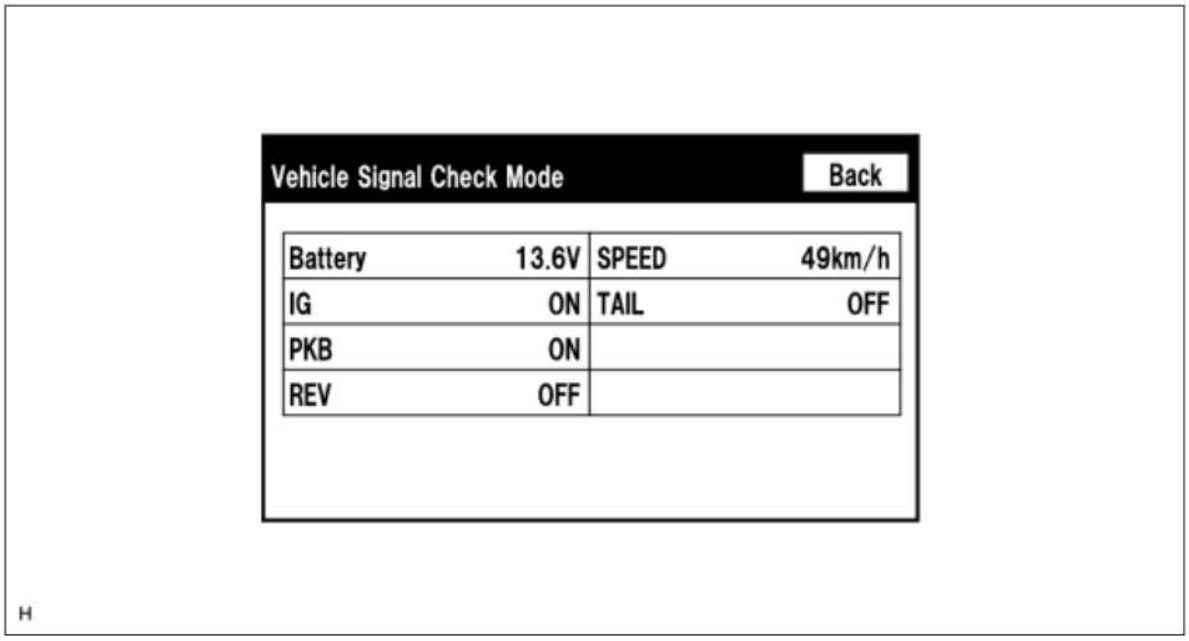
HINT:

Signals are updated once per second only when vehicle sensor signals are changed.

(4) Vehicle Signal Check Mode Screen

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: SYSTEM DESCRIPTION (2010 Prius)



Screen Description

DISPLAY	CONTENT
Battery	Battery voltage is displayed.
IG	Power switch ON/OFF state is displayed.
PKB	Parking brake ON/OFF state is displayed.
REV	Reverse signal ON/OFF state is displayed.
SPEED	Vehicle speed is displayed in km/h.
TAIL	Tail signal (Light control switch) ON/OFF state is displayed.

HINT:

- Only items sending vehicle signals will be displayed.
- This screen is updated once per second when input signals to the vehicle are changed.

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Prius)

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following procedure to troubleshoot the navigation system.
- *: Use the Techstream.

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2.	**INSPECT BATTERY VOLTAGE**

(a) Measure the battery voltage with the power switch off.

Standard Voltage:
11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding to the next step.

NEXT

3.	**DIAGNOSTIC QUESTIONING AND SYMPTOM CONFIRMATION**

(a) Ask the customer about symptoms and confirm malfunctions.

Result:

RESULT	PROCEED TO
Other symptoms.	A
The screen displays nothing.	B

B **Go to step 6**

A

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Prius)

4.	**OPERATION CHECK**

(a) Refer to Check System Normal Condition INFO .

Result:

RESULT	PROCEED TO
Symptom is not normal operation.	A
Symptom is normal operation.	B

B ▶ SYMPTOM IS NORMAL OPERATION

A ▼

5.	**CHECK CAN COMMUNICATION SYSTEM***

(a) Check for DTC output INFO .

Result:

RESULT	PROCEED TO
CAN DTC is not output.	A
CAN DTC is output.	B

B ▶ INFO GO TO CAN COMMUNICATION SYSTEM

A ▼

6.	**CHECK FOR DTC***

(a) Refer to DTC Check/Clear INFO .

Result:

RESULT	PROCEED TO
DTC is output.	A

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Prius)

DTC is not output.	B

B ▶ **Go to step 10**

A ▼

7.	**DTC CLEAR***

(a) Refer to DTC Check/Clear INFO .

HINT:

The present DTCs may not indicate actual malfunctions depending on the vehicle operating conditions.

NEXT ▼

8.	**RECHECK FOR DTC***

(a) Refer to DTC Check/Clear INFO .

Result:

RESULT	PROCEED TO
DTC is output.	A
DTC is not output.	B

HINT:

- Even if the malfunction symptom is not confirmed, check for DTCs. This is because the system stores history DTCs.
- Check the DTCs and inspect the area code indicates.

B ▶ **Go to step 10**

A ▼

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Prius)

9.	DIAGNOSTIC TROUBLE CODE CHART

(a) Find the output code in Diagnostic Trouble Code Chart INFO .

NEXT ▶ Go to step 12

10.	PROBLEM SYMPTOMS TABLE

(a) Refer to Problem Symptoms Table INFO .

Result:

RESULT	PROCEED TO
Fault is not listed in Problem Symptoms Table.	A
Fault is listed in Problem Symptoms Table.	B

HINT:

If the symptom does not recur and no DTC is output, perform the symptom reproduction method INFO .

B ▶ Go to step 12

A ▼

11.	PERFORM TROUBLESHOOTING BASED ON MALFUNCTION SYMPTOM

(a) Refer to Terminals of ECU INFO .

NEXT ▼

12.	CHECK CIRCUIT

(a) Adjust, repair or replace as necessary.

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING (2010 Prius)

NEXT

13.	RECHECK FOR DIAGNOSTIC TROUBLE CODE

HINT:

After clearing the DTCs, recheck for DTCs.

NEXT

14.	PERFORM CONFIRMATION TEST

NEXT END

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: OPERATION CHECK (2010 Prius)

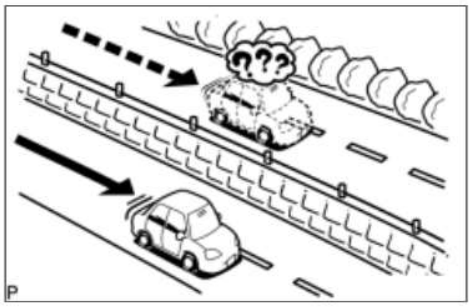
OPERATION CHECK

1. CHECK SYSTEM NORMAL CONDITION

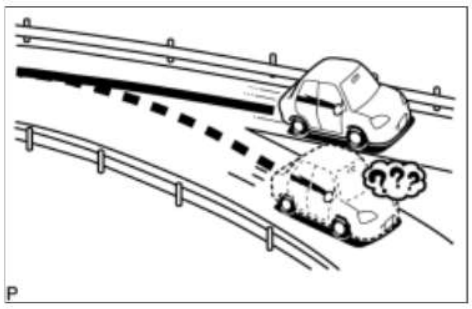
(a) If the symptom is applicable to any of the following, it is intended behavior, and not a malfunction.

SYMPTOM	ANSWER
A longer route than expected is chosen.	Depending on the road conditions, the navigation receiver assembly may determine that a longer route is quicker.
Even when distance priority is high, the shortest route is not shown.	Some routes may not be advised due to safety concerns.
When the vehicle is put into motion immediately after the hybrid system starts, the navigation system deviates from the current position.	If the vehicle starts before the navigation system activates, the system may not react.
When running on certain types of roads, especially new roads, the vehicle position deviates from the current position.	When the vehicle is driving on new roads not available on the hard disk drive, the system attempts to match it to another nearby road, causing the position mark to deviate.

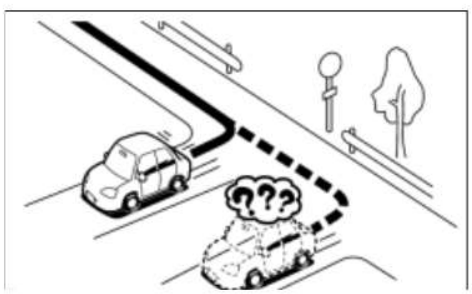
(b) The following symptoms are not malfunctions, but are caused by errors inherent in the GPS, gyro sensor, speed sensor or navigation receiver assembly.



(1) The current position mark may be displayed on a nearby parallel road.

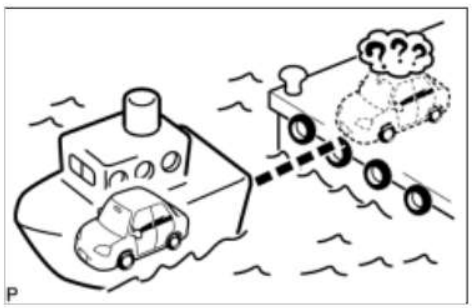


(2) Immediately after a fork in the road, the current vehicle position mark may be displayed on the wrong road.

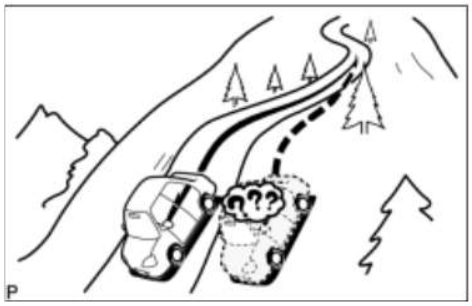


(3) When the vehicle turns right or left at an intersection, the current vehicle position mark may be displayed on a nearby parallel road.

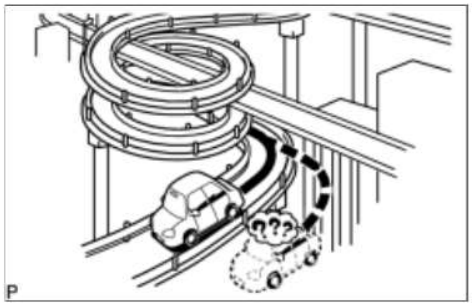
cardiagn.com



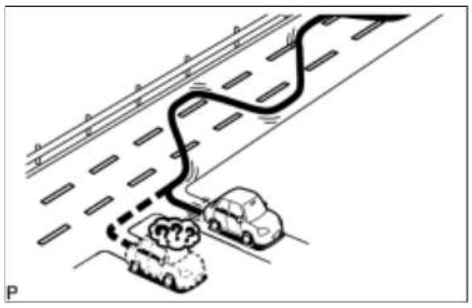
(4) When the vehicle is carried, such as on a ferry, and the vehicle itself is not running, the current vehicle position mark may be displayed in the position where the vehicle was until a measurement can be performed by GPS.



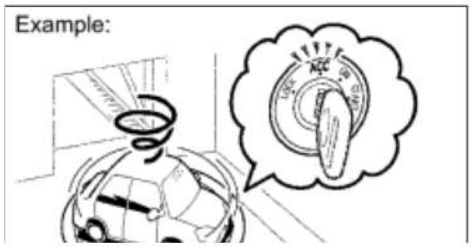
(5) When the vehicle travels on a steep hill, the current vehicle position mark may deviate from the correct position.



(6) When the vehicle makes a continuous turn (e.g. 360, 720, 1080 degrees), the current vehicle position mark may deviate from the correct position.



(7) When the vehicle moves erratically, such as constant lane changes, the current vehicle position mark may deviate from the correct position.



(8) When the power switch is turned on (ACC or IG) on a turntable before parking, the current vehicle position mark may not indicate the correct direction. The same will occur when the vehicle comes out of the parking garage.

cardiagn.com





(9) When the vehicle travels on a snowy road or a mountain path with the chains installed or using a spare tire, the current vehicle position mark may deviate from the correct position.



(10) When the tires are changed, the current vehicle position mark may deviate from the correct position.

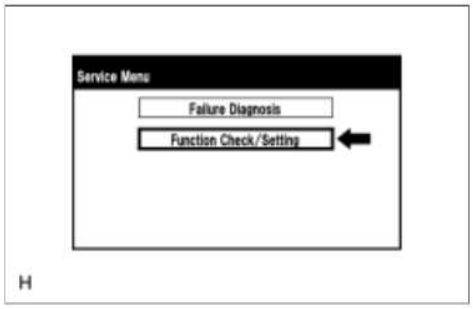
- A change in tire diameter may cause a speed sensor error.
- Performing "tire change" in calibration mode will allow the system to correct the current vehicle position faster.

2. CHECK PANEL & STEERING SWITCH

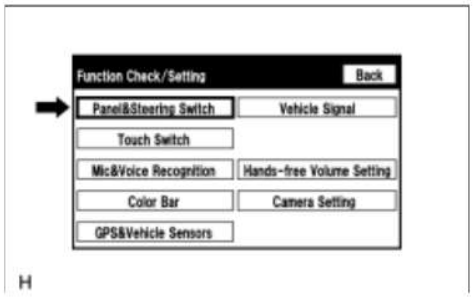
HINT:

- The navigation receiver assembly panel switches and steering switch are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .



(b) Select "Function Check/Setting" from the "Service Menu" screen.



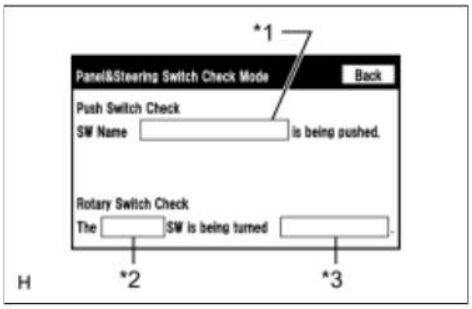
(c) Select "Panel & Steering Switch" from the "Function Check/Setting" screen.

cardiagn.com

(d) Panel & Steering Switch Check Mode

(1) Operate each switch and check that the switch names and condition are correctly displayed.

Screen Description



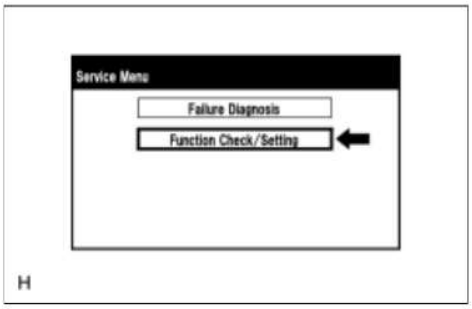
DISPLAY	CONTENT
*1: Push switch name	• Name of the pressed switch is displayed. • If more than one switch is pressed, "MULTIPLE" will be displayed.
*2: Rotary switch name	Name of the rotary switch is displayed.
*3: Rotary switch direction	Direction of the rotary switch is displayed.

3. CHECK TOUCH SWITCH

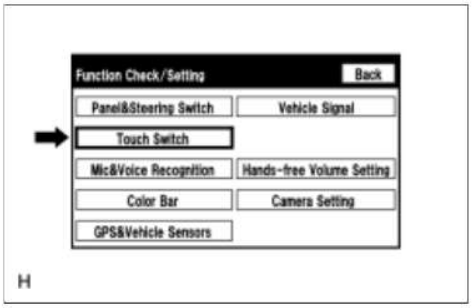
HINT:

- The touch switches on the screen are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .



(b) Select "Function Check/Setting" from the "Service Menu" screen.

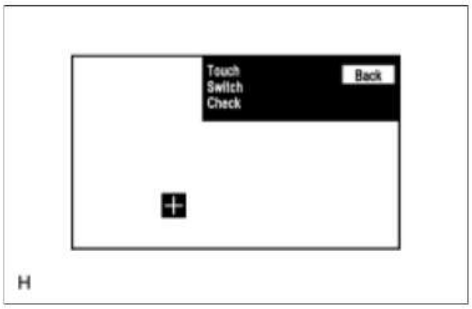


(c) Select "Touch Switch" from the "Function Check/Setting" screen.

(d) Touch Switch Check

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: OPERATION CHECK (2010 Prius)



(1) Touch the display anywhere in the open area to perform the check when the "Touch Switch Check" screen is displayed.

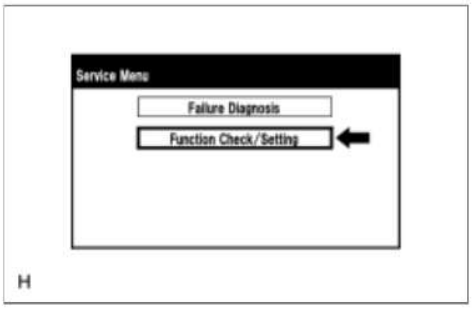
- A "+" mark is displayed where the display is touched.
- The "+" mark remains on the display even after the finger is removed.

4. CHECK MIC & VOICE RECOGNITION

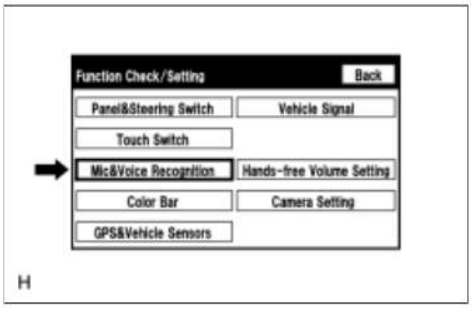
HINT:

- The microphone and microphone input level are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .

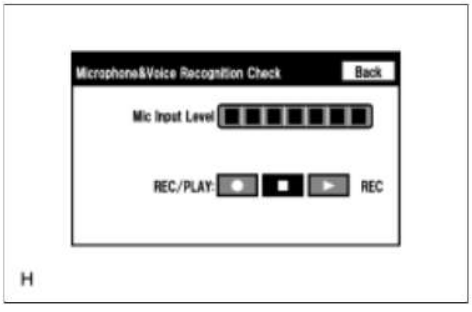


(b) Select "Function Check/Setting" from the "Service Menu" screen.



(c) Select "Mic & Voice Recognition" from the "Function Check/Setting" screen.

(d) Microphone & Voice Recognition Check



(1) When speaking into the microphone, check that the microphone input level meter changes according to the input level.

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: OPERATION CHECK (2010 Prius)

(2) Push the recording switch and perform voice recording.

(3) Check that the recording indicator remains on while recording and that the recording can be played normally.

HINT:

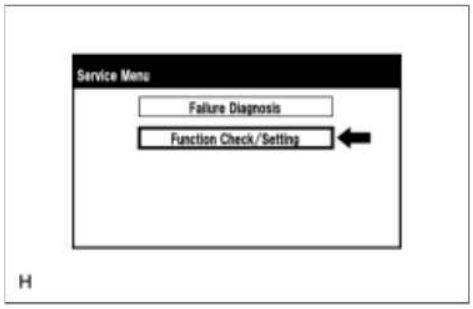
- For details of this function, refer to Diagnosis Display Detailed Description in System Description INFO .
- This function is controlled by the navigation receiver assembly (built-in navigation ECU).

5. CHECK COLOR BAR

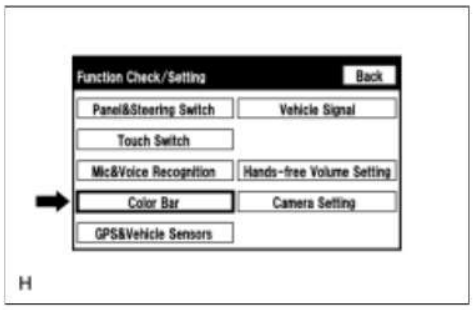
HINT:

- The display color on the screen is checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .

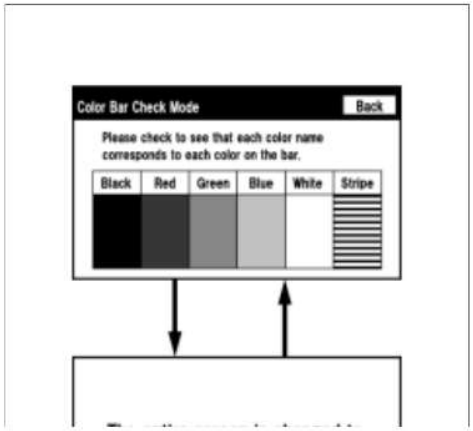


(b) Select "Function Check/Setting" from the "Service Menu" screen.



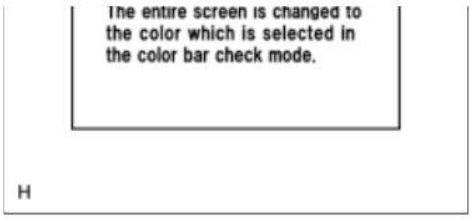
(c) Select "Color Bar" from the "Function Check/Setting" screen.

(d) Color Bar Check Mode



(1) Select a color bar from the "Color Bar Check Mode" screen.

cardiagn.com



(2) Check the display color.

HINT:

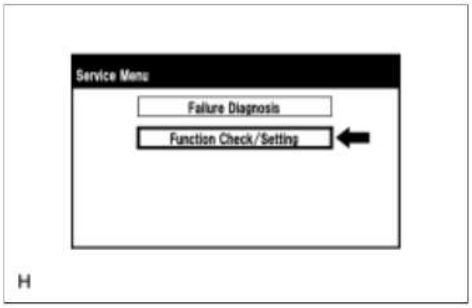
- The entire screen turns to the color or stripe selected.
- Touching the display will return to the "Color Bar Check" screen.

6. CHECK GPS & VEHICLE SENSORS

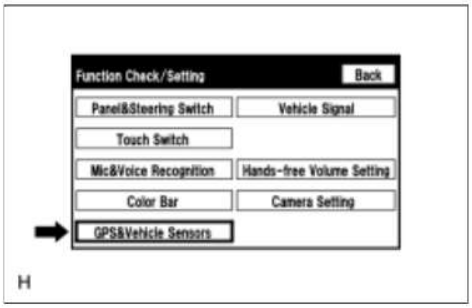
HINT:

- GPS information, vehicle signals and sensor signals are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .

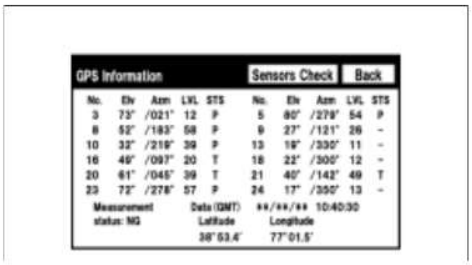


(b) Select "Function Check/Setting" from the "Service Menu" screen.



(c) Select "GPS & Vehicle Sensors" from the "Function Check/Setting" screen.

(d) GPS information



(1) When the "GPS Information" screen is displayed, check the GPS conditions.

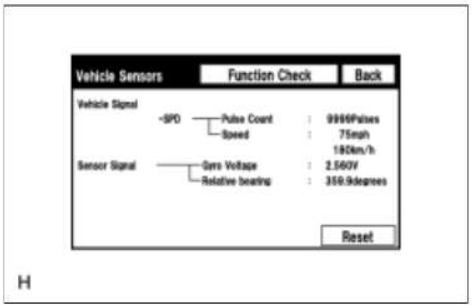
- This screen is updated once per second when input signals to the vehicle are changed.
- For details of this function, refer to Diagnosis Display Detailed Description in System Description INFO .

cardiagn.com

H

(e) Select "Sensors Check" from the "GPS information" screen.

(f) Vehicle Sensors



H

(1) Check all the signals and sensors when vehicle signal information is displayed.

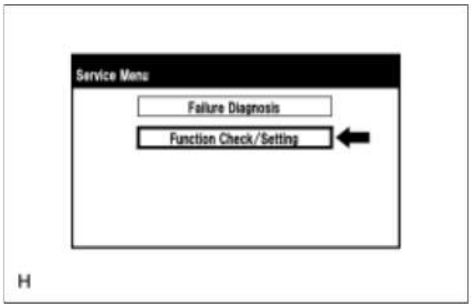
- This screen is updated once per second when input signals to the vehicle are changed.
- This screen displays vehicle signals input to the navigation receiver assembly (built-in navigation ECU).
- For details of this function, refer to Diagnosis Display Detailed Description in System Description INFO .

7. CHECK VEHICLE SIGNAL

HINT:

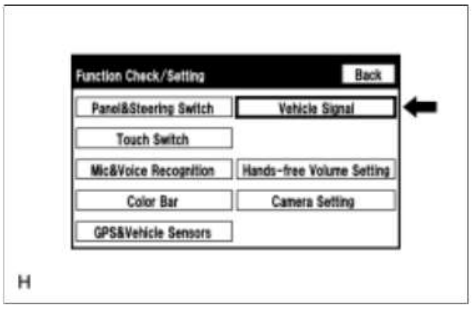
- Vehicle signals received by the navigation receiver assembly are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .



H

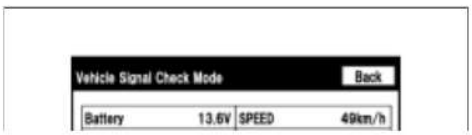
(b) Select "Function Check/Setting" from the "Service Menu" screen.



H

(c) Select "Vehicle Signal" from the "Function Check/Setting" screen.

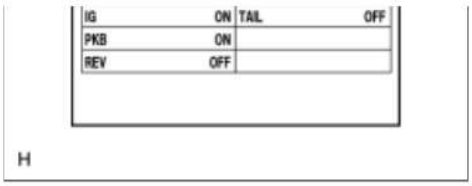
(d) Vehicle Signal Check Mode



(1) When the "Vehicle Signal Check Mode" screen is displayed, check all the vehicle signal conditions.

- Only conditions having inputs are displayed.

cardiagn.com



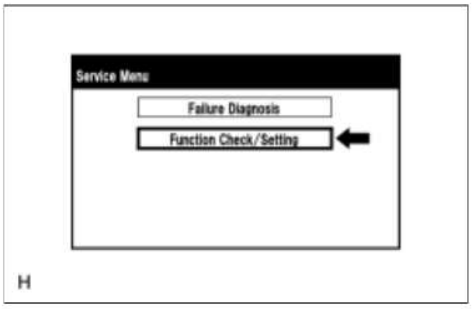
- This screen displays vehicle signals input to the navigation receiver assembly (built-in navigation ECU).
- For details of this function, refer to Diagnosis Display Detailed Description in System Description INFO .

8. CHECK HANDS-FREE VOLUME SETTING

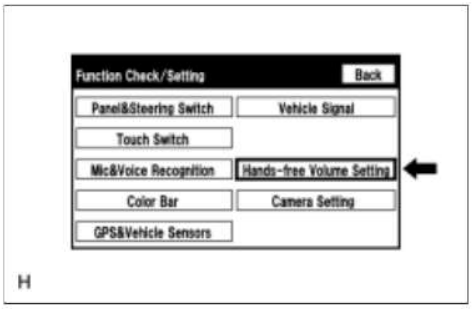
HINT:

- The hands-free volume of a "Bluetooth" compatible phone can be adjusted using the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .



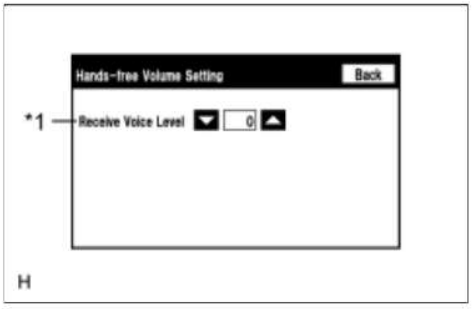
(b) Select "Function Check/Setting" from the "Service Menu" screen.



(c) Select "Hands-free Volume Setting" from the "Function Check/Setting" screen.

(d) Hands-free Volume Setting

(1) Check the hands-free volume level.



Screen Description

DISPLAY	CONTENT
*1: Receive voice level adjustment	Setting possible for the voice level received from "Bluetooth" compatible phones.

NOTICE:

Sound quality may deteriorate when the receive voice level is changed more than necessary. For this reason, check that the receive voice quality is still acceptable after changing this setting.

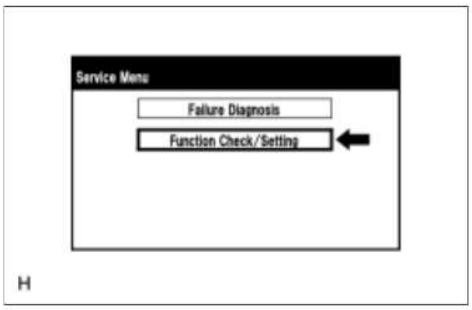
cardiagn.com

9. CHECK CAMERA SETTING (W/ ADVANCED PARKING GUIDANCE SYSTEM)

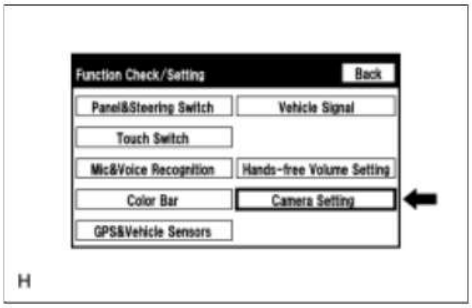
HINT:

- It is possible to make adjustments and check the signals received by the parking assist ECU.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

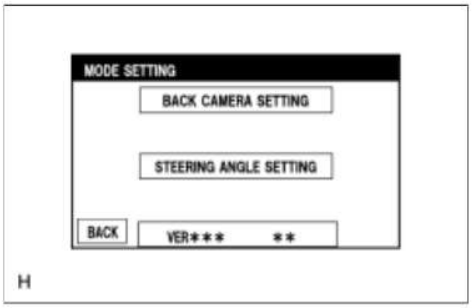
(a) Enter diagnostic mode INFO .



(b) Select "Function Check/Setting" from the "Service Menu" screen.



(c) Select "Camera Setting" from the "Function Check/Setting" screen.



(d) MODE SETTING

HINT:

Refer to the advanced parking guidance system for further information INFO .

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Prius)

PROBLEM SYMPTOMS TABLE

HINT:

- Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.
- Inspect the fuses and relays related to this system before inspecting the suspected areas below.

Display Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Pressing PWR switch does not turn on system.	Proceed to "Pressing Power Switch does not Turn on System"	INFO
	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Black screen (No image appears on navigation/audio screen.)	Proceed to "Black Screen"	INFO
	Proceed to "Illumination Circuit"	INFO
	Navigation receiver assembly	INFO
Illumination for panel switch does not come on with tail switch on.	Proceed to "Illumination for Panel Switch does not Come on with Tail Switch ON"	INFO
	Proceed to "Illumination Circuit"	INFO
	Navigation receiver assembly	INFO
Display does not dim (does not change to night screen) with tail switch on.	Check if the light control rheostat knob position is not on the cancel position.	-
	Proceed to "Display does not Dim when Light Control Switch is Turned ON"	INFO
	Proceed to "Illumination Circuit"	INFO
	Navigation receiver assembly	INFO
Power does not turn off. (Screen remains on.)	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Panel switches do not function.	Proceed to "Panel Switches do not Function"	INFO
	Proceed to "Steering Pad Switch Circuit"	INFO
	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Touch panel switch does not function.	Proceed to "Touch Panel Switch does not Function"	INFO
	Proceed to "Steering Pad Switch Circuit"	INFO
	Proceed to "Navigation Receiver Assembly Power	INFO

cardiagn.com

	Source Circuit"	
	Navigation receiver assembly	INFO
Display panel does not open, tilt, or tilts improperly.	Proceed to "Display Panel does not Open, Tilt or Tilts Improperly"	INFO
	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Screen is distorted.	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Screen flicker or color distortion	Proceed to "Screen Flicker or Color Distortion"	INFO
	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Navigation function switches can be operated while vehicle is running.	Navigation receiver assembly	INFO

Audio Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
No sound can be heard from speakers. (Audio is mute.)	Proceed to "No Sound can be Heard from Speakers"	INFO
	Proceed to "Stereo Component Amplifier Power Source Circuit"	INFO
	Proceed to "Mute Signal Circuit between Navigation Receiver Assembly and Stereo Component Tuner Assembly"*1	INFO
	Proceed to "Mute Signal Circuit between Navigation Receiver Assembly and Stereo Component Amplifier"*2	INFO
	Proceed to "Mute Signal Circuit between Stereo Component Amplifier and Telematics Transceiver"*3	INFO
	Proceed to "Sound Signal Circuit between Navigation Receiver Assembly and Stereo Component Amplifier"*2	INFO
	Proceed to "Speaker circuit"	INFO
	Stereo component amplifier assembly	INFO
	DCM (telematics transceiver)*3	INFO
	Navigation receiver assembly	INFO
Radio broadcast cannot be received or poor reception.	Proceed to "Radio Broadcast cannot be Received or Poor Reception"	INFO
CD cannot be inserted/played or CD is ejected right after insertion.	Proceed to "CD cannot be Inserted / Played or CD is Ejected Right After Insertion"	INFO
CD cannot be ejected.	Proceed to "CD cannot be Ejected"	INFO

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Prius)

CD sound skips.	Proceed to "CD Sound Skips"	INFO
Abnormal noise occurs.	Proceed to "Noise Occurs"	INFO
Poor sound quality in all modes (low volume).	Proceed to "Poor Sound Quality in All Modes (Low Volume)"	INFO
	Proceed to "Stereo Component Amplifier Power Source Circuit"	INFO
	Proceed to "Speaker circuit"	INFO
	Proceed to "Mute Signal Circuit between Navigation Receiver Assembly and Stereo Component Tuner Assembly"*1	INFO
	Proceed to "Mute Signal Circuit between Navigation Receiver Assembly and Stereo Component Amplifier"*2	INFO
	Proceed to "Mute Signal Circuit between Stereo Component Amplifier and Telematics Transceiver"*3	INFO
	Proceed to "Sound Signal Circuit between Navigation Receiver Assembly and Stereo Component Amplifier"*2	INFO
	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO
	Stereo component amplifier assembly	INFO
	DCM (telematics transceiver)*3	INFO
	Navigation receiver assembly	INFO
Satellite radio sound cannot be heard or sound quality is bad.*1	Proceed to "Sound Signal Circuit between Navigation Receiver Assembly and Stereo Component Tuner Assembly"	INFO
	Proceed to "Mute Signal Circuit between Navigation Receiver Assembly and Stereo Component Tuner Assembly"	INFO
	Navigation receiver assembly	INFO
	Stereo component tuner assembly	INFO
External device sound cannot be heard or sound quality is bad. (Stereo jack is used.)	Proceed to "Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO
ASL does not function.	Check that the ASL function is on	-
	Proceed to "Vehicle Speed Signal Circuit between Stereo Component Amplifier and Combination Meter"*2	INFO
	Navigation receiver assembly	INFO

Navigation Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Map disc cannot be inserted.	Proceed to "Map Disc cannot be Inserted"	INFO
	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Prius)

	Navigation receiver assembly	INFO
Map disc cannot be ejected.	Proceed to "Navigation Receiver Assembly Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Vehicle position mark deviates.	Proceed to "Vehicle Position Mark Deviates Greatly"	INFO
	Navigation antenna assembly	INFO
	Navigation receiver assembly	INFO
Cursor or map rotates when vehicle is stopped.	Proceed to "Cursor or Map Rotates when Vehicle Stopped"	INFO
	Navigation receiver assembly	INFO
Vehicle position mark is not updated.	Proceed to "Vehicle Position Mark is not Updated"	INFO
	Map disc	-
	Navigation receiver assembly	INFO
Current position display does not appear.	Proceed to "Current Position Display does not Appear"	INFO
	Map disc	-
	Navigation antenna assembly	INFO
	Navigation receiver assembly	INFO
GPS mark is not displayed.	Proceed to "GPS Mark is not Displayed"	INFO
	Navigation antenna assembly	INFO
	Navigation receiver assembly	INFO
Voice guidance does not function.	Proceed to "Voice Guidance does not Function"	INFO
	Proceed to "Mute Signal Circuit between Navigation Receiver Assembly and Stereo Component Amplifier"*2	INFO
	Proceed to "Mute Signal Circuit between Stereo Component Amplifier and Telematics Transceiver"*3	INFO
	Proceed to "Navigation Voice Circuit"*2	INFO
	Proceed to "Speaker Circuit"	INFO
	Map disc	-
	Navigation receiver assembly	INFO
	DCM (telematics transceiver)*3	INFO
	Stereo component amplifier assembly	INFO
	Proceed to "Map Display Incomplete"	INFO

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Prius)

Map display is incomplete.	Map disc	-
	Navigation receiver assembly	INFO
Route cannot be calculated.	Proceed to "Route cannot be Calculated"	INFO
	Map disc	-
	Navigation receiver assembly	INFO
Map screen turns white or blue. (GPS receiving status is displayed normally, and switches and own vehicle position mark are also displayed normally.)	Change map scale to smallest (a scale that shows a large area)	-
	Map disc	-
	Navigation receiver assembly	INFO
Voice menu screen is not displayed.	Proceed to "Steering Pad Switch Circuit"	INFO
	Navigation receiver assembly	INFO
Voice recognition is difficult.	Proceed to "Voice Recognition Difficulty"	INFO
	Proceed to "Microphone Circuit between Microphone and Navigation Receiver Assembly"	INFO
	DCM (telematics transceiver)*3	INFO
	Navigation receiver assembly	INFO
Voice is not recognized.	Proceed to "Voice is not Recognized"	INFO
	Proceed to "Microphone Circuit between Microphone and Navigation Receiver Assembly"	INFO
	Proceed to "Steering Pad switch Circuit"	INFO
	DCM (telematics transceiver)*3	INFO
	Navigation receiver assembly	INFO
Reverse signal does not change in vehicle signal check mode.	Proceed to "Reverse Signal Circuit"	INFO
	Navigation receiver assembly	INFO
"MIC" is not displayed on system check mode screen.	Proceed to "Microphone Circuit between Microphone and Navigation Receiver Assembly"	INFO
	Navigation receiver assembly	INFO
"AUX" is not displayed on system check mode screen.	Proceed to "Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter"	INFO
	Navigation receiver assembly	INFO

Steering Pad Switch Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
System cannot be operated by steering pad switch.	Proceed to "Steering Pad Switch Circuit"	INFO
	Navigation receiver assembly	INFO

cardiagn.com

Illumination for steering pad switch does not come on with tail switch on.	Proceed to "Illumination Circuit"	INFO
	Navigation receiver assembly	INFO

"Bluetooth" Hands-free Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Bluetooth inoperative	Proceed to "Microphone Circuit between Microphone and Navigation Receiver Assembly"	INFO
	DCM (telematics transceiver)*3	INFO
	Navigation receiver assembly	INFO
Cellular phone registration failure, phone directory transfer failure	Proceed to "Cellular Phone Registration Failure, Phone Directory Transfer Failure"	INFO
Cellular phone cannot send/receive.	Proceed to "Cellular Phone cannot Send/Receive"	INFO
	Proceed to "Steering Pad Switch Circuit"	INFO
	Navigation receiver assembly	INFO
Celluar phone cannot call in a certain place.	Proceed to "Cannot Call in a Certain Place"	INFO
The other caller's voice cannot be heard, is too quiet, or distorted.	Proceed to "The Other Caller's Voice cannot be Heard, is too Quiet, or Distorted"	INFO
	Proceed to "Navigation Voice Circuit"*2	INFO
	Stereo component amplifier assembly	INFO
	Navigation receiver assembly	INFO
The other caller cannot hear your voice, or your voice is too quiet or distorted.	Proceed to "The Other Caller cannot Hear Your Voice, or Your Voice is too Quiet or Distorted"	INFO
	Proceed to "Microphone Circuit between Microphone and Navigation Receiver Assembly"	INFO
	DCM (telematics transceiver)*3	
	Navigation receiver assembly	INFO

"Bluetooth" Audio Function*2

SYMPTOM	SUSPECTED AREA	SEE PAGE
Portable player cannot be registered.	Proceed to "Portable Player cannot be Registered"	INFO
	Navigation receiver assembly	INFO
Portable player cannot be connected manually/automatically.	Proceed to "Portable Player cannot be Registered"	INFO
	Proceed to "Portable Player cannot be Connected Manually/Automatically"	INFO
	Navigation receiver assembly	INFO

cardiagn.com

Cellular phone with portable audio function cannot be recognized as "Bluetooth" audio device even when connected using "Bluetooth".	Proceed to "Portable Player cannot be Registered"	INFO
	Proceed to "Portable Player cannot be Connected Manually/Automatically"	INFO
	Navigation receiver assembly	INFO
Sound of portable player cannot be heard from speakers, or sound is low.	Proceed to "Sound of Portable Player cannot be Heard from Speakers or Sound is Low"	INFO
	Navigation receiver assembly	INFO
Portable player does not play even after "Bluetooth" audio mode is selected.	Proceed to "Does not Play even after Bluetooth Audio Mode is Selected"	INFO
	Navigation receiver assembly	INFO
Portable player does not play.	Proceed to "Does not Play even after Bluetooth Audio Mode is Selected"	INFO
	Navigation receiver assembly	INFO
Track information such as track number, track name and elapsed play time is not displayed.	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
Operation switches for portable player such as play, pause, repeat, random and scan are not displayed.	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
Battery condition of portable player is not displayed.	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
"Bluetooth" signal condition is not displayed.	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
Portable player cannot pause, select file, fast forward, fast rewind, play at random or scan.	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
Noise occurs or sound skips when portable player plays.	Proceed to "Noise Occurs or Sound Skips when Portable Player Plays"	INFO
	Navigation receiver assembly	INFO
Registered device cannot be deleted.	Proceed to "Registered Device cannot be Deleted"	INFO
	Navigation receiver assembly	INFO

SDARS System Function*1

SYMPTOM	SUSPECTED AREA	SEE

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Prius)

SYMPTOM	SUSPECTED AREA	SEE PAGE
Satellite radio broadcast cannot be received or reception is bad.	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Satellite radio cannot receive pay type broadcasts.	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Satellite radio broadcast cannot be selected or after selecting broadcast, broadcast cannot be added into memory.	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Proceed to "Satellite Radio Broadcast cannot be Selected or After Selecting Broadcast, Broadcast cannot be Added into Memory"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Traffic information is not displayed.	Proceed to "Traffic Information is not Displayed"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
"XM Nav Traffic" mark is not displayed.	Proceed to "Traffic Information is not Displayed"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO

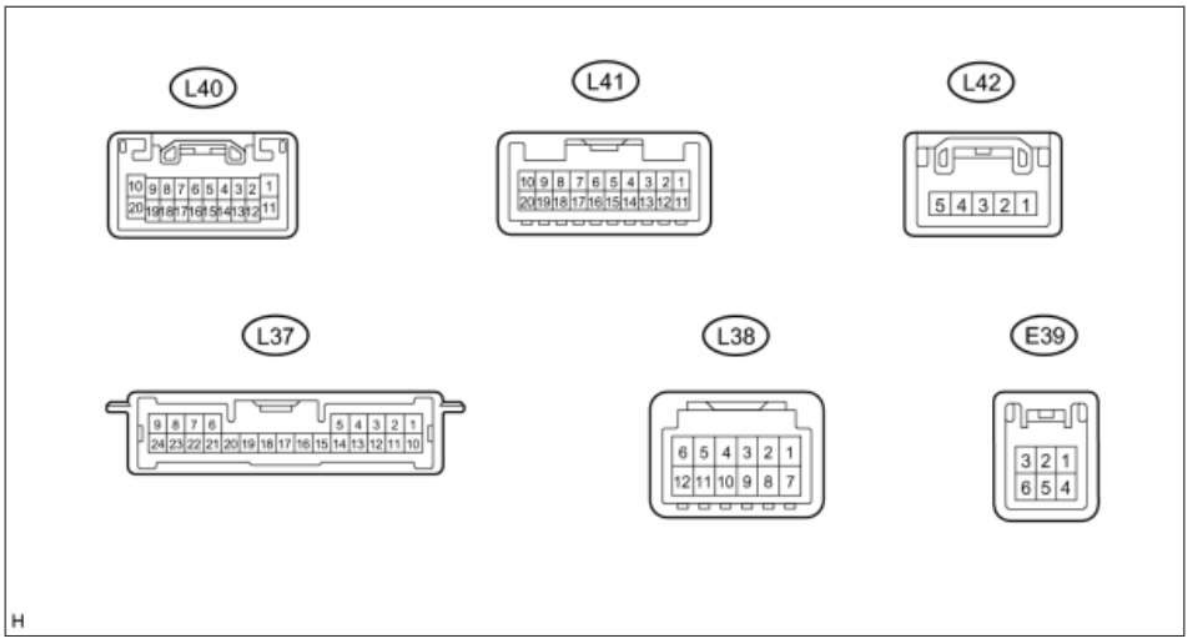
*1: w/ SDARS System
*2: w/ "Bluetooth" Audio System
*3: w/ Manual (SOS) Switch

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: TERMINALS OF ECU (2010 Prius)

TERMINALS OF ECU

1. NAVIGATION RECEIVER ASSEMBLY (w/ "Bluetooth" Audio System)



TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
L40-1 (B) - L40-20 (GND)	SB - BR	Battery	Power switch off	11 to 14 V
L40-2 (ILL+) - L40-20 (GND)	G - BR	Illumination signal	Power switch on (IG) Light control switch off → tail or on	Below 1 V → 11 to 14 V
L40-5 (ATX+)	G	AVC-LAN communication signal	-	-
L40-7 (MUTE) - L40-20 (GND)	B - BR	Mute signal	Audio system playing → Changing	Above 3.5 V → Below 1 V
L40-8 (R+) - L40-20 (GND)	G - BR	Sound signal (Right)	Audio system playing	A waveform synchronized with sounds is output
L40-9 (L+) - L40-20 (GND)	R - BR	Sound signal (Left)	Audio system playing	A waveform synchronized with sounds is output
L40-10 (SLD) - Body ground	Shield - Body ground	Shield ground	Always	Below 1 V
L40-11 (ACC) - L40-20 (GND)	GR - BR	Accessory (ON)	Power switch on (ACC)	11 to 14 V
			Power switch off	Below 1 V
L40-12 (ILL-) - L40-20 (GND)	W-B - BR	Illumination signal	Power switch on (IG) Light control switch off → tail or on (Light intensity not max. or min.)	Below 1 V → Pulse generation
L40-13 (ANT) - L40-20 (GND)	BE - BR	Power source of antenna	Power switch on (IG) Radio switch on and AM or FM	8 V or higher
L40-15 (ATX-)	R	AVC-LAN communication signal	-	-

cardiagn.com

L40-18 (R-) - L40-20 (GND)	B - BR	Sound signal (Right)	Audio system playing	A waveform synchronized with sounds is output
L40-19 (L-) - L40-20 (GND)	W - BR	Sound signal (Left)	Audio system playing	A waveform synchronized with sounds is output
L40-20 (GND) - Body ground	BR - Body ground	Ground	Always	Below 1 V
L41-6 (SWG) - Body ground	P - Body ground	Steering pad switch signal	Always	Below 1 V
L41-7 (SW1) - L41-6 (SWG)	R - P	Steering pad switch signal	No switch pushed → MODE switch pushed → ON HOOK switch pushed → OFF HOOK switch pushed → VOICE switch pushed	4.44 to 5.43 V → 0.45 to 0.65 V → 1.19 to 1.49 V → 2.09 to 2.54 V → 3.2 to 3.88 V
L41-8 (SW2) - L41-6 (SWG)	G - P	Steering pad switch signal	No switch is pushed → SEEK+ switch pushed → SEEK- switch pushed → VOL+ switch pushed → VOL- switch pushed	4.44 to 5.43 V → 0.45 to 0.65 V → 1.19 to 1.49 V → 2.09 to 2.54 V → 3.2 to 3.88 V
L41-9 (TX1+)*1	LG	AVC-LAN communication signal	-	-
L41-10 (TX1-)*1	P	AVC-LAN communication signal	-	-
L41-11 (IVO+) - L40-20 (GND)	Y - BR	Voice guidance signal	Voice guidance transmitting	A waveform synchronized with sounds is output
L41-12 (IVO-) - L40-20 (GND)	BR - BR	Voice guidance signal	Voice guidance transmitting	A waveform synchronized with sounds is output
L41-13 (SLD) - Body ground	Shield - Body ground	Voice sound signal shield ground	Always	Below 1 V
L41-15 (ARI) - L41-16 (ASGN)	B - W	Sound signal (Right)	External device playing (When stereo jack used)	A waveform synchronized with sounds is output
L41-16 (ASGN) - L40-20 (GND)	W - BR	Sound signal ground	Always	Below 1 V
L41-17 (ALI) - L41-16 (ASGN)	R - W	Sound signal (Left)	External device playing (When stereo jack used)	A waveform synchronized with sounds is output
L41-18 (AGND) - Body ground	Shield - Body ground	Shield ground	Always	Below 1 V
L41-19 (AUXI) - L40-20 (GND)	W - BR	External device connection detection signal	External device connected	Below 1 V
L42-1 (PKB) - L40-20 (GND)	R - BR	Parking brake signal	See "Vehicle Signal Check Mode" in Operation Check INFO	-
L42-2 (IG) - L40-20 (GND)	B - BR	Power source (IG)	Power switch on (IG)	11 to 14 V
			Power switch off	Below 1 V
L42-3 (SPD) - L40-20 (GND)	V - BR	Speed signal from combination meter assembly	See "Vehicle Signal Check Mode" in Operation Check INFO	-

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: TERMINALS OF ECU (2010 Prius)

L42-5 (REV) - L40-20 (GND)	P - BR	Reverse signal	See "Vehicle Signal Check Mode" in Operation Check INFO	-
L37-2 (CANH)	G	CAN communication signal	-	-
L37-3 (CANL)	W	CAN communication signal	-	-
L37-5 (SNS2) - L40-20 (GND)	B - BR	Microphone connection detection signal	Always	Below 1 V
L37-17 (MACC) - L40-20 (GND)*3	R - BR	Telephone microphone assembly power supply	Power switch off → on (IG)	Below 1 V → 5 V
L37-18 (SGND) - L40-20 (GND)	Shield - BR	Shield ground	Always	Below 1 V
L37-19 (MIN+) - L40-20 (GND)	B - BR	Microphone voice signal	See "Microphone & Voice Recognition Check" in Operation Check INFO	-
L37-20 (MIN-) - Body ground	W - Body ground	Microphone voice signal	See "Microphone & Voice Recognition Check" in Operation Check INFO	-
L37-21 (CGND) - Body ground*2	Shield - Body ground	Shield ground	Always	Below 1 V
L37-22 (V+) - L40-20 (GND)*2	R - BR	Television camera image signal	Power switch on (IG) Shift lever in R Camera lens not covered, displaying an image	Pulse generation (Refer to waveform 1)
			Power switch on (IG) Shift lever in R Camera lens covered, blacking out screen	Pulse generation (Refer to waveform 2)
L37-23 (V-) - L40-20 (GND)*2	B - BR	Ground	Always	Below 1 V
L37-24 (CA+) - L40-20 (GND)*2	W - BR	Television camera power supply	Power switch on (IG) Shift lever in R	5.5 to 7 V
L38-1 (CSLD) - Body ground	Shield - Body ground	Shield ground	Always	Below 1 V
L38-2 (CDR+) - L40-20 (GND)	R - BR	Satellite radio sound signal	Satellite radio playing	A waveform synchronized with sounds is output
L38-3 (CDR-) - L40-20 (GND)	W - BR	Satellite radio sound signal	Satellite radio playing	A waveform synchronized with sounds is output
L38-4 (CDL+) - L40-20 (GND)	G - BR	Satellite radio sound signal	Satellite radio playing	A waveform synchronized with sounds is output

cardiagn.com

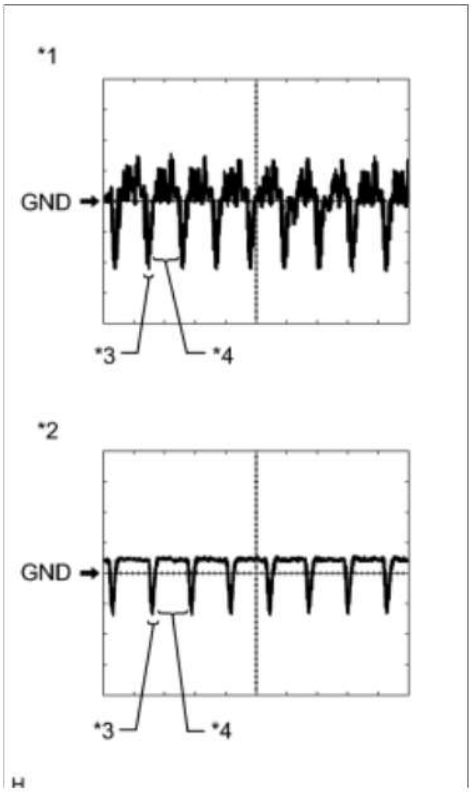
L38-5 (CDL-) - L40-20 (GND)	B - BR	Satellite radio sound signal	Satellite radio playing	A waveform synchronized with sounds is output
L38-6 (MUTE) - L40-20 (GND)	G - BR	Mute signal	Satellite radio playing → Source changed	Above 3.5 V → Below 1 V
L38-9 (TXM+)	W	AVC-LAN communication signal	-	-
L38-10 (TXM-)	B	AVC-LAN communication signal	-	-
E39-2 (TXO+)	L	AVC-LAN plus communication signal	-	-
E39-3 (TXI+)	G	AVC-LAN plus communication signal	-	-
E39-5 (TXO-)	W	AVC-LAN plus communication signal	-	-
E39-6 (TXI-)	R	AVC-LAN plus communication signal	-	-

*1: w/ Advanced Parking Guidance System
*2: w/ Rear View Monitor System
*3: w/o Manual (SOS) Switch

(a) Reference (Oscilloscope waveform):

(1) Waveform 1 (camera lens not covered, displaying an image)

ITEM	CONTENT
Measurement terminal	L37-22 (V+) - L40-20 (GND)
Measurement setting	200 mV/DIV., 50 µsec./DIV.
Condition	Power switch on (IG), shift lever in R



HINT:

The video waveform changes according to the image that the television camera assembly projects.

(2) Waveform 2 (camera lens is covered, blacking out the screen)

ITEM	CONTENT
Measurement terminal	L37-22 (V+) - L40-20 (GND)
Measurement setting	200 mV/DIV., 50 µsec./DIV.
Condition	Power switch on (IG), shift lever in R

HINT:

The video waveform changes according to the image from the television camera assembly.

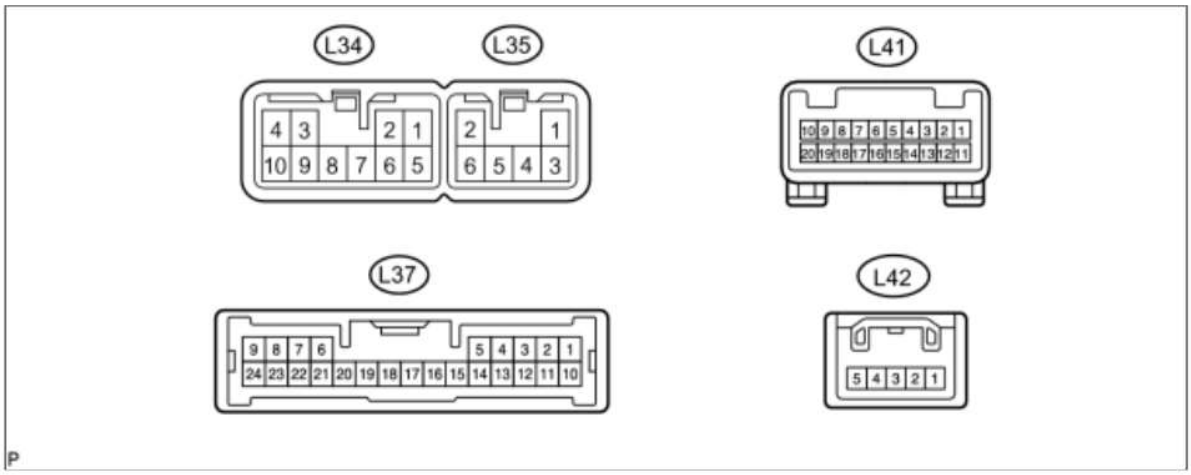
Text in Illustration

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: TERMINALS OF ECU (2010 Prius)

*1	Waveform 1 (camera lens not covered, displaying an image)
*2	Waveform 2 (camera lens is covered, blacking out the screen)
*3	Synchronization Signal
*4	Video Waveform

2. NAVIGATION RECEIVER ASSEMBLY (w/o "Bluetooth" Audio System)



TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFICATION
L42-1 (PKB) - L34-7 (GND)	R - BR	Parking brake signal	See "Vehicle Signal Check" INFO	-
L42-2 (IG) - L34-7 (GND)	B - BR	Power source (IG)	Power switch off	Below 1 V
L42-2 (IG) - L34-7 (GND)	B - BR	Power source (IG)	Power switch on (IG)	11 to 14 V
L42-3 (SPD) - L34-7 (GND)	V - BR	Speed signal from combination meter	See "Vehicle Signal Check" INFO	-
L42-5 (REV) - L34-7 (GND)	P - BR	Reverse signal	See "Vehicle Signal Check" INFO	-
L34-1 (FR+) - L34-7 (GND)	LG - BR	Sound signal (Front Right)	Audio system playing	A waveform synchronized with sounds is output
L34-2 (FL+) - L34-7 (GND)	P - BR	Sound signal (Front Left)	Audio system playing	A waveform synchronized with sounds is output
L34-3 (ACC) - L34-7 (GND)	GR - BR	Accessory (ON)	Power switch off	Below 1 V
L34-3 (ACC) - L34-7 (GND)	GR - BR	Accessory (ON)	Power switch on (ACC)	11 to 14 V
L34-4 (B) - L34-7 (GND)	SB - BR	Battery	Power switch off	11 to 14 V
L34-5 (FR-) -		Sound signal (Front		A waveform synchronized

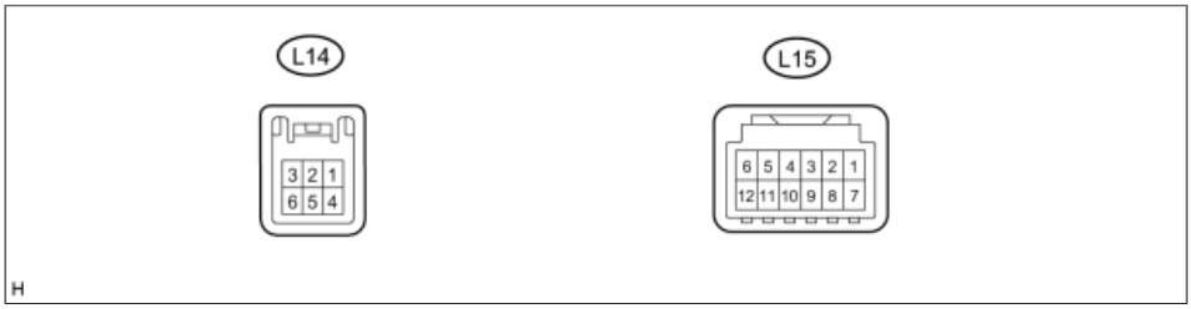
cardiagn.com

L34-7 (GND)	L - BR	Right)	Audio system playing	with sounds is output
L34-6 (FL-) - L34-7 (GND)	V - BR	Sound signal (Front Left)	Audio system playing	A waveform synchronized with sounds is output
L34-7 (GND) - Body ground	BR - Body ground	Ground	Always	Below 1 V
L34-8 (ANT) - L34-7 (GND)	BE - BR	Power source of antenna	Radio switch ON and AM or FM	11 to 14 V
L34-9 (AMP) - L34-7 (GND)	W - BR	Power source (IG)	Power switch off → on (IG)	Below 1 V → 11 to 14 V
L34-10 (ILL+) - L34-7 (GND)	G - BR	Illumination signal	Light control switch off → tail or head	Below 1 V → 11 to 14 V
L35-1 (RR+) - L34-7 (GND)	R - BR	Sound signal (Rear Right)	Audio system playing	A waveform synchronized with sounds is output
L35-2 (RL+) - L34-7 (GND)	B - BR	Sound signal (Rear Left)	Audio system playing	A waveform synchronized with sounds is output
L35-3 (RR-) - L34-7 (GND)	W - BR	Sound signal (Rear Right)	Audio system playing	A waveform synchronized with sounds is output
L35-5 (ILL-) - L34-7 (GND)	W-B - BR	Illumination signal	Power switch on (IG), Light control switch off → tail or on (Light intensity no max. or min.)	Below 1 V → Pulse generation
L35-6 (RL-) - L34-7 (GND)	Y - BR	Sound signal (Rear Left)	Audio system playing	A waveform synchronized with sounds is output
L37-2 (CANH)	G	CAN communication signal	-	-
L37-3 (CANL)	W	CAN communication signal	-	-
L37-5 (SNS2) - L34-7 (GND)	B - BR	Microphone connection detection signal	Always	Below 0.1 V
L37-17 (MACC) - L34-7 (GND)	R - BR	Telephone microphone assembly power supply	Power switch off → on (IG)	Below 1 V → 5 V
L37-18 (SGND) - L34-7 (GND)	Shield - BR	Shield ground	Always	Below 1 V
L37-19 (MIN+) - L34-7 (GND)	B - BR	Microphone voice signal	See "Microphone&Voice Recognition Check" INFO	-
L37-20 (MIN-) - Body ground	W - Body ground	Microphone voice signal	See "Microphone&Voice Recognition Check" INFO	-
L41-6 (SWG) - Body ground	P - Body ground	Steering pad switch ground	Always	Below 1 V
L41-7 (SW1) - L41-6 (SWG)	R - P	Steering pad switch signal	No switch pushed → Seek+ switch pushed → Seek- switch pushed → Volume+ switch pushed → Volume- switch pushed	4.5 to 5.5 V → Below 0.5 V → 0.86 to 0.95 V → 1.91 to 2.01 V → 3.23 to 3.57 V

cardiagn.com

L41-8 (SW2) - L41-6 (SWG)	G - P	Steering pad switch signal	No switch pushed → MODE switch pushed → On Hook switch pushed → Off Hook switch pushed → Voice switch pushed	4.5 to 5.5 V → Below 0.5 V → 0.86 to 0.95 V → 1.91 to 2.01 V → 3.23 to 3.57 V
L41-9 (TX1+)	LG	AVC-LAN communication signal	-	-
L41-10 (TX1-)	P	AVC-LAN communication signal	-	-
L41-15 (ARI) - L41-16 (ASGN)	B - W	Sound signal (Right)	External device playing (When stereo jack used)	A waveform synchronized with sounds is output
L41-16 (ASGN) - L34-7 (GND)	W - BR	Sound signal ground	Always	Below 1 V
L41-17 (ALI) - L41-16 (ASGN)	R - W	Sound signal (Left)	External device playing (When stereo jack used)	A waveform synchronized with sounds is output
L41-18 (AGND) - Body ground	Shield - Body ground	Shield ground	Always	Below 1 V
L41-19 (AUXI) - L34-7 (GND)	W - BR	External device connection detection signal	External device connected	Below 1 V

3. STEREO COMPONENT TUNER ASSEMBLY (w/ SDARS System)

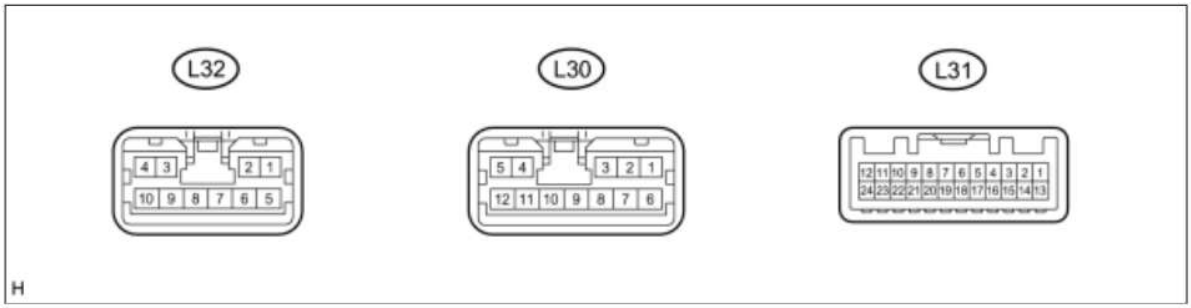


TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
L14-2 (TXO+)	G	AVC-LAN plus communication signal	-	-
L14-3 (TXI+)	L	AVC-LAN plus communication signal	-	-
L14-5 (TXO-)	R	AVC-LAN plus communication signal	-	-
L14-6 (TXI-)	W	AVC-LAN plus communication signal	-	-

cardiagn.com

L15-2 (FRO+) - L15-7 (GND)	R - W-B	Satellite radio sound signal	Satellite radio playing	A waveform synchronized with sounds is output
L15-3 (FRO-) - L15-7 (GND)	W - W-B	Satellite radio sound signal	Satellite radio playing	A waveform synchronized with sounds is output
L15-4 (FLO+) - L15-7 (GND)	G - W-B	Satellite radio sound signal	Satellite radio playing	A waveform synchronized with sounds is output
L15-5 (FLO-) - L15-7 (GND)	B - W-B	Satellite radio sound signal	Satellite radio playing	A waveform synchronized with sounds is output
L15-6 (MUTE) - L15-7 (GND)	G - W-B	Mute signal	Satellite radio playing → Source changed	Above 3.5 V → Below 1 V
L15-7 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
L15-9 (TX+)	W	AVC-LAN communication signal	-	-
L15-10 (TX-)	B	AVC-LAN communication signal	-	-
L15-11 (ACC) - L15-7 (GND)	GR - W-B	Accessory (ON)	Power switch on (ACC)	11 to 14 V
			Power switch off	Below 1 V
L15-12 (+B) - L15-7 (GND)	SB - W-B	Battery	Power switch off	11 to 14 V

4. STEREO COMPONENT AMPLIFIER ASSEMBLY (w/ "Bluetooth" Audio System)



TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFICATION
L32-1 (+B) - L30-6 (GND)	R - BR	Battery	Power switch off	11 to 14 V
L32-2 (WFR+) - L30-6 (GND)	LG - BR	Sound signal (Front Right)	Audio system playing	A waveform synchronized with sounds is output
L32-3 (RL+) - L30-6 (GND)	B - BR	Sound signal (Rear Left)	Audio system playing	A waveform synchronized with sounds is output
L32-4 (RR-) - L30-6 (GND)	W - BR	Sound signal (Rear Right)	Audio system playing	A waveform synchronized with sounds is output
L32-5 (+B2) -	B - BR	Battery	Power switch off	11 to 14 V

cardiagn.com

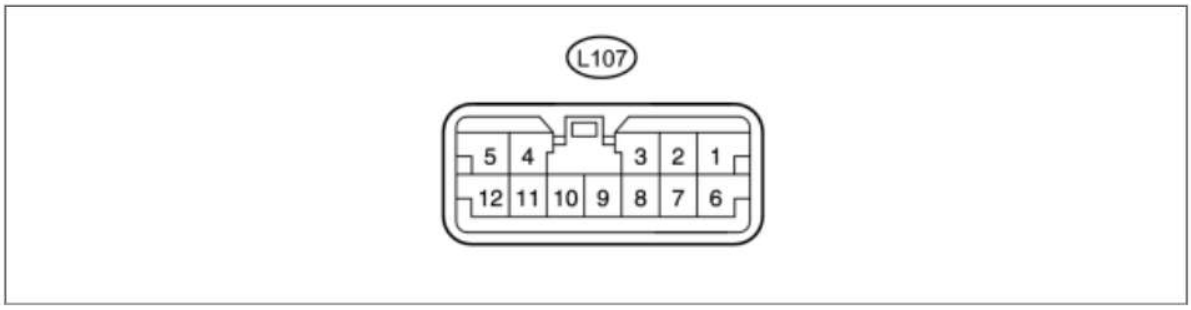
L30-6 (GND)				
L32-6 (WFR-) - L30-6 (GND)	L - BR	Sound signal (Front Right)	Audio system playing	A waveform synchronized with sounds is output
L32-7 (WFL-) - L30-6 (GND)	V - BR	Sound signal (Front Left)	Audio system playing	A waveform synchronized with sounds is output
L32-8 (WFL+) - L30-6 (GND)	P - BR	Sound signal (Front Left)	Audio system playing	A waveform synchronized with sounds is output
L32-9 (RL-) - L30-6 (GND)	Y - BR	Sound signal (Rear Left)	Audio system playing	A waveform synchronized with sounds is output
L32-10 (RR+) - L30-6 (GND)	R - BR	Sound signal (Rear Right)	Audio system playing	A waveform synchronized with sounds is output
L30-1 (FL-) - L30-6 (GND)	V - BR	Sound signal (Front Left)	Audio system playing	A waveform synchronized with sounds is output
L30-2 (FL+) - L30-6 (GND)	P - BR	Sound signal (Front Left)	Audio system playing	A waveform synchronized with sounds is output
L30-3 (FR-) - L30-6 (GND)	L - BR	Sound signal (Front Right)	Audio system playing	A waveform synchronized with sounds is output
L30-4 (TWR+) - L30-6 (GND)	R - BR	Sound signal (Rear Right)	Audio system playing	A waveform synchronized with sounds is output
L30-5 (TWL+) - L30-6 (GND)	B - BR	Sound signal (Rear Left)	Audio system playing	A waveform synchronized with sounds is output
L30-6 (GND) - Body ground	BR - Body ground	Ground	Always	Below 1 V
L30-7 (GND2) - Body ground	BR - Body ground	Ground	Always	Below 1 V
L30-9 (FR+) - L30-6 (GND)	LG - BR	Sound signal (Front Right)	Audio system playing	A waveform synchronized with sounds is output
L30-10 (TWR-) - L30-6 (GND)	W - BR	Sound signal (Rear Right)	Audio system playing	A waveform synchronized with sounds is output
L30-12 (TWL-) - L30-6 (GND)	Y - BR	Sound signal (Rear Left)	Audio system playing	A waveform synchronized with sounds is output
L31-1 (MUTE) - L30-6 (GND)	B - BR	Mute signal from radio receiver assembly	Audio system playing	Above 2.5 V
L31-2 (L-) - L30-6 (GND)	W - BR	Sound signal (Left)	Audio system playing	A waveform synchronized with

cardiagn.com

				sounds is input
L31-3 (L+) - L30-6 (GND)	R - BR	Sound signal (Left)	Audio system playing	A waveform synchronized with sounds is input
L31-4 (R-) - L30-6 (GND)	B - BR	Sound signal (Right)	Audio system playing	A waveform synchronized with sounds is input
L31-5 (R+) - L30-6 (GND)	G - BR	Sound signal (Right)	Audio system playing	A waveform synchronized with sounds is input
L31-7 (TX-)	R	AVC-LAN communication signal	-	-
L31-8 (TX+)	G	AVC-LAN communication signal	-	-
L31-11 (SPD) - L30-6 (GND)	V - BR	Speed signal from combination meter assembly	Power switch on (IG) Drive wheels turned slowly	Pulse generation
L31-12 (ACC) - L30-6 (GND)	GR - BR	Accessory (ON)	Power switch on (ACC)	11to 14 V
			Power switch off	Below 1 V
L31-22 (INT-) - L30-6 (GND)	BR - BR	Voice signal	Voice guidance is provided	A waveform synchronized with sounds is output
L31-23 (INT+) - L30-6 (GND)	Y - BR	Voice signal	Voice guidance is provided	A waveform synchronized with sounds is output
L31-24 (TMUT) - L30-6 (GND)*1	G - BR	Mute signal	Power switch on (ACC), audio system playing → Manual (SOS) switch on, Emergency call mode	Above 3.5 V → Below 1 V

*1: w/ Manual (SOS) Switch

5. STEREO COMPONENT AMPLIFIER ASSEMBLY (w/o "Bluetooth" Audio System)



TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
L107-1 (RL+) - L107-10 (GND)	P - BR	Sound input signal (Front left)	Audio system playing	A waveform synchronized with sounds is output
L107-2 (RR+) - L107-10 (GND)	LG - BR	Sound input signal (Front right)	Audio system playing	A waveform synchronized with sounds is output

cardiagn.com

L107-12 (ACC) - L107-10 (GND)	GR - BR	Accessory (ON)	Power switch off → on (ACC)	Below 1 V → 11 to 14 V
L107-5 (+B) - L107-10 (GND)	R - BR	Battery	Always	11 to 14 V
L107-7 (RR-) - L107-10 (GND)	L - BR	Sound input signal (Front right)	Audio system playing	A waveform synchronized with sounds is output
L107-6 (RL-) - L107-10 (GND)	V - BR	Sound input signal (Front left)	Audio system playing	A waveform synchronized with sounds is output
L107-10 (GND) - Body ground	BR - Body ground	Ground	Always	Below 1 V
L107-9 (AMP+) - L107-10 (GND)	W - BR	Power source (IG)	Power switch off → on (IG)	Below 1 V → 11 to 14 V
L107-8 (WFR-) - L107-10 (GND)	L - BR	Sound signal (Front right)	Audio system playing	A waveform synchronized with sounds is output
L107-4 (WFL+) - L107-10 (GND)	P - BR	Sound signal (Front left)	Audio system playing	A waveform synchronized with sounds is output
L107-3 (WFR+) - L107-10 (GND)	LG - BR	Sound signal (Front right)	Audio system playing	A waveform synchronized with sounds is output
L107-11 (WFL-) - L107-10 (GND)	V - BR	Sound signal (Front left)	Audio system playing	A waveform synchronized with sounds is output

6. PARKING ASSIST ECU (w/ Advanced Parking Guidance System) INFO

7. DCM (TELEMATICS TRANSCEIVER) (w/ Manual (SOS) Switch) INFO

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: DTC CHECK / CLEAR (2010 Prius)

DTC CHECK / CLEAR

1. CHECK DTC (CHECK USING TECHSTREAM)

(a) Connect the Techstream to the DLC3.

(b) Turn the power switch on (IG).

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Navigation System / Trouble Codes.

(e) Check for DTC(s) and freeze frame data, and then write them down.

(f) Check the details of the DTC(s) INFO .

2. CLEAR DTC (CHECK USING TECHSTREAM)

(a) Connect the Techstream to the DLC3.

(b) Turn the power switch on (IG).

(c) Turn the Techstream on.

(d) Enter the following menus: Body Electrical / Navigation System / Trouble Codes.

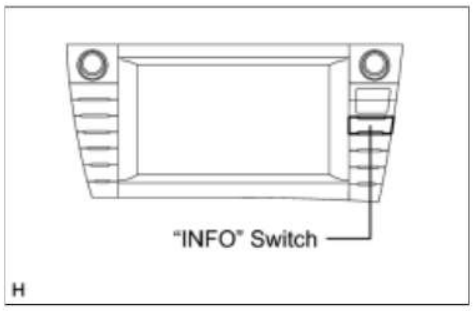
(e) Clear the DTCs.

3. START DIAGNOSTIC MODE

HINT:

- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.
- To help find the malfunction when the system can not change to diagnostic mode, check for DTCs using the Techstream.
- After the power switch is turned on (IG), check that the map is displayed before starting diagnostic mode. Otherwise, some items cannot be checked.

(a) There are 2 methods to start diagnostic mode. Start the mode by using either of them.



(b) Method 1

(1) Start the hybrid system.

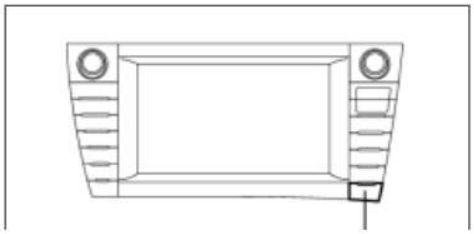
(2) While pressing and holding the "INFO" switch, operate the light control switch: off → Turn on → Turn off → Turn on → Turn off → Turn on → Turn off.

(3) Diagnostic mode starts and the "Service Menu" screen will be displayed. Service inspection starts automatically and the result will be displayed.

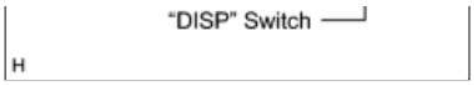
(c) Method 2

(1) Start the hybrid system.

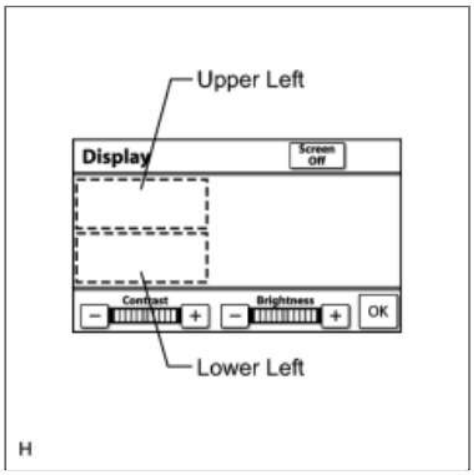
(2) Press the "DISP" switch.



cardiagn.com



(3) From the display quality adjustment screen, touch the corners of the screen in the following order: Upper left → Lower left → Upper left → Lower left → Upper left → Lower left.

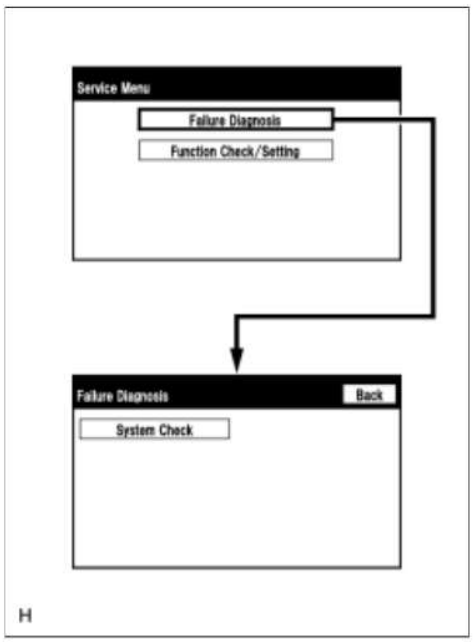


(4) Diagnostic mode starts and the "Service Menu" screen will be displayed.

4. FINISH DIAGNOSTIC MODE

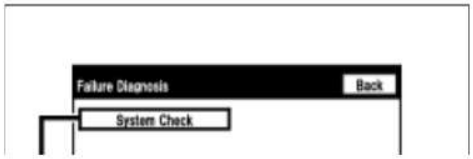
(a) Turn the power switch off.

5. FAILURE DIAGNOSIS

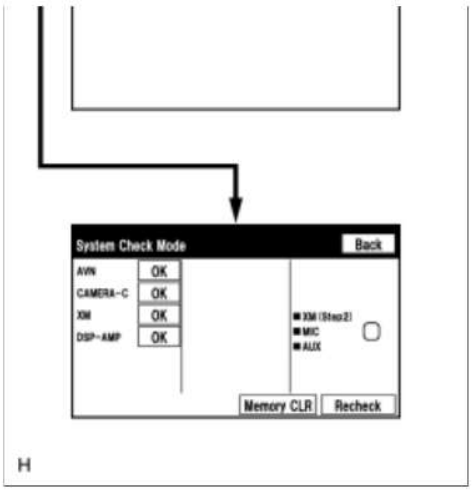


(a) The "Failure Diagnosis" screen will be displayed by pressing the "Failure Diagnosis" switch on the "Service Menu" screen.

6. SYSTEM CHECK

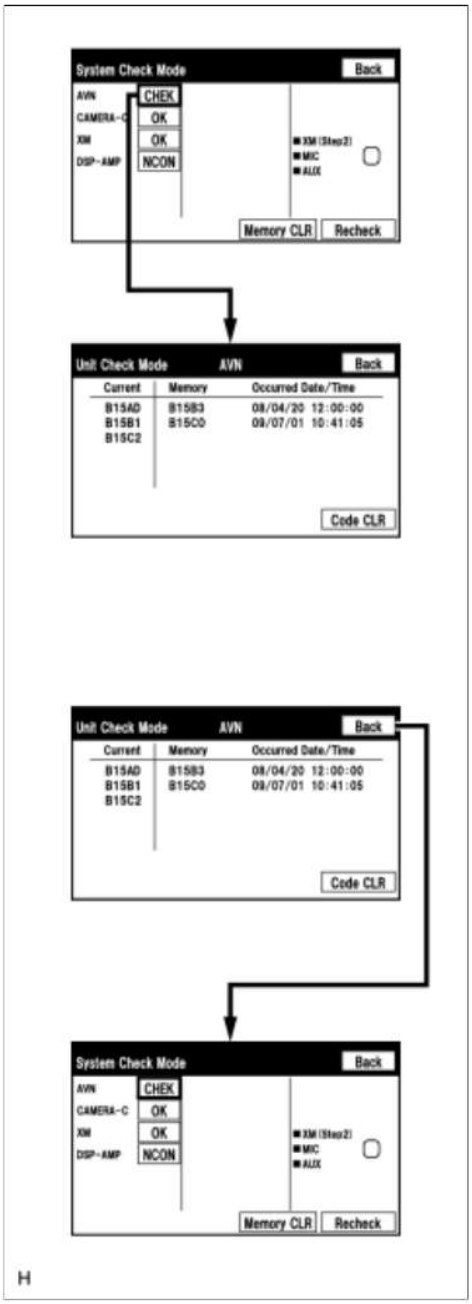


cardiagn.com



(a) The "System Check Mode" screen will be displayed by pressing the "System Check" switch on the "Failure Diagnosis" screen.

7. CHECK DTC (CHECK USING SYSTEM CHECK MODE SCREEN)



(a) Read the system check result.

(1) If the check result is "EXCH" or "CHEK", touch the displayed check result to view the results on the "Unit Check Mode" screen and record them.

- When all results are "OK", this means that no DTCs are present.
- When proceeding to view the results of another device, press the "Back" switch to return to the "System Check Mode" screen. Repeat the step above to view the results of other devices.

(2) Check the details of the DTC(s) INFO .

NOTICE:

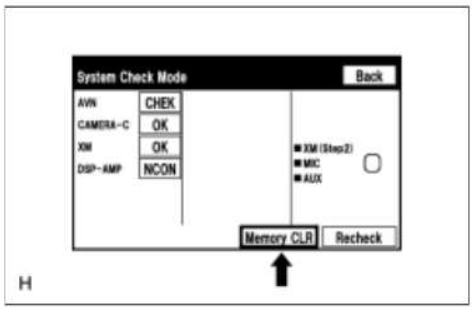
The navigation system outputs DTCs for the following system. When DTCs other than the codes in Diagnostic Trouble Code Chart for the navigation system are output, refer to Diagnostic Trouble Code Chart for the system.

SYSTEM	PROCEED TO
Advanced parking guidance system (w/ Advanced parking guidance system)	INFO

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: DTC CHECK / CLEAR (2010 Prius)

8. DTC CLEAR/RECHECK (CLEAR USING SYSTEM CHECK MODE SCREEN)



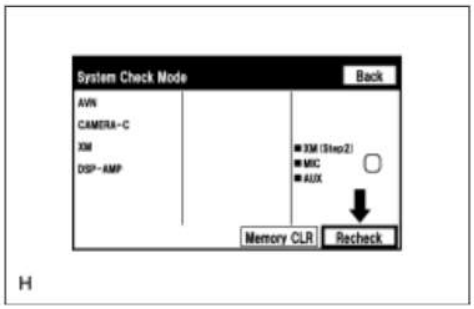
(a) Clear DTC

(1) Press the "Memory CLR" switch for 3 seconds.

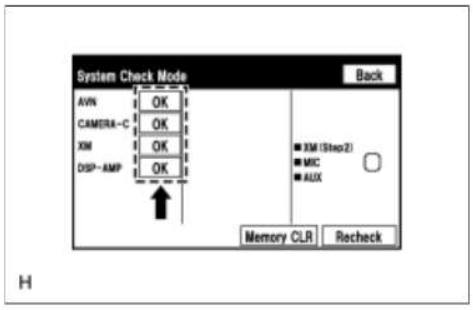
(2) Confirm that the check results are cleared.

- To clear the DTC for a specific device, clear the DTC using the "Unit Check Mode" screen.
- When clearing a DTC using the "Unit Check Mode" screen, press the "Code CLR" switch for 3 seconds.

(b) Recheck



(1) Press the "Recheck" switch.



(2) Confirm that all diagnostic codes are "OK" when the check results are displayed. If a code other than "OK" is displayed, troubleshoot again.

HINT:

When a DTC was cleared using the "Unit Check Mode" screen, press the "Back" switch to return to the "System Check Mode" screen and perform this operation.

cardiagn.com

DIAGNOSTIC TROUBLE CODE CHART

Navigation System

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
B1561	XM Tuner Disconnected (Command Line)	1. Stereo component tuner assembly power source circuit 2. AVC-LAN circuit between navigation receiver assembly and stereo component tuner assembly 3. Navigation receiver assembly 4. Stereo component tuner assembly	INFO
B1562	XM Tuner Disconnected (Burst Mode)	1. AVC-LAN plus circuit between display and navigation assembly and stereo component tuner assembly 2. Stereo component tuner assembly 3. Navigation receiver assembly	INFO
B1582	Map Disk Reading Malfunction	1. Map disc 2. Navigation receiver assembly	INFO
B1593	No Response from Stereo Component Amplifier	1. Stereo component amplifier assembly power source circuit 2. AVC-LAN circuit between navigation receiver assembly and stereo component amplifier assembly 3. Navigation receiver assembly 4. Stereo component amplifier assembly	INFO
B159F	No Response from XM Tuner	1. Stereo component tuner assembly power source circuit 2. AVC-LAN circuit between navigation receiver assembly and stereo component tuner assembly 3. Navigation receiver assembly 4. Stereo component tuner assembly	INFO
B15A0	LAN Master Malfunction	Navigation receiver assembly	INFO
B15A3	Stereo Component Amplifier Malfunction	Stereo component amplifier assembly	INFO
B15AD	Navigation Processor Malfunction	Navigation receiver assembly	INFO
B15B0	Display Screen Malfunction	Navigation receiver assembly	INFO
B15B3	Radio Tuner Malfunction	Navigation receiver assembly	INFO
B15B7	Bluetooth Module Malfunction	Navigation receiver assembly	INFO
B15BA	XM Tuner Malfunction	Stereo component tuner assembly	INFO
B15C0	Short in GPS Antenna	1. Wire harness 2. Navigation antenna assembly 3. Navigation receiver assembly	INFO
B15C1	Open in GPS Antenna	1. Wire harness 2. Navigation antenna assembly 3. Navigation receiver assembly	INFO
B15C2	Speed Signal Malfunction	1. Combination meter assembly (No. 3 meter circuit plate) 2. Wire harness or connector 3. No. 4 junction block 4. No. 3 junction block	INFO

cardiagn.com

		5. Navigation receiver assembly	
B15D3	Stereo Component Amplifier Disconnected	1. Stereo component amplifier assembly power source circuit 2. AVC-LAN circuit between navigation receiver assembly and stereo component amplifier assembly 3. Navigation receiver assembly 4. Stereo component amplifier assembly	INFO
B15D8	Monitor Disconnected	1. Parking assist ECU power source circuit 2. AVC-LAN circuit between navigation receiver assembly and parking assist ECU 3. Parking assist ECU 4. Navigation receiver assembly	INFO
B15E1	Media Malfunction	1. CD 2. Navigation receiver assembly	INFO
B15FE	XM Tuner Antenna Disconnected	1. Amplifier antenna assembly (satellite radio antenna) 2. Stereo component tuner assembly	INFO
B15FF	XM Tuner Antenna Short	1. Amplifier antenna assembly (satellite radio antenna) 2. Stereo component tuner assembly	INFO
U0073	Control Module Communication Bus OFF	CAN communication system	INFO

cardiagn.com

DTC	**B1561**	**XM Tuner Disconnected (Command Line)**

DTC	**B159F**	**No Response from XM Tuner**

DESCRIPTION

The navigation receiver assembly and stereo component tuner assembly are connected by the AVC-LAN communication line.

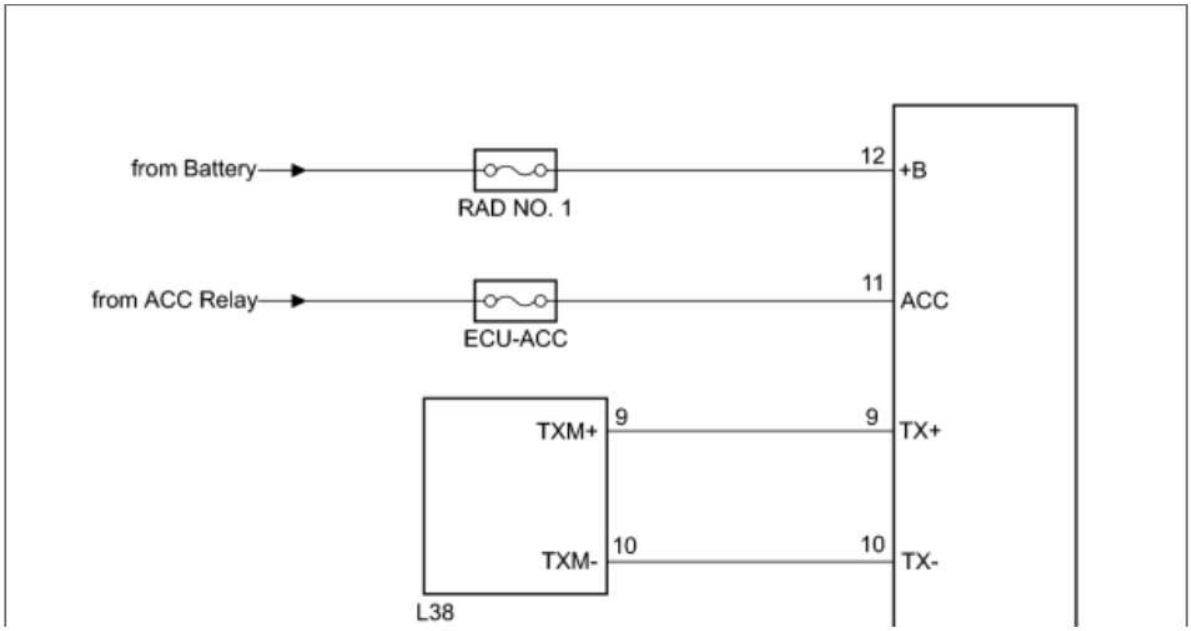
When an AVC-LAN communication error occurs between the navigation receiver assembly and stereo component tuner assembly, these DTCs will be stored.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1561*1	Stereo component tuner assembly is not/was not connected while the power switch is turned on (ACC or IG).	• Stereo component tuner assembly power source circuit • AVC-LAN circuit between navigation receiver assembly and stereo component tuner assembly • Navigation receiver assembly • Stereo component tuner assembly
B159F	Within the time-out period, there was no response from the stereo component tuner assembly to the following requests from the master unit: • System inspection request • System inspection result request • Diagnostic memory request	

HINT:

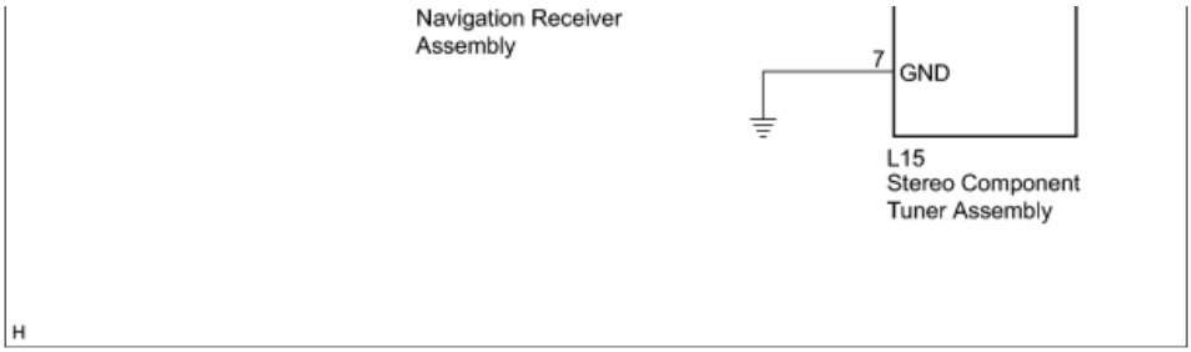
- *1: Even if no fault is present, this DTC may be stored depending on the battery condition or hybrid system start voltage.
- The navigation receiver assembly is the master unit.

WIRING DIAGRAM



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B1561,B159F: XM Tuner Disconnected (Command Line) (2010 Prius)



INSPECTION PROCEDURE

NOTICE:

- Inspect the fuses for circuits related to this system before performing the following inspection procedure.
- After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

1.	**CHECK OPTIONAL COMPONENTS (INCLUDING ASSOCIATED WIRING)**

(a) Check for optional components

(1) Check that optional components (including associated wiring) which generate radio waves are not installed.

Result:

RESULT	PROCEED TO
Optional components (including associated wiring) are installed.	A
Optional components (including associated wiring) are not installed.	B

HINT:

- Electrical noise from radio waves generated by optional components or the wiring for those components may affect AVC-LAN communication.
- These DTCs may be stored when an AVC-LAN communication error occurs due to electrical noise.

B ▶ **CHECK DTC**

A ▼

2.	**REMOVE OPTIONAL COMPONENTS (INCLUDING ASSOCIATED WIRING)**

cardiagn.com

(a) Remove optional components (including associated wiring).

NOTICE:

Do not remove optional components or associated wiring without the permission of the customer.

NEXT

3.	**CHECK DTC**

(a) Clear the DTCs INFO .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG ▶ **CHECK HARNESS AND CONNECTOR (STEREO COMPONENT TUNER ASSEMBLY POWER SOURCE)**

OK ▶ **END**

4.	**CHECK HARNESS AND CONNECTOR (STEREO COMPONENT TUNER ASSEMBLY POWER SOURCE)**



(a) Disconnect the L15 stereo component tuner assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L15-7 (GND) - Body ground	Always	Below 1 Ω

cardiagn.com

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L15-12 (+B) - L15-7 (GND)	Power switch off	11 to 14 V
L15-11 (ACC) - L15-7 (GND)	Power switch on (ACC)	11 to 14 V

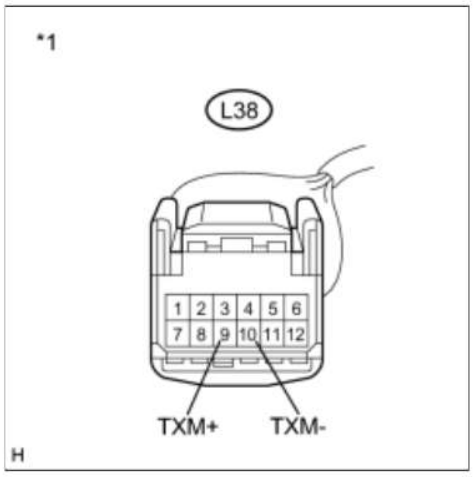
Text in Illustration

*1	Front view of wire harness connector (to Stereo Component Tuner Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

5.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT TUNER)**



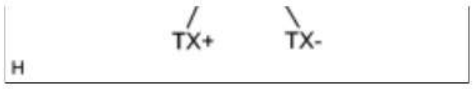
(a) Disconnect the L38 navigation receiver assembly connector.



(b) Disconnect the L15 stereo component tuner assembly connector.

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B1561,B159F: XM Tuner Disconnected (Command Line) (2010 Prius)



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L38-9 (TXM+) - L15-9 (TX+)	Always	Below 1 Ω
L38-10 (TXM-) - L15-10 (TX-)	Always	Below 1 Ω
L38-9 (TXM+) - Body ground	Always	10 kΩ or higher
L38-10 (TXM-) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Tuner Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

6.	**REPLACE STEREO COMPONENT TUNER ASSEMBLY**

(a) Replace the stereo component tuner assembly INFO .

(b) Clear the DTCs INFO .

(c) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B1562: XM Tuner Disconnected (Burst Mode) (2010 Prius)

DTC	**B1562**	**XM Tuner Disconnected (Burst Mode)**

DESCRIPTION

The navigation receiver assembly and stereo component tuner assembly are connected by the AVC-LAN plus communication lines.

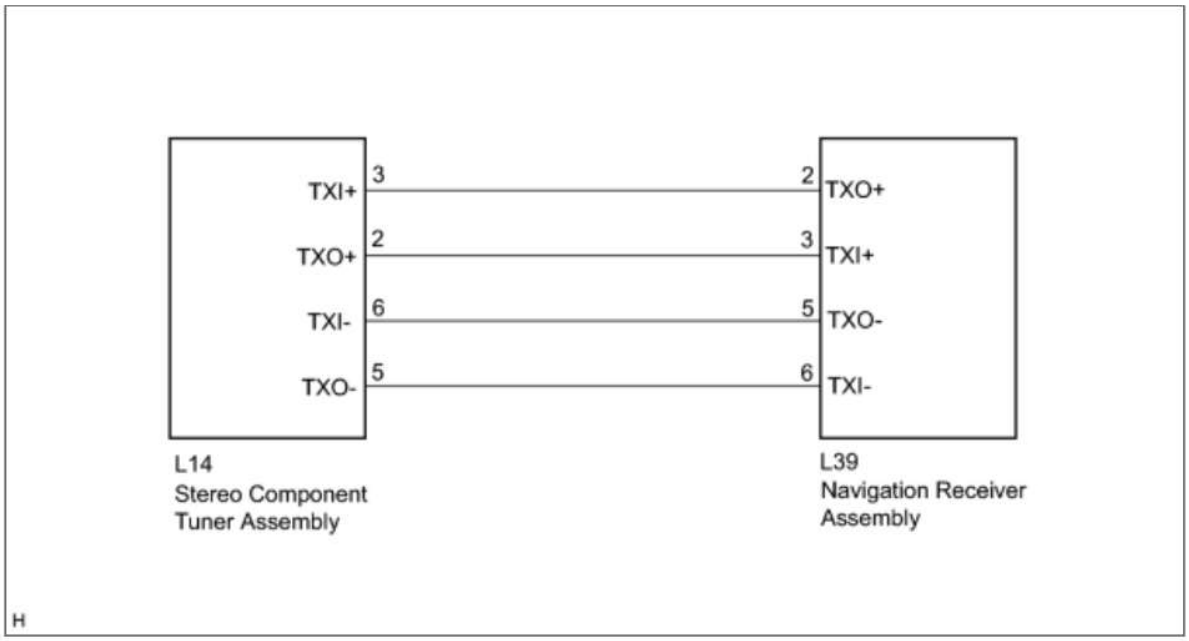
When an AVC-LAN plus communication error occurs between the navigation receiver assembly and stereo component tuner assembly, this DTC will be stored.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1562	When the master unit deletes the satellite radio tuner from the system components device list due to an AVC-LAN plus communication error.	• AVC-LAN plus circuit between display and navigation assembly and stereo component tuner assembly • Stereo component tuner assembly • Navigation receiver assembly

HINT:

The navigation receiver assembly is the master unit.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B1562: XM Tuner Disconnected (Burst Mode) (2010 Prius)

1.	**CHECK DTC**

(a) Clear the DTC INFO .

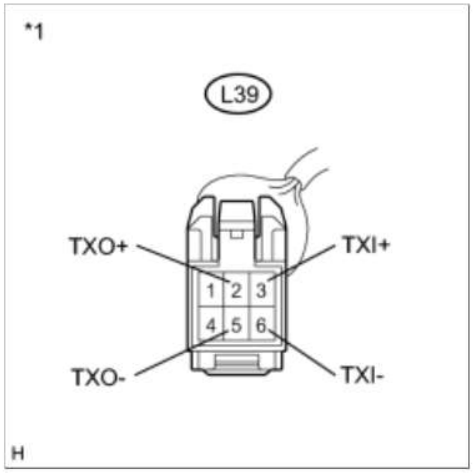
(b) Recheck for DTCs and check if the same DTC is output again.

OK:
No DTCs are output.

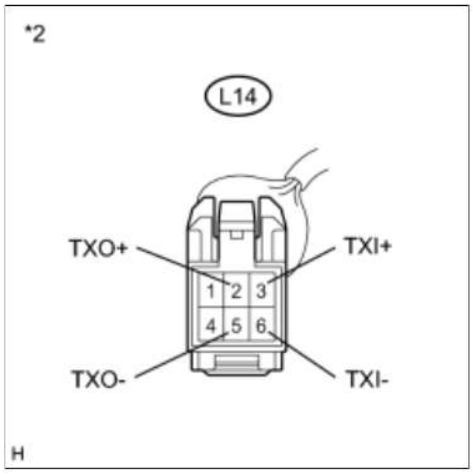
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT TUNER)**

OK ▶ **USE SIMULATION METHOD TO CHECK**

2.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT TUNER)**



(a) Disconnect the L39 navigation receiver assembly connector.



(b) Disconnect the L14 stereo component tuner assembly connector.

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

Standard Resistance:

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B1562: XM Tuner Disconnected (Burst Mode) (2010 Prius)

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L39-2 (TXO+) - L14-3 (TXI+)	Always	Below 1 Ω
L39-3 (TXI+) - L14-2 (TXO+)	Always	Below 1 Ω
L39-5 (TXO-) - L14-6 (TXI-)	Always	Below 1 Ω
L39-6 (TXI-) - L14-5 (TXO-)	Always	Below 1 Ω
L39-2 (TXO+) - Body ground	Always	10 kΩ or higher
L39-3 (TXI+) - Body ground	Always	10 kΩ or higher
L39-5 (TXO-) - Body ground	Always	10 kΩ or higher
L39-6 (TXI-) - Body ground	Always	10 kΩ or higher

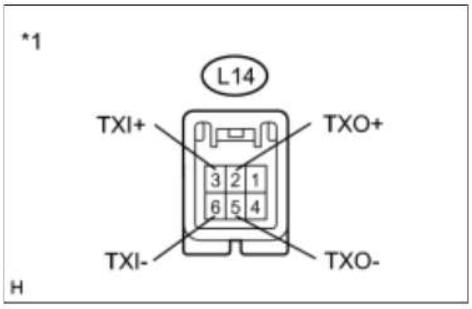
Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Tuner Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT STEREO COMPONENT TUNER ASSEMBLY**



(a) Disconnect the L14 stereo component tuner assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L14-2 (TXO+) - L14-3 (TXI+)	Always	Below 1 Ω
L14-5 (TXO-) - L14-6 (TXI-)	Always	Below 1 Ω

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B1562: XM Tuner Disconnected (Burst Mode) (2010 Prius)

Text in Illustration

*1	Component without harness connected (Stereo Component Tuner Assembly)

NG ▶ **REPLACE STEREO COMPONENT TUNER ASSEMBLY**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B1582: Map Disk Reading Malfunction (2010 Prius)

DTC	B1582	Map Disk Reading Malfunction

DESCRIPTION

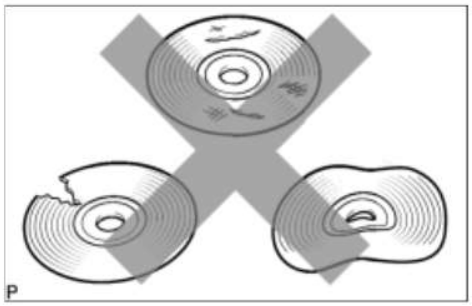
This DTC is stored when the navigation receiver assembly cannot read the map disc.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1582	• Player error • Scratches or dirt on the disc • Access to an invalid address due to software error	• Map disc • Navigation receiver assembly

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK MAP DISC



(a) Check that the map disc is not deformed or cracked.

OK:

No deformations or cracks on the map disc

NG ▶ REPLACE MAP DISC

OK ▼

2.	DISC CLEANING



(a) Disc cleaning

(1) If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

NOTICE:

cardiagn.com



Do not use a conventional record cleaner or anti-static preservative.

NEXT

3.	**CHECK DTC**

(a) Clear the DTC INFO .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:
No DTCs are output.

NG ▶ **REPLACE MAP DISC**

OK ▶ **END**

4.	**REPLACE MAP DISC**

(a) Replace the map disc.

(b) Clear the DTC INFO .

(c) Recheck for DTCs and check if the same DTC is output again.

OK:
No DTCs are output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

cardiagn.com

DTC	**B1593**	**No Response from Stereo Component Amplifier**

DTC	**B15D3**	**Stereo Component Amplifier Disconnected**

DESCRIPTION

The navigation receiver assembly and stereo component amplifier assembly are connected by the AVC-LAN communication line.

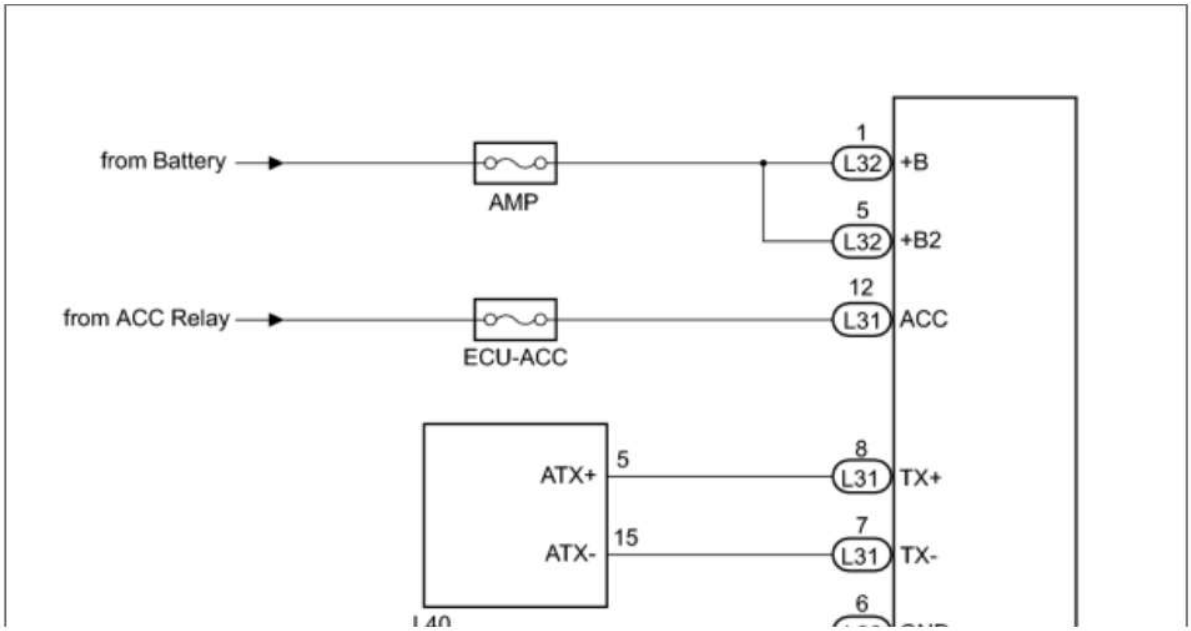
When an AVC-LAN communication error occurs between the navigation receiver assembly and stereo component amplifier assembly, these DTCs will be stored.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1593	Within the time-out period, there was no response from the stereo component amplifier assembly to the following requests from the master unit: • System inspection request • System inspection result request • Diagnostic memory request	• Stereo component amplifier assembly power source circuit • AVC-LAN circuit between navigation receiver assembly and stereo component amplifier assembly • Navigation receiver assembly • Stereo component amplifier assembly
B15D3*1	Stereo component amplifier assembly is/was not connected while the power switch is turned on (ACC or IG).	

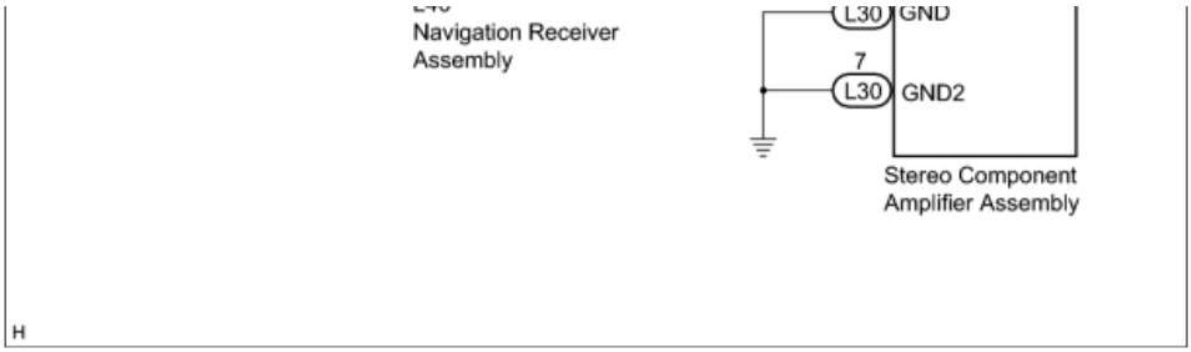
HINT:

- *1: Even if no fault is present, this DTC may be stored depending on the battery condition or hybrid system start voltage.
- The navigation receiver assembly is the master unit.

WIRING DIAGRAM



cardiagn.com



INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.	**CHECK OPTIONAL COMPONENTS (INCLUDING ASSOCIATED WIRING)**

(a) Check for optional components

(1) Check that optional components (including associated wiring) which generate radio waves are not installed.

Result:

RESULT	PROCEED TO
Optional components (including associated wiring) are installed.	A
Optional components (including associated wiring) are not installed.	B

HINT:

- Electrical noise from radio waves generated by optional components or the wiring for those components may affect AVC-LAN communication.
- These DTCs may be stored when an AVC-LAN communication error occurs due to electrical noise.

B ▶ **CHECK DTC**

A ▼

2.	**REMOVE OPTIONAL COMPONENTS (INCLUDING ASSOCIATED WIRING)**

(a) Remove optional components (including associated wiring).

NOTICE:

cardiagn.com

NOTICE:

Do not remove optional components or associated wiring without the permission of the customer.

NEXT

3.	**CHECK DTC**

(a) Clear the DTCs INFO .

(b) Recheck for DTCs and check if the same DTC is output again.

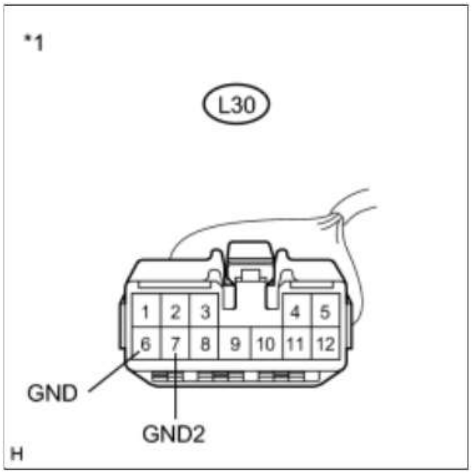
OK:

No DTCs are output.

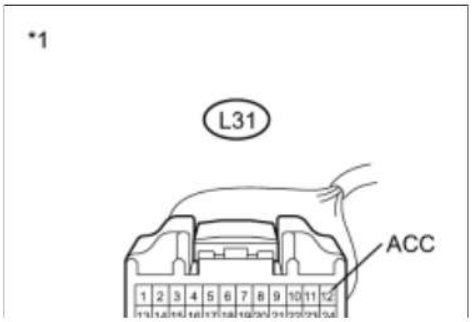
NG ▶ **CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY POWER SOURCE)**

OK ▶ **END**

4.	**CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY POWER SOURCE)**



(a) Disconnect the L30 stereo component amplifier assembly connector.

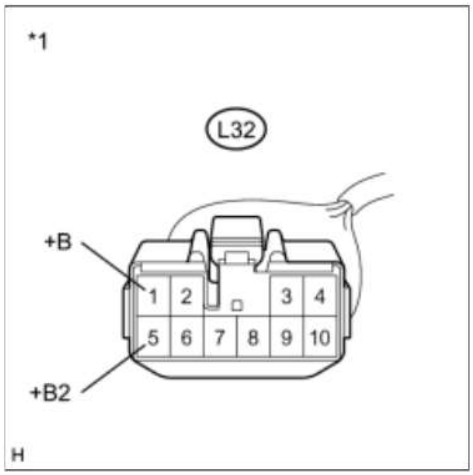


(b) Disconnect the L31 stereo component amplifier assembly connector.

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B1593,B15D3: No Response from Stereo Component Amplifier (2010 Prius)





(c) Disconnect the L32 stereo component amplifier assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L30-6 (GND) - Body ground	Always	Below 1 Ω
L30-7 (GND2) - Body ground	Always	Below 1 Ω

(e) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L32-1 (+B) - L30-6 (GND)	Power switch off	11 to 14 V
L32-5 (+B2) - E30-6 (GND)	Power switch off	11 to 14 V
L31-12 (ACC) - L30-6 (GND)	Power switch on (ACC)	11 to 14 V

Text in Illustration

*1	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

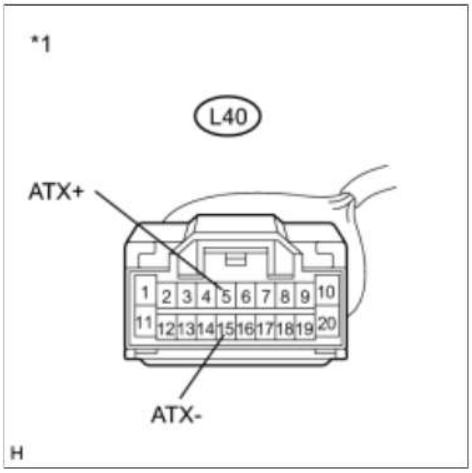
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

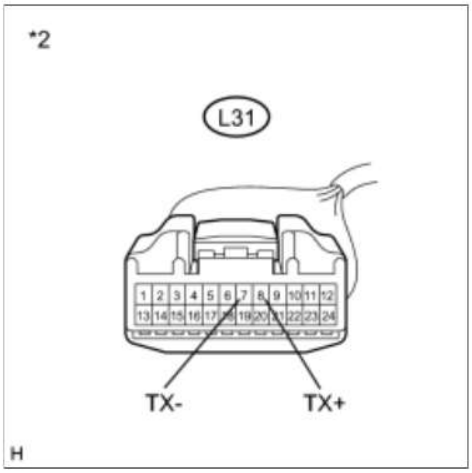
	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT

cardiagn.com

5.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT AMPLIFIER)**



(a) Disconnect the L40 navigation receiver assembly connector.



(b) Disconnect the L31 stereo component amplifier assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L40-5 (ATX+) - L31-8 (TX+)	Always	Below 1 Ω
L40-15 (ATX-) - L31-7 (TX-)	Always	Below 1 Ω
L40-5 (ATX+) - Body ground	Always	10 kΩ or higher
L40-15 (ATX-) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

cardiagn.com

OK

6.	**REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY**

(a) Replace the stereo component amplifier assembly INFO .

(b) Clear the DTCs INFO .

(c) Recheck for DTCs and check if the same DTC is output again.

OK:
No DTCs are output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

cardiagn.com

DTC	**B15A0**	**LAN Master Malfunction**

DTC	**B15AD**	**Navigation Processor Malfunction**

DTC	**B15B0**	**Display Screen Malfunction**

DTC	**B15B3**	**Radio Tuner Malfunction**

DTC	**B15B7**	**Bluetooth Module Malfunction**

DESCRIPTION

These DTCs are stored when a malfunction occurs in the navigation receiver assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15A0	When either condition below is met: • Bus malfunction • EEPROM error	Navigation receiver assembly
B15AD	When either condition below is met: • A short to ground, short to +B or open occurs in the gyro signal circuit • Gyro sensor malfunction	
B15B0	Picture circuit (TFT unit) malfunction	
B15B3	When one of the conditions below is met: • AM tuner PLL is unlocked • FM tuner PLL is unlocked • Tuner malfunction	
B15B7	"Bluetooth" module malfunction	

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK DTC**

cardiagn.com

(a) Clear the DTCs INFO .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **USE SIMULATION METHOD TO CHECK**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15A3: Stereo Component Amplifier Malfunction (2010 Prius)

DTC	**B15A3**	**Stereo Component Amplifier Malfunction**

DESCRIPTION

This DTC is stored when a malfunction occurs in the stereo component amplifier assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15A3	EEPROM error	Stereo component amplifier assembly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK DTC**

(a) Clear the DTC INFO .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG ▶ **REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY**

OK ▶ **USE SIMULATION METHOD TO CHECK**

cardiagn.com

DTC	**B15BA**	**XM Tuner Malfunction**

DESCRIPTION

This DTC is stored when a malfunction occurs in the stereo component tuner assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15BA	When either condition below is met: • Internal IC malfunction • Stereo component tuner assembly malfunction	Stereo component tuner assembly

INSPECTION PROCEDURE

NOTICE:

After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

1.	**CHECK DTC**

(a) Clear the DTC INFO .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG ▶ **REPLACE STEREO COMPONENT TUNER ASSEMBLY**

OK ▶ **USE SIMULATION METHOD TO CHECK**

cardiagn.com

DTC	**B15C0**	**Short in GPS Antenna**

DTC	**B15C1**	**Open in GPS Antenna**

DESCRIPTION

These DTCs are stored when a malfunction occurs in the navigation antenna assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15C0	Navigation antenna error	• Wire harness • Navigation antenna assembly • Navigation receiver assembly
B15C1	Error of the power source to the navigation antenna	

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CONNECTION OF ANTENNA CABLE**

(a) Check if the navigation antenna cable is securely connected to the navigation receiver assembly.

OK:

GPS antenna cable is securely connected.

NG ▶ **SECURELY CONNECT NAVIGATION ANTENNA CABLE**

OK ▼

2.	**REPLACE NAVIGATION ANTENNA ASSEMBLY**

(a) Replace the navigation antenna assembly with a known good one and check if the same problem occurs again INFO .

(1) Clear the DTCs INFO .

(2) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15C0,B15C1: Short in GPS Antenna (2010 Prius)

OK ▶ END

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15C2: Speed Signal Malfunction (2010 Prius)

DTC	B15C2	Speed Signal Malfunction

DESCRIPTION

The navigation receiver assembly receives a vehicle speed signal from the combination meter assembly (No. 3 meter circuit plate) and information from the navigation antenna, and then adjusts vehicle position.

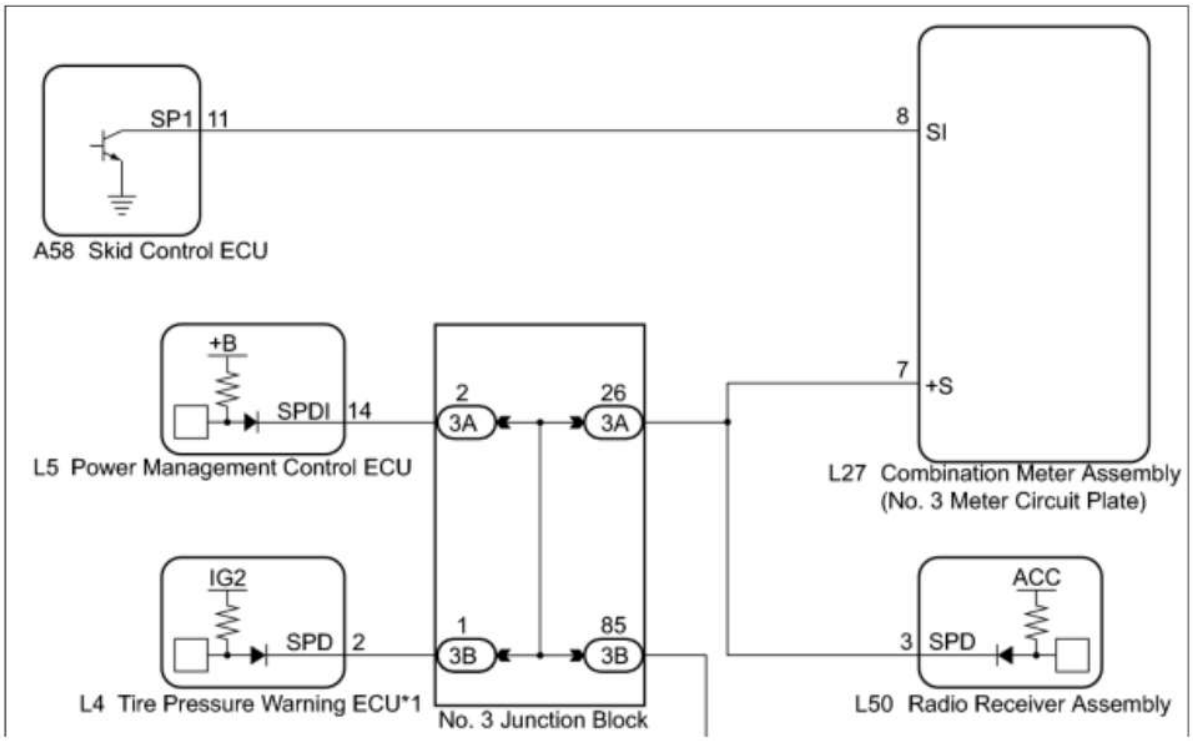
The navigation receiver assembly stores this DTC when the difference between the speed information that the navigation antenna receives and the SPD pulse received from the combination meter assembly (No. 3 meter circuit plate) becomes large.

HINT:

- A voltage of 12 V or 5 V is output from each ECU and then input to the combination meter assembly (No. 3 meter circuit plate). The signal is changed to a pulse signal at the transistor in the combination meter assembly (No. 3 meter circuit plate). Each ECU controls the respective systems based on the pulse signal.
- If a short occurs in any of the ECUs or in the wire harness connected to an ECU, all systems in the diagram below will not operate normally.

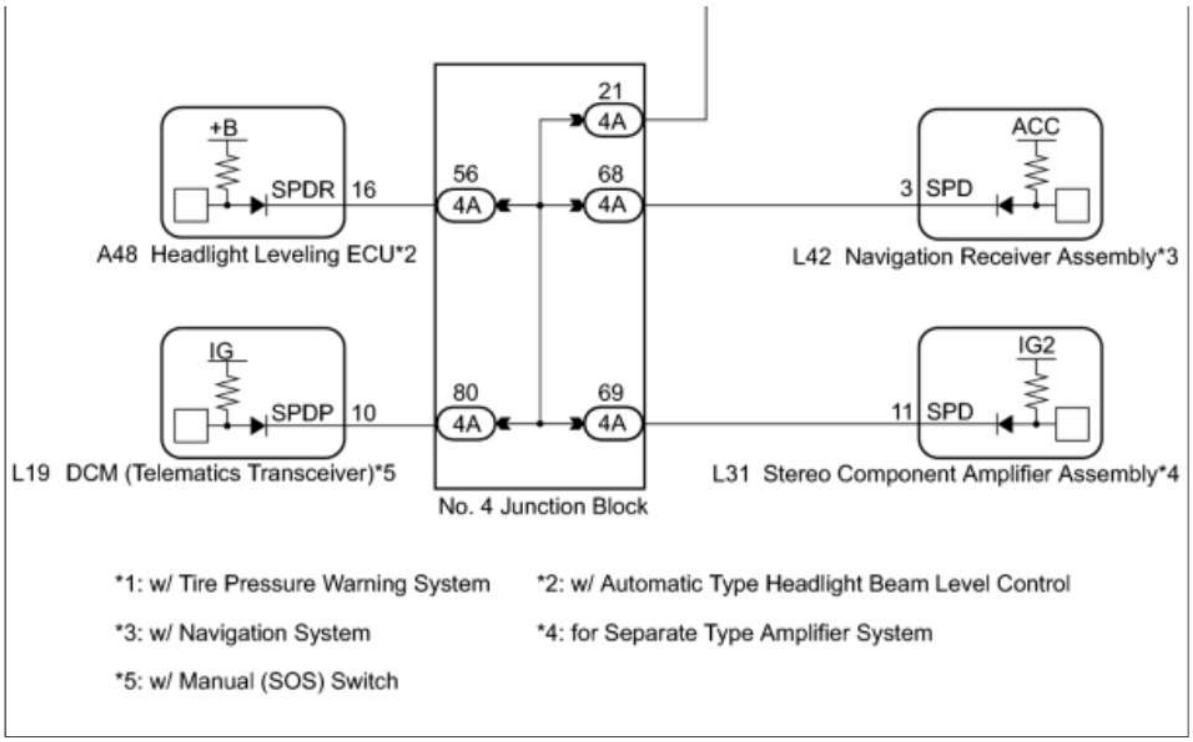
DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15C2	A difference between the GPS speed and SPD pulse is detected.	• Combination meter assembly (No. 3 meter circuit plate) • Wire harness or connector • No. 4 junction block • No. 3 junction block • Navigation receiver assembly

WIRING DIAGRAM



cardiagn.com

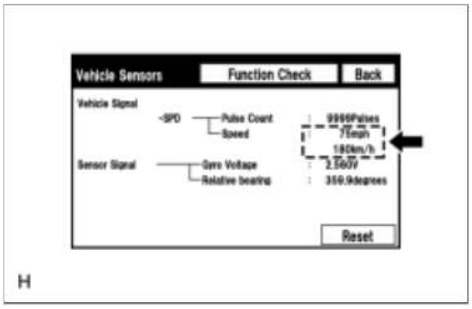
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15C2: Speed Signal Malfunction (2010 Prius)



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK VEHICLE SENSOR (OPERATION CHECK)



(a) Enter the "Vehicle Sensors" screen. Refer to Check GPS & Vehicle Sensors in Operation Check INFO .

(b) While driving the vehicle, compare the "SPD" indicator to the reading on the speedometer. Check if these readings are almost equal.

HINT:

The meter ECU receives the vehicle speed signal from the skid control ECU via CAN communication. Therefore, perform the following inspection referring to values on the Data List of the skid control ECU because it is the source of the vehicle speed signal.

OK:

Vehicle speed displayed on the "Vehicle Sensors" screen is almost the same as the actual vehicle speed measured using the Techstream INFO .

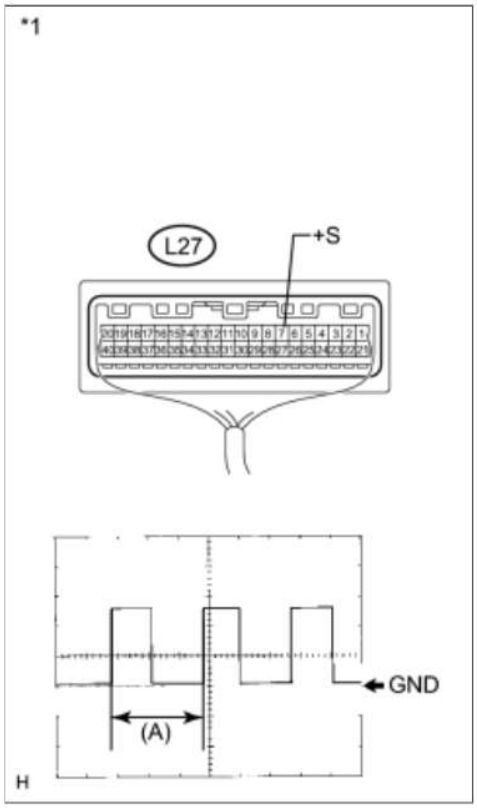
NG ▶ **INSPECT COMBINATION METER ASSEMBLY (NO. 3**

cardiagn.com

NG ▶ METER CIRCUIT PLATE OUTPUT WAVEFORM)

OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

2.	INSPECT COMBINATION METER ASSEMBLY (NO. 3 METER CIRCUIT PLATE OUTPUT WAVEFORM)



(a) Check the output waveform.

(1) Remove the combination meter assembly with the connector(s) still connected.

(2) Connect an oscilloscope to terminal L27-7 (+S) and body ground.

(3) Turn the power switch on (IG).

(4) Turn a wheel slowly.

(5) Check the signal waveform according to the condition(s) in the table below.

ITEM	CONDITION
Measurement terminal	L27-7 (+S) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Vehicle condition	Wheel being rotated

OK:
The waveform is similar to that shown in the illustration.

HINT:

When the system is functioning normally, one wheel revolution generates 4 pulses. As the vehicle speed increases, the width indicated by (A) in the illustration narrows.

Text in Illustration

*1	Component with harness connected (Combination Meter Assembly)

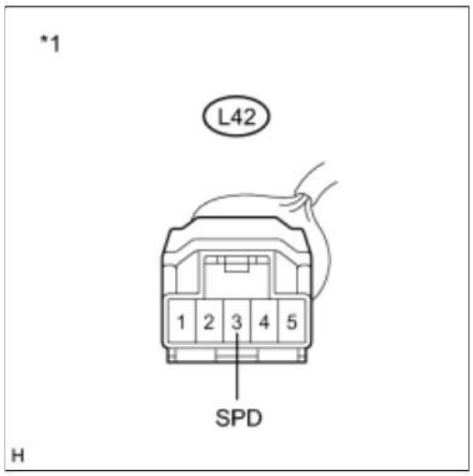
NG ▶ GO TO METER / GAUGE SYSTEM

OK ▼

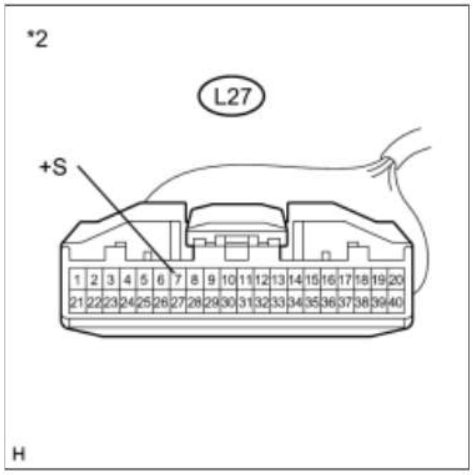
3.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - COMBINATION METER ASSEMBLY)

cardiagn.com

	METER ASSEMBLY)



(a) Disconnect the L42 navigation receiver assembly connector.



(b) Disconnect the L27 combination meter assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L42-3 (SPD) - L27-7 (+S)	Always	Below 1 Ω

Text in Illustration

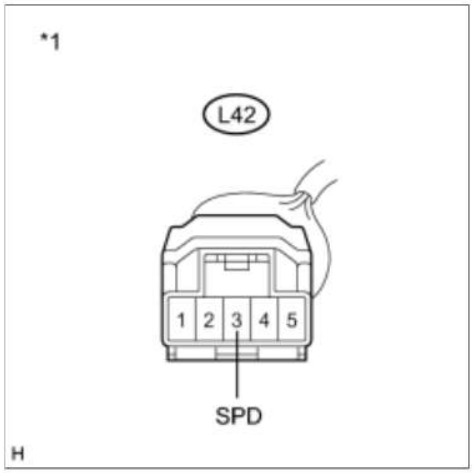
*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Combination Meter Assembly)

NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - NO. 4 JUNCTION CONNECTOR)**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

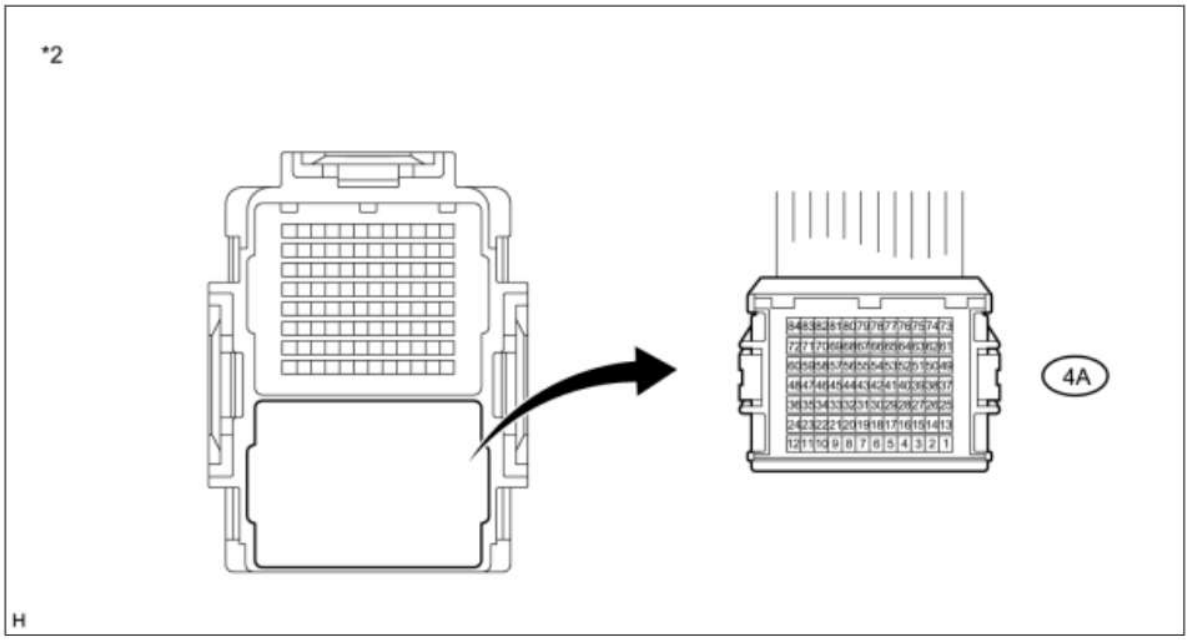
cardiagn.com

4.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - NO. 4 JUNCTION CONNECTOR)**



(a) Disconnect the L42 navigation receiver assembly connector.

(b) Disconnect the 4A No. 4 junction block connector.



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L42-3 (SPD) - 4A-68	Always	Below 1 Ω

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector

cardiagn.com

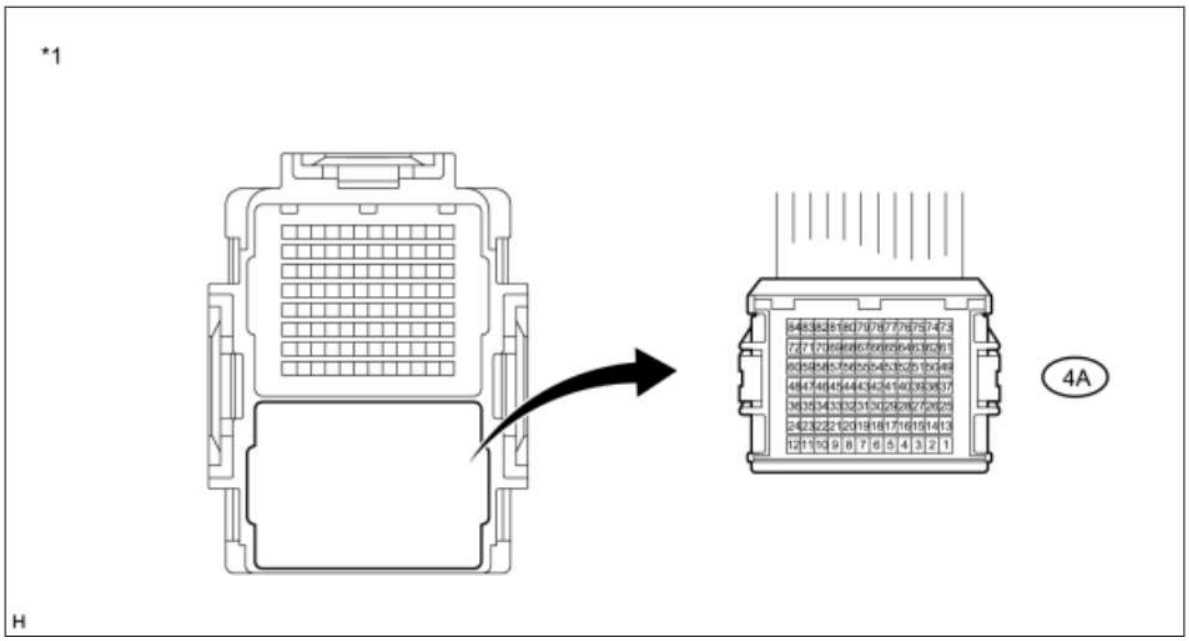
-	(to No. 4 Junction Block)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - NO. 4 JUNCTION CONNECTOR)**

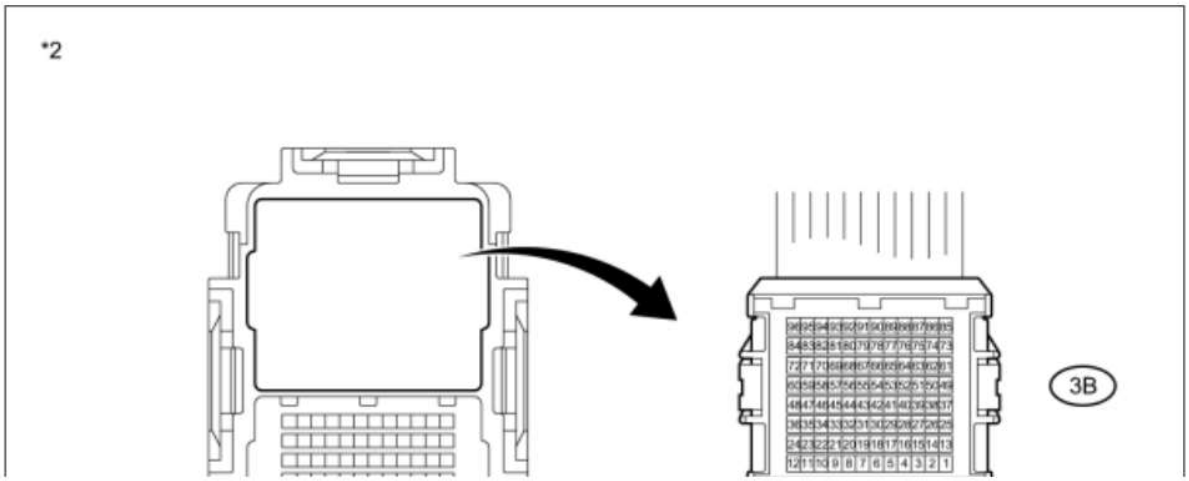
OK ▼

5.	**CHECK HARNESS AND CONNECTOR (No. 4 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)**

(a) Disconnect the 4A No. 4 junction block connector.



(b) Disconnect the 3B No. 3 junction block connector.



cardiagn.com



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
4A-21 - 3B-85	Always	Below 1 Ω

Text in Illustration

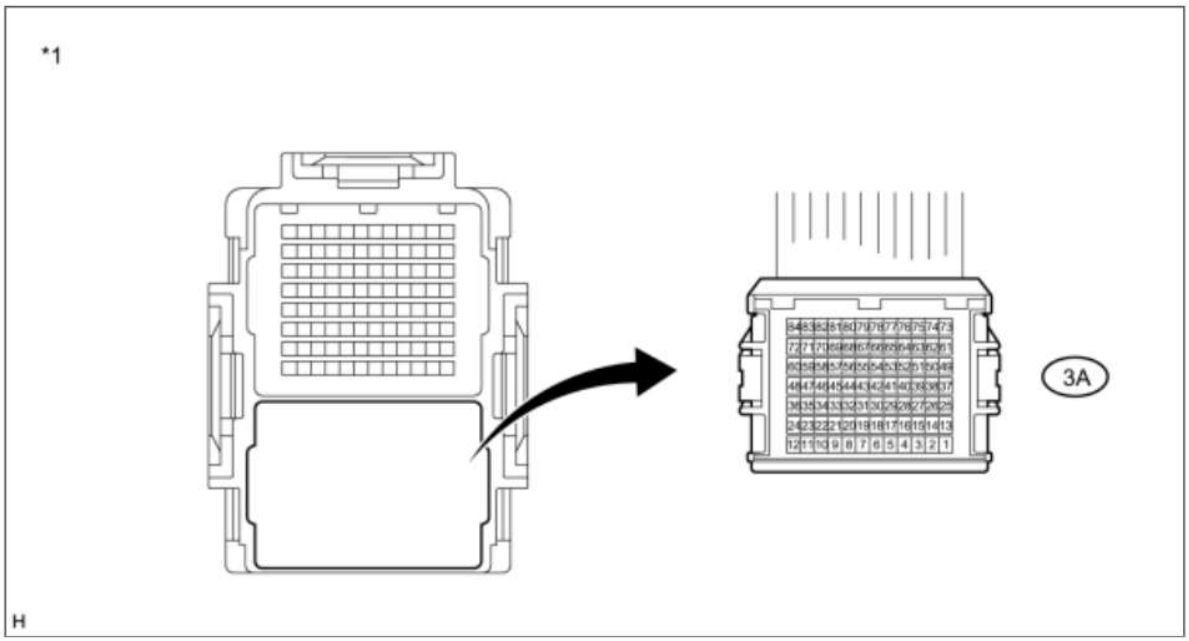
*1	Front view of wire harness connector (to No. 4 Junction Block)	*2	Front view of wire harness connector (to No. 3 Junction Block)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)**

OK ▼

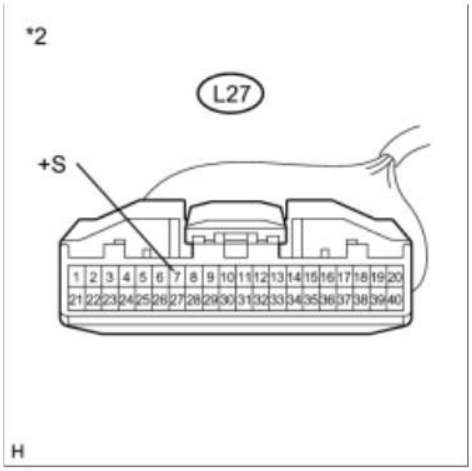
6.	**CHECK HARNESS AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)**

(a) Disconnect the 3A No. 3 junction block connector.



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15C2: Speed Signal Malfunction (2010 Prius)



(b) Disconnect the L27 combination meter assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-26 - L27-7 (+S)	Always	Below 1 Ω

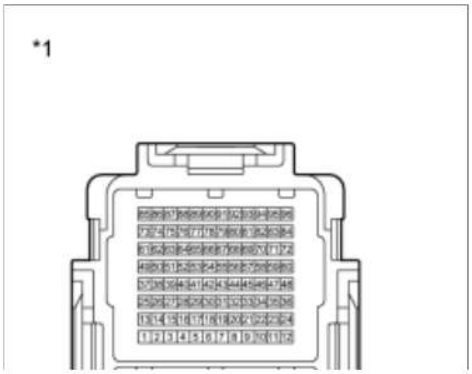
Text in Illustration

*1	Front view of wire harness connector (to No. 3 Junction Block)
*2	Front view of wire harness connector (to Combination Meter Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)**

OK ▼

7.	**REPLACE NO. 4 JUNCTION BLOCK**

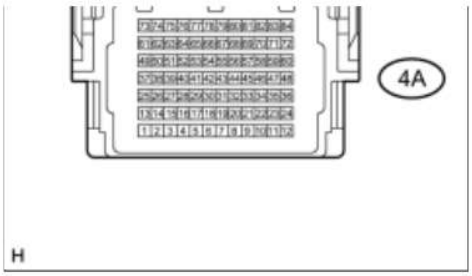


(a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION

cardiagn.com



4A-68 - 4A-21	Always	Below 1 Ω

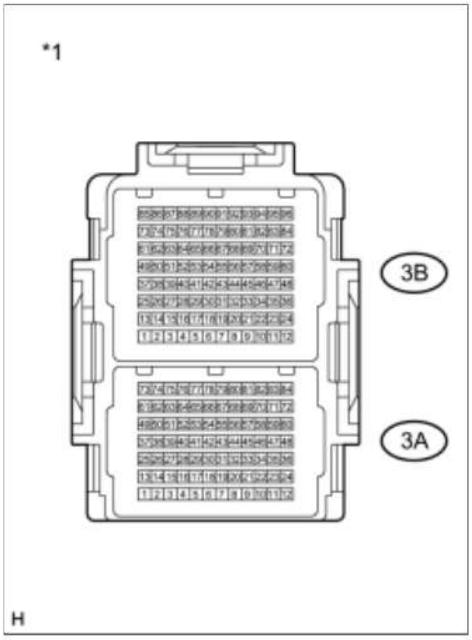
Text in Illustration

*1	No. 4 Junction Block

NG ▶ **REPLACE NO. 4 JUNCTION BLOCK**

OK ▼

8.	**REPLACE NO. 3 JUNCTION BLOCK**



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-26 - 3B-85	Always	Below 1 Ω

Text in Illustration

*1	No. 3 Junction Block

NG ▶ **REPLACE NO. 3 JUNCTION BLOCK**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15D8: Monitor Disconnected (2010 Prius)

DTC	B15D8	Monitor Disconnected

DESCRIPTION

The navigation receiver assembly and parking assist ECU are connected by the AVC-LAN communication line.

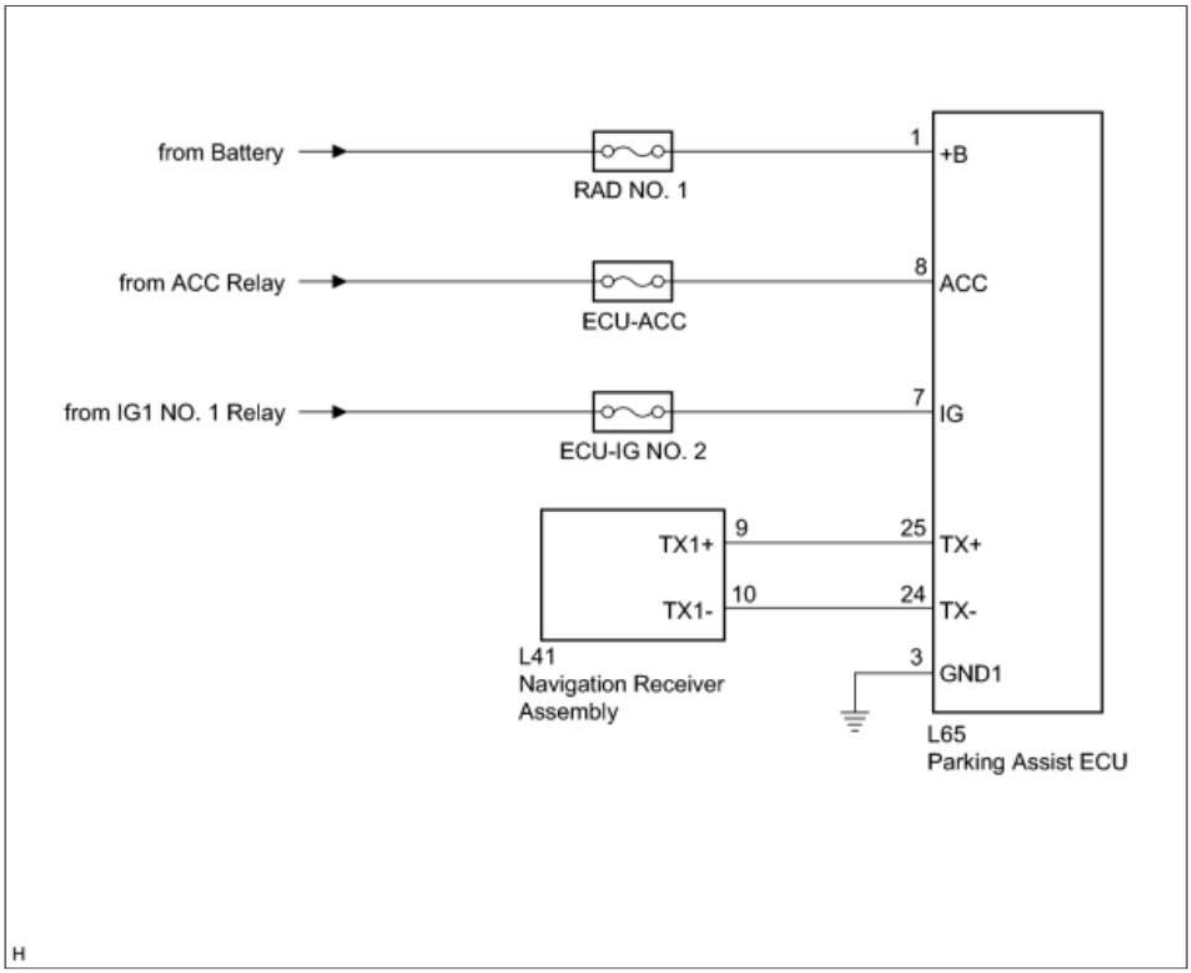
When an AVC-LAN communication error occurs between the navigation receiver assembly and parking assist ECU, this DTC will be stored.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15D8	Parking assist ECU is not/was not connected while the power switch is turned to on (ACC or IG).	• Parking assist ECU power source circuit • AVC-LAN circuit between navigation receiver assembly and parking assist ECU • Parking assist ECU • Navigation receiver assembly

HINT:

The navigation receiver assembly is the master unit.

WIRING DIAGRAM



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15D8: Monitor Disconnected (2010 Prius)

INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.	**CHECK OPTIONAL COMPONENTS (INCLUDING ASSOCIATED WIRING)**

(a) Check for optional components.

(1) Check that optional components (including associated wiring) which generate radio waves are not installed.

Result:

RESULT	PROCEED TO
Optional components (including associated wiring) are installed.	A
Optional components (including associated wiring) are not installed.	B

HINT:

- Electrical noise from radio waves generated by optional components or the wiring for those components may affect AVC-LAN communication.
- This DTC may be stored when an AVC-LAN communication error occurs due to electrical noise.

B ▶ **CHECK DTC**

A ▼

2.	**REMOVE OPTIONAL COMPONENTS (INCLUDING ASSOCIATED WIRING)**

(a) Remove optional components (including associated wiring).

NOTICE:

Do not remove optional components or associated wiring without the permission of the customer.

NEXT ▼

3.	**CHECK DTC**

cardiagn.com

3.	CHECK DTC

(a) Clear the DTCs INFO .

(b) Recheck for DTCs and check if the same DTC is output again.

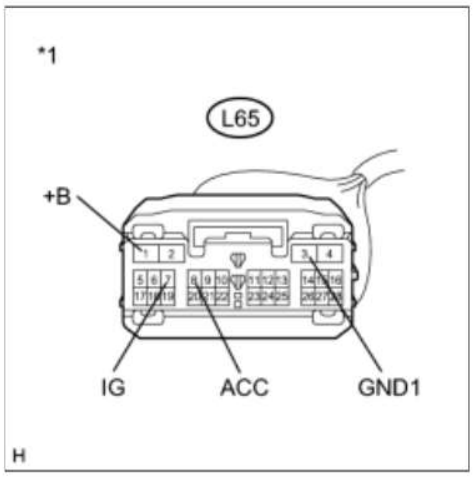
OK:

No DTCs are output.

NG ▶ CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU POWER SOURCE)

OK ▶ END

4.	CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU POWER SOURCE)



(a) Disconnect the L65 parking assist ECU connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L65-3 (GND1) - Body ground	Always	Below 1 Ω

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L65-1 (+B) - L65-3 (GND1)	Power switch off	11 to 14 V
L65-7 (IG) - L65-3 (GND1)	Power switch on (IG)	11 to 14 V
L65-8 (ACC) - L65-3 (GND1)	Power switch on (ACC)	11 to 14 V

Text in Illustration

	Front view of wire harness connector

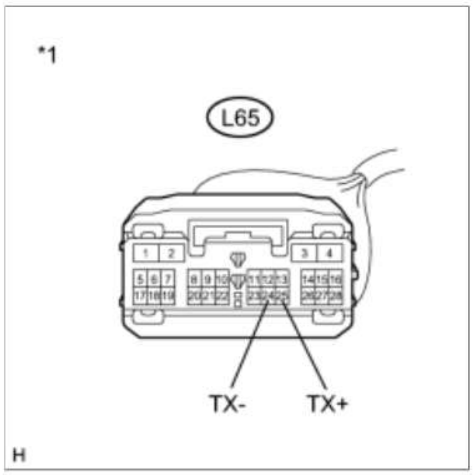
cardiagn.com

*1	Front view of wire harness connector (to Parking Assist ECU)

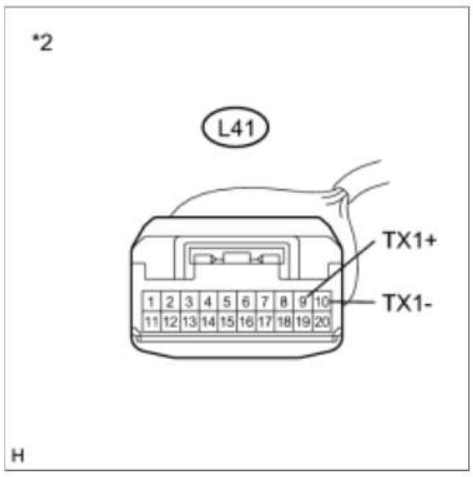
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

5.	**CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - NAVIGATION RECEIVER ASSEMBLY)**



(a) Disconnect the L65 parking assist ECU connector.



(b) Disconnect the L41 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L65-25 (TX+) - L41-9 (TX1+)	Always	Below 1 Ω
L65-24 (TX-) - L41-10 (TX1-)	Always	Below 1 Ω
L65-25 (TX+) - Body ground	Always	10 kΩ or higher

cardiagn.com

L65-25 (TX+) - Body ground	Always	10 kΩ or higher
L65-24 (TX-) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Parking Assist ECU)
*2	Front view of wire harness connector (to Navigation Receiver Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

6.	**REPLACE PARKING ASSIST ECU**

(a) Replace the parking assist ECU INFO .

(b) Clear the DTCs INFO .

(c) Recheck for DTCs and check if the same DTC is output again.

OK:
No DTCs are output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

cardiagn.com

DTC	B15E1	Media Malfunction

DESCRIPTION

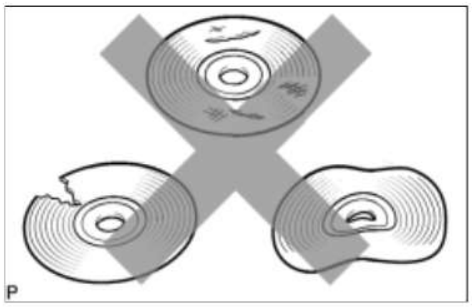
This DTC is stored when the navigation receiver assembly cannot read the media.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15E1	When one of the conditions below is met: • An unsuitable disc is inserted. • The disc cannot be read. • The disc cannot be read because of dirt or scratches. • The disc cannot be read because it is inserted upside down. • The disc cannot be read because a high or low temperature is detected. • Internal power supply abnormality • There are no playable files. • The disc contains unreadable copy-protected content.	• CD • Navigation receiver assembly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK DISC**



(a) Check that the disc is not deformed or cracked.

OK:

No deformation or cracks on the disc

NG ▶ **CHANGE DISC**

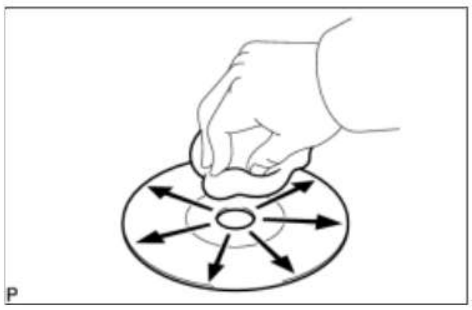
OK

▼

2.	**DISC CLEANING**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15E1: Media Malfunction (2010 Prius)



(a) Disc cleaning

(1) If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

NOTICE:

Do not use a conventional record cleaner or anti-static preservative.

NEXT

3.	**REPLACE DISC WITH ANOTHER AND RECHECK**

(a) Replace the disc with another and recheck.

(b) Clear the DTC INFO .

(c) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

cardiagn.com

DTC	**B15FE**	**XM Tuner Antenna Disconnected**

DTC	**B15FF**	**XM Tuner Antenna Short**

DESCRIPTION

These DTCs are stored when a malfunction occurs in the amplifier antenna assembly (satellite radio antenna) which is connected to the stereo component tuner assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15FE	The satellite radio antenna is not connected.	• Amplifier antenna assembly (satellite radio antenna) • Stereo component tuner assembly
B15FF	A short occurs in the satellite radio antenna.	

INSPECTION PROCEDURE

NOTICE:

After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

1.	**CHECK CONNECTION OF ANTENNA CABLE**

(a) Check if the satellite radio antenna cable is securely connected to the stereo component tuner assembly.

OK:

Satellite radio antenna cable is securely connected.

NG ▶ **SECURELY CONNECT SATELLITE RADIO ANTENNA CABLE**

OK ▼

2.	**REPLACE AMPLIFIER ANTENNA ASSEMBLY (SATELLITE RADIO ANTENNA)**

(a) Replace the amplifier antenna assembly (satellite radio antenna) INFO .

(b) Clear the DTCs INFO .

(c) Recheck for DTCs and check if the same DTC is output again.

OK:

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: B15FE,B15FF: XM Tuner Antenna Disconnected (2010 Prius)

OK:

No DTCs are output.

NG ▶ **REPLACE STEREO COMPONENT TUNER ASSEMBLY**

OK ▶ **END**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: U0073: Control Module Communication Bus OFF (2010 Prius)

DTC	**U0073**	**Control Module Communication Bus OFF**

DESCRIPTION

This DTC is stored when a malfunction occurs in the CAN communication circuit.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
U0073	CAN bus connection error	CAN communication system

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK DTC**

(a) Clear the DTC INFO .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG ▶ **GO TO CAN COMMUNICATION SYSTEM**

OK ▶ **USE SIMULATION METHOD TO CHECK**

cardiagn.com

Satellite Radio Broadcast cannot be Received

INSPECTION PROCEDURE

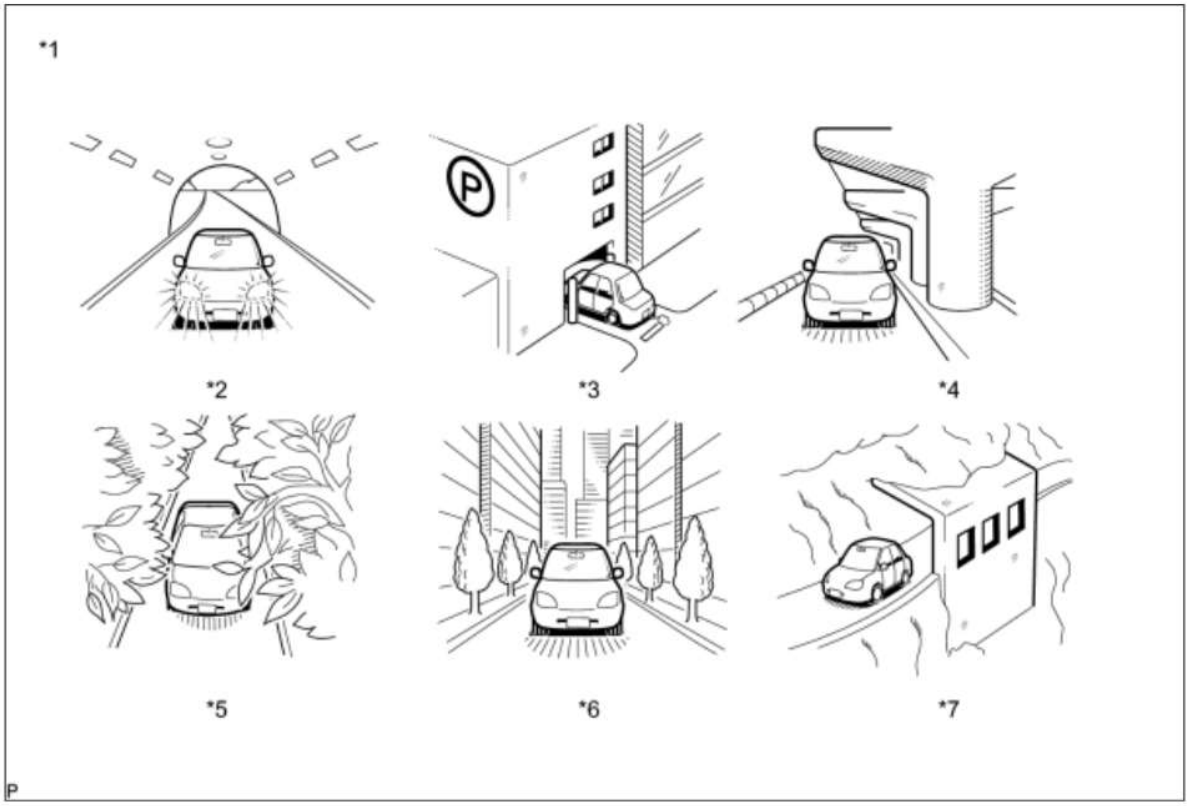
NOTICE:

- Some satellite radio broadcasts require payment. A contract must be made between a satellite radio service and the user. If the contract expires, it will not be possible to listen to the broadcast.
- After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

1.	**CHECK SURROUNDINGS**

(a) Check if the vehicle is in an environment where reception is difficult due to something blocking the area above the vehicle.



HINT:

If the area above the vehicle is blocked, such as when in a building or tunnel, reception may not be possible.

OK:

Area above vehicle is not blocked.

Text in Illustration

*1	Example	*2	In a tunnel

cardiagn.com

*3	In a building	*4	Under an overpass
*5	On a forest or tree-lined path	*6	Between tall buildings
*7	Under a cliff or overhang	-	-

NG ▶ **END (MOVE VEHICLE TO LOCATION WHERE RECEPTION IS BETTER)**

OK ▼

2.	**CHECK STEREO COMPONENT TUNER ASSEMBLY**

(a) Check if CH001 (free broadcast) can be received.

OK:

CH001 can be received.

NG ▶ **CHECK DISPLAY**

OK ▼

3.	**CHECK DISPLAY SETTING**

(a) Check the display content.

Result:

RESULT	PROCEED TO
"UPDATING" is displayed	A
"-----" is displayed	B
None of the displays above are shown	C

C ▶ **CHECK DISPLAY**

B ▶ **THERE IS NO SONG/PROGRAM TITLE OR ARTIST NAME/FEATURE ASSOCIATED WITH CHANNEL AT THAT TIME**

A ▼

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Satellite Radio Broadcast cannot be Received (2010 Prius)

4.	CHECK CONTRACT CONDITIONS

(a) Check if the pay-type contract has been extended, or if the contract period has ended.

OK:

Pay-type contract is valid.

NG ▶ **TO RECEIVE PAY-TYPE BROADCASTS, CONTRACT MUST BE MADE WITH SATELLITE RADIO SERVICE**

OK ▼

5.	PERFORM ACTIVATION REFRESH

(a) Perform activation refresh by referring to the satellite radio service web site (http://www.xmradio.com/refresh/).

OK:

Malfunction disappears.

HINT:

The XM radio ID that is necessary to perform activation refresh can be displayed when CH000 is selected on the satellite radio.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

6.	CHECK DISPLAY

(a) Check the display content.

Result

RESULT	PROCEED TO
"ANTENNA" is displayed	A
"NO SIGNAL" is displayed	B
"LOADING" is displayed	B
"OFF AIR" is displayed	C
After "---" is displayed, display automatically switches to CH001	D

cardiagn.com

After "---" is displayed, display automatically switches to CH001	D
None of the displays above are shown	E

E ▶ **CONFIRM CURRENTLY SELECTED CHANNEL**

D ▶ **CHANNEL BROADCAST HAS ENDED (CONFIRM WITH RADIO STATION)**

C ▶ **CHANNEL IS CURRENTLY NOT BEING BROADCAST. BROADCAST CAN BE LISTENED TO OR VIEWED WHEN IT IS BACK ON AIR (CONFIRM WITH RADIO STATION)**

B ▶ **END (MOVE VEHICLE TO LOCATION WHERE RECEPTION IS BETTER)**

A ▼

7.	**CHECK CONNECTION OF ANTENNA CABLE**

(a) Check if the satellite radio antenna cable is securely connected to the stereo component tuner assembly.

OK:

Satellite radio antenna cable is securely connected.

NG ▶ **SECURELY CONNECT SATELLITE RADIO ANTENNA CABLE**

OK ▶ **REPLACE AMPLIFIER ANTENNA ASSEMBLY (SATELLITE RADIO ANTENNA)**

8.	**CONFIRM CURRENTLY SELECTED CHANNEL**

(a) Confirm if CH000 is currently selected.

OK:

CH000 is selected.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END (CH000 HAS NO SOUND. SELECT ANOTHER CHANNEL.)**

cardiagn.com

Traffic Information is not Displayed

INSPECTION PROCEDURE

NOTICE:

- Traffic information requires payment. An XM nav traffic contract must be made between the satellite radio service and the user. If the contract expires, traffic information will not be available.
- Traffic information does not apply to all roads, only main roads. For the latest information on coverage areas, contact the satellite radio service.
- After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

1.	**CHECK DISPLAY**

(a) Check the traffic information screen.

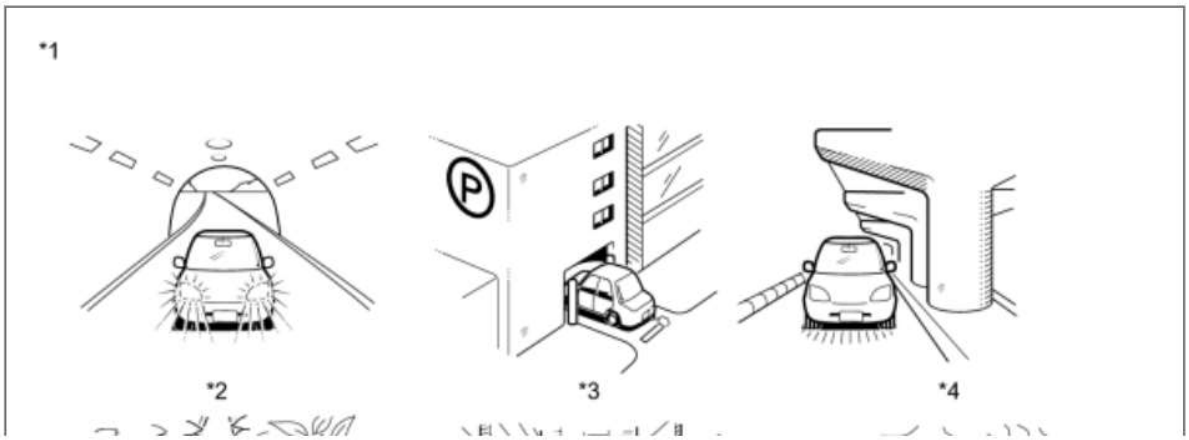
Result:

RESULT	PROCEED TO
Traffic information is not displayed	A
Traffic information is displayed but is not updated	B

B ▶ **CHECK SURROUNDINGS**

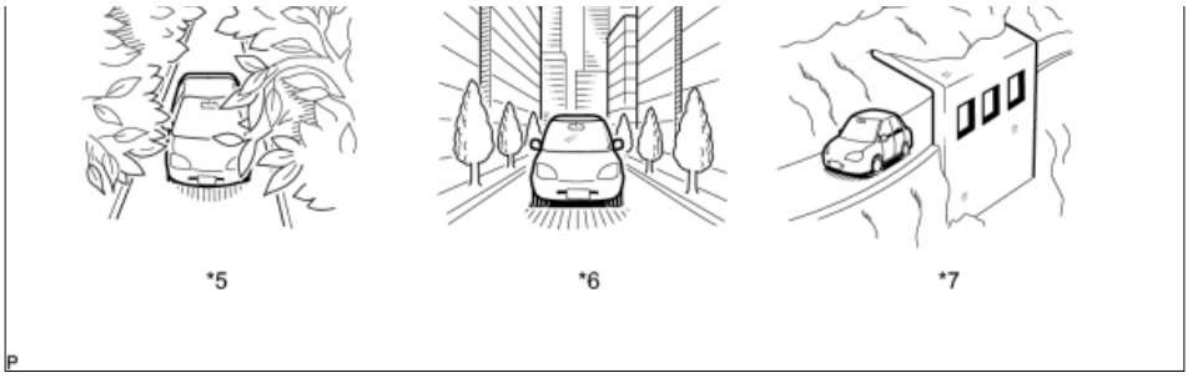
A ▼

2.	**CHECK SURROUNDINGS**



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Traffic Information is not Displayed (2010 Prius)



(a) Check if the vehicle is in an environment where reception is difficult due to something blocking the area above the vehicle.

HINT:

If the area above the vehicle is blocked, such as when in a building or tunnel, reception may not be possible.

OK:

Area above vehicle is not blocked.

Text in Illustration

*1	Example	*2	In a tunnel
*3	In a building	*4	Under an overpass
*5	On a forest or tree-lined path	*6	Between tall buildings
*7	Under a cliff or overhang	-	-

NG ▶ **END (MOVE VEHICLE TO LOCATION WHERE RECEPTION IS BETTER)**

OK ▼

3.	**CHECK COVERAGE AREA**

(a) Check that your current position is within the traffic information coverage area.

OK:

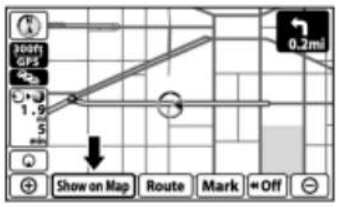
Vehicle is within coverage area.

NG ▶ **MOVE TO WITHIN COVERAGE AREA (FOR LATEST COVERAGE AREA, CONFIRM WITH RADIO STATION)**

OK ▼

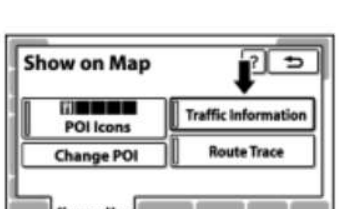
cardiagn.com

4.	CHECK SETTINGS OF TRAFFIC INFORMATION



H

(a) Press "Show on Map".



H

(b) Check if "Traffic Information" is on.

OK:

"Traffic Information" is on.

NG ▶ **TURN "Traffic Information" ON**

OK ▼

5.	CHECK CONTRACT CONDITIONS

(a) Check if the "XM Nav Traffic Premium Package" contract has been extended, or if the contract period has ended.

OK:

Contract is valid.

NG ▶ **TO RECEIVE TRAFFIC INFORMATION, CONTRACT MUST BE MADE WITH SATELLITE RADIO SERVICE**

OK ▼

6.	PERFORM ACTIVATION REFRESH

cardiagn.com

(a) Perform activation refresh by referring to the satellite radio service web site (http://www.xmradio.com/refresh/).

HINT:

The XM radio ID that is necessary to perform activation refresh can be displayed when CH000 is selected on the satellite radio.

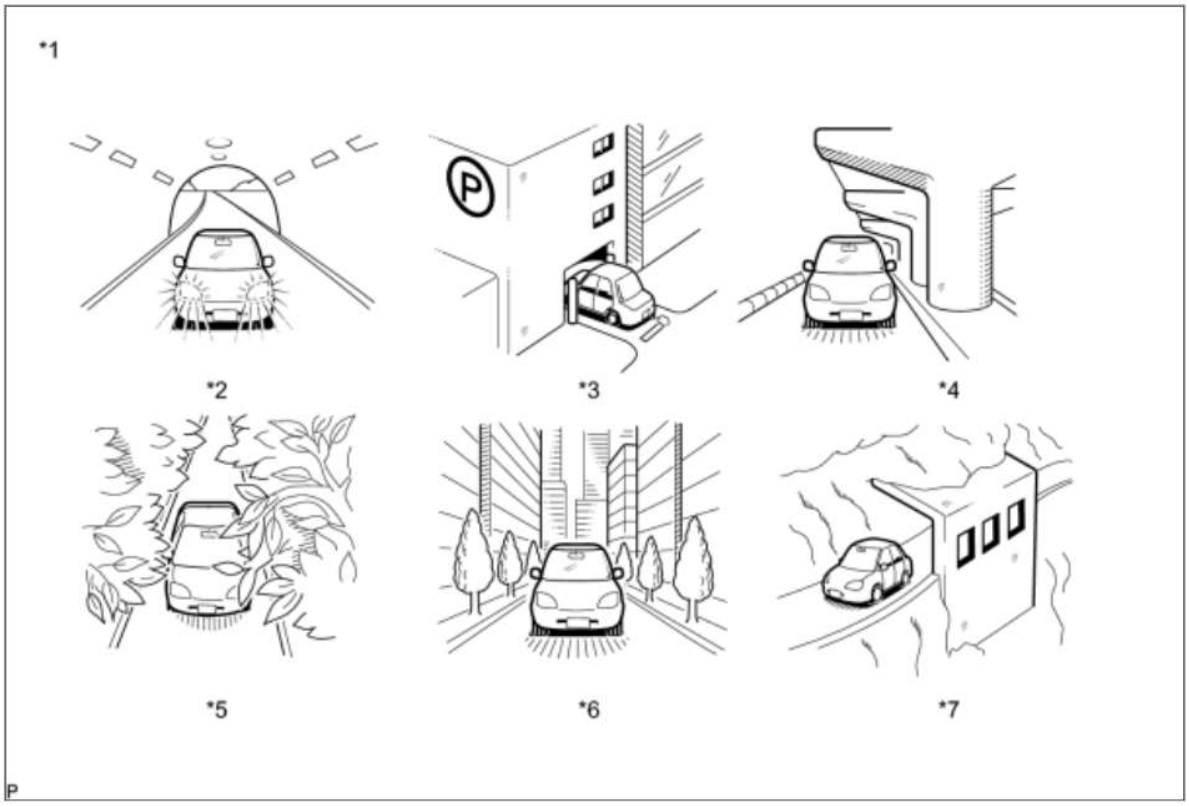
OK:

Malfunction disappears.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

7.	**CHECK SURROUNDINGS**



(a) Check if the vehicle is in an environment where reception is difficult due to something blocking the area above the vehicle.

HINT:

If the area above the vehicle is blocked, such as when in a building or tunnel, reception may not be possible.

OK:

Area above vehicle is not blocked.

Text in Illustration

*1	Example	*2	In a tunnel

cardiagn.com

*3	In a building	*4	Under an overpass
*5	On a forest or tree-lined path	*6	Between tall buildings
*7	Under a cliff or overhang	-	-

NG ▶ **END (MOVE VEHICLE TO LOCATION WHERE RECEPTION IS BETTER)**

OK ▼

8.	**CHECK COVERAGE AREA**

(a) Check if the area on the display that does not match actual traffic conditions is within the XM Nav Traffic coverage area.

Result:

RESULT	PROCEED TO
Area that does not match is within coverage area.	A
Area that does not match is not within coverage area.	B

B ▶ **END (TRAFFIC INFORMATION IS NOT DISPLAYED BECAUSE AREA IS NOT IN COVERAGE AREA)**

A ▼

9.	**CHECK CONTRACT CONDITIONS**

(a) Check if the "XM Nav Traffic Premium Package" contract has been extended, or if the contract period has ended.

OK:

Contract is valid.

NG ▶ **TO RECEIVE TRAFFIC INFORMATION, CONTRACT MUST BE MADE WITH SATELLITE RADIO SERVICE**

OK ▼

cardiagn.com

10.	**PERFORM ACTIVATION REFRESH**

(a) Perform activation refresh by referring to the satellite radio service web site (http://www.xmradio.com/refresh/).

OK:

Malfunction disappears.

NG ▶ **CHECK DISPLAY AGAIN**

OK ▶ **END**

11.	**CHECK DISPLAY AGAIN**

(a) Wait for 2.5 minutes, and check again if the actual traffic conditions match the display.

OK:

Actual traffic conditions match display.

NG ▶ **CHECK DISPLAY AGAIN**

OK ▶ **END (NAVTEQ HAS UPDATED DATA OF TRAFFIC CONDITIONS)**

12.	**CHECK DISPLAY AGAIN**

(a) After 30 minutes have passed, check if all traffic information disappears.

HINT:

After traffic information updates have stopped, the navigation system continues displaying traffic information for a maximum of 30 minutes.

Result:

RESULT	PROCEED TO
All traffic information disappears.	A
Some traffic information is wrong.	B
Actual traffic conditions match display.	C

C ▶ **NAVTEQ HAS UPDATED DATA OF TRAFFIC CONDITIONS**

B ▶ **NAVTEQ MAY NOT BE PROVIDING DATA VERSION OF CERTAIN TRAFFIC INFORMATION (DATA ERROR, PROBLEM, ETC.)**

▶ **END (MOVE VEHICLE TO LOCATION WHERE RECEPTION IS**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Traffic Information is not Displayed (2010 Prius)

A ▶ END (MOVE VEHICLE TO LOCATION WHERE RECEPTION IS BETTER)

cardiagn.com

Noise Occurs

INSPECTION PROCEDURE

PROCEDURE

1.	NOISE CONDITION

(a) Check from which direction the noise comes (front left or right, or rear left or right).

(1) Check from which direction the noise comes.

OK:

The location of the noise source can be determined.

NG ▶ CHECK NOISE CONDITIONS

OK ▼

2.	CHECK SPEAKERS

(a) Check the installation conditions of the speaker units that are located near the noise source and that there are no cracks, scratches, deformation or other failures.

Result:

RESULT	PROCEED TO
No malfunction is found	A
A speaker is installed incorrectly	B
Foreign objects are in the speaker	C
A speaker cone paper is broken	D

D ▶ REPLACE SPEAKER

C ▶ REMOVE FOREIGN OBJECT

B ▶ REINSTALL SPEAKER

A ▼

cardiagn.com

3.	CHECK NOISE CONDITIONS

(a) Check the noise condition.

HINT:

The radio has a noise prevention function to reduce noise when listening to the radio. If a loud noise occurs, check whether the ground at the antenna mounting base and the noise prevention unit are installed and wired correctly.

CONDITION UNDER WHICH NOISE OCCURS	NOISE SOURCE
Noise increases when the accelerator pedal is depressed, but stops when the hybrid system is stopped.	Generator
Noise occurs during A/C or heater operation.	Blower motor
Noise occurs when the horn switch is pressed and released or when pressed and held.	Horn
Noise occurs synchronously with the turn signal blinking pattern.	Flasher
Noise occurs during window washer operation.	Washer
Noise occurs during wiper operation.	Wiper
Noise occurs when the brake pedal is depressed.	Stop light switch
Others	Static electricity

HINT:

- In the left column of the table, find the situation that matches the customer's complaint. Then, in the right column, find the part that is causing the noise. Check the respective noise filter.
- To save time and avoid a misdiagnosis, first make sure that the noise is not coming from outside the vehicle.
- Troubleshoot noises in descending order of loudness.
- Setting the radio to a frequency where no signal is received may make recognition of the noise problem easier.

OK:
The noise source cannot be determined.

NG ▶ **REPAIR OR REPLACE NOISE SOURCE**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Pressing Power Switch does not Turn on System (2010 Prius)

Pressing Power Switch does not Turn on System

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CABIN**

(a) Check that conditions in the cabin are not likely to cause condensation.

HINT:

This problem occurs if the cabin is humid and the temperature rapidly changes. This condition may produce condensation, resulting in a short circuit.

OK:
Condensation is not likely to occur.

NG ▶ **DRY CABIN AND RECHECK CONDITIONS**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**



cardiagn.com

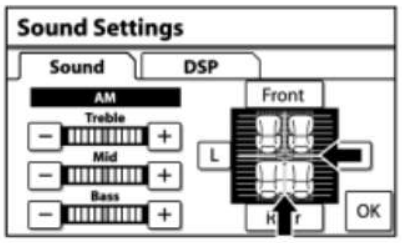
No Sound can be Heard from Speakers

INSPECTION PROCEDURE

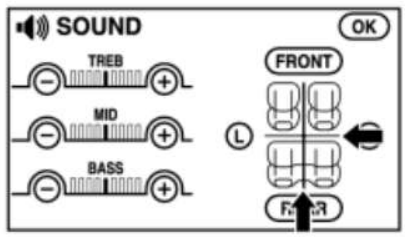
PROCEDURE

1.	**CHECK AUDIO SETTINGS**

*1



*2



(a) Enter the sound quality adjustment screen.

(b) Set volume, fader and balance to the initial values and check that sound is normal.

OK:

Audio system returns to normal.

HINT:

Sound quality adjustment measures vary according to the type of the amplifier.

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: CD cannot be Ejected (2010 Prius)

CD cannot be Ejected

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK OPERATION**

(a) Press the disc eject switch of the navigation receiver assembly for 5 seconds or more and check that the CD is ejected.

OK:

CD is ejected.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

2.	**REPLACE CD WITH ANOTHER AND RECHECK**

(a) Insert another CD and check if it is ejected.

OK:

CD is ejected.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **CD WAS FAULTY**

cardiagn.com

CD cannot be Inserted / Played or CD is Ejected Right After Insertion

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK IF A PROPER CD IS INSERTED**

(a) Make sure that the CD is an audio CD or a CD with an MP3 or WMA file, and that it is not deformed, flawed, stained, deteriorated or otherwise defective.

OK:

CD is normal.

HINT:

- Translucent or uniquely-shaped CDs cannot be played.
- Commercial audio CDs can be played.
- CD-DA files on CD-ROMs, CD-Rs and CD-RWs can be played.
- MP3 and WMA files on CD-ROMs, CD-Rs and CD-RWs can be played.
- For details on playable CDs, refer to the Owner's Manual.

NG ▶ **CD IS FAULTY**

OK ▼

2.	**CHECK THAT CD IS INSERTED PROPERLY**

(a) Check whether or not the CD is inserted upside down.

OK:

CD is properly inserted.

NG ▶ **SET CD PROPERLY**

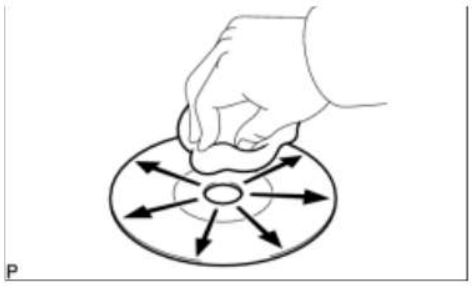
OK ▼

3.	**CLEAN CD AND RECHECK**

(a) Disc cleaning

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: CD cannot be Inserted / Played or CD is Ejected Right After Insertion (2010 Prius)



(1) If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

OK:

Malfunction disappears.

NOTICE:

Do not use a conventional record cleaner or anti-static preservative.

NG ▶ **CHECK OPERATION WITH ANOTHER CD**

OK ▶ **END (CD WAS DIRTY)**

4.	CHECK OPERATION WITH ANOTHER CD

(a) Check using another CD.

(1) Check if the problem recurs using another CD.

OK:

The problem does not occur.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **CD WAS FAULTY**

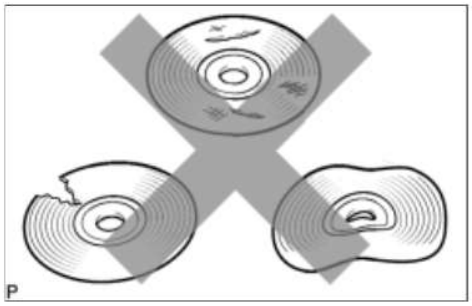
cardiagn.com

CD Sound Skips

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CD**



(a) Check that the CD is not deformed or cracked.

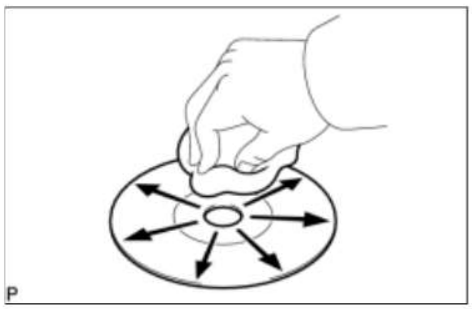
OK:

No deformation or cracks on the CD

NG ▶ **CD IS FAULTY**

OK ▼

2.	**CHECK CD**



(a) Check the CD.

OK:

The CD is clean.

NOTICE:

Do not use a conventional record cleaner or anti-static preservative.

HINT:

If dirt is on the CD surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

NG ▶ **CLEAN CD**

OK ▼

cardiagn.com

3.	**CHECK OPERATION WITH ANOTHER CD**

(a) Check using another CD.

(1) Check if the problem recurs using another CD.

OK:

The problem does not occur.

NG ▶ **CHECK NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **CD WAS FAULTY**

4.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check the navigation receiver assembly installation condition.

(1) Check that the navigation receiver assembly is properly installed.

OK:

The navigation receiver assembly is properly installed.

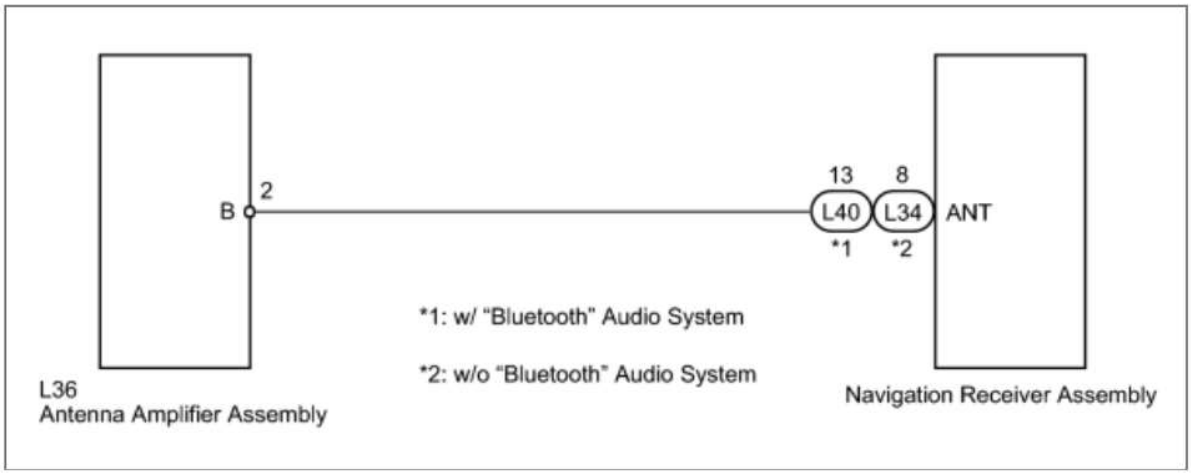
NG ▶ **REINSTALL NAVIGATION RECEIVER ASSEMBLY PROPERLY**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

Radio Broadcast cannot be Received or Poor Reception

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check the radio automatic station search function.

(1) Check the radio automatic station search function by activating it.

Result:

RESULT	PROCEED TO
Automatic station search function does not stop	A
Automatic station search function stops on a station	B

B ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

A ▼

2.	**CHECK OPTIONAL COMPONENTS**

(a) Check optional components (sun-shade film, telephone antenna, etc.).

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Radio Broadcast cannot be Received or Poor Reception (2010 Prius)

(1) Check if any optional components that may decrease reception capacity, such as sunshade film or a telephone antenna, are installed.

Result:

RESULT	PROCEED TO
Optional components are installed	A
Optional components are not installed	B

NOTICE:

Do not remove optional components without the permission of the customer.

B ▶ **CHECK RADIO ANTENNA**

A ▶ **REMOVE OPTIONAL COMPONENTS AND CHECK AGAIN (SEE NOTICE ABOVE)**

3.	**CHECK RADIO ANTENNA**

(a) Preparation for check

(1) Remove the roof antenna pole sub-assembly from the amplifier antenna assembly.

(b) Check for noise

(1) Turn the power switch on (ACC) with the navigation receiver assembly connector connected.

(2) Turn the radio on and tune into AM mode.

(3) Place a screwdriver, thin wire, or other metal object on the amplifier antenna threaded installation portion for the roof antenna pole sub-assembly and check that noise can be heard from the speakers.

Result:

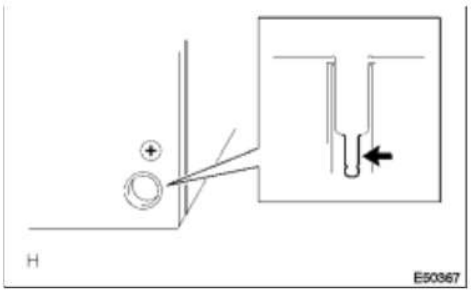
RESULT	PROCEED TO
Noise does not occur	A
Noise occurs	B

B ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

A ▼

4.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com



(a) Preparation for check

(1) Remove the antenna plug from the navigation receiver assembly.

(b) Check for noise

(1) Turn the power switch on (ACC) with the navigation receiver assembly connector connected.

(2) Turn the radio on and tune into AM mode.

(3) Place a screwdriver, thin wire, or other metal object on the navigation receiver assembly antenna jack and check that noise can be heard from the speaker.

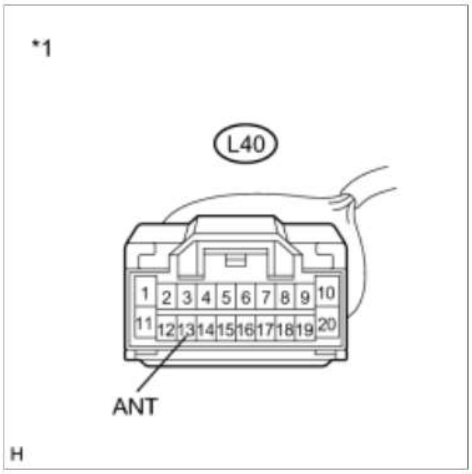
OK:

Noise occurs.

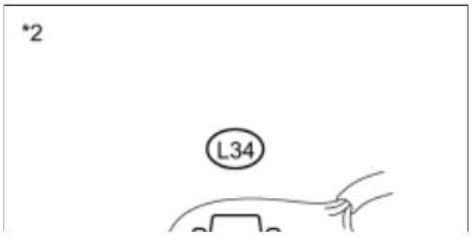
NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

5.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - ANTENNA AMPLIFIER ASSEMBLY)**

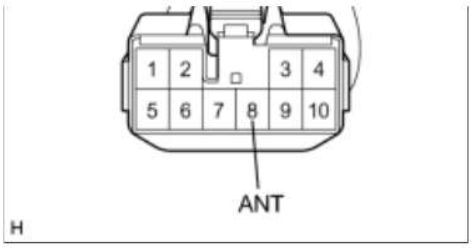


(a) Disconnect the L40 navigation receiver assembly connector (w/ "Bluetooth" Audio System).

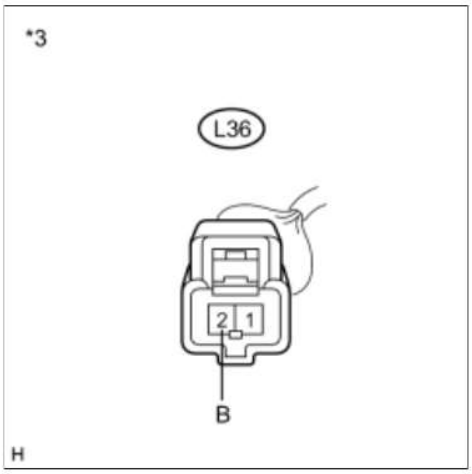


(b) Disconnect the L34 navigation receiver assembly connector (w/o

cardiagn.com



"Bluetooth" Audio System).



(c) Disconnect the L36 antenna amplifier assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L40-13 (ANT) - L36-2 (B)*4	Always	Below 1 Ω
L40-13 (ANT) - Body ground*4	Always	10 kΩ or higher
L34-8 (ANT) - L36-2 (B)*5	Always	Below 1 Ω
L34-8 (ANT) - Body ground*5	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)*4
*2	Front view of wire harness connector (to Navigation Receiver Assembly)*5
*3	Front view of wire harness connector (to Antenna Amplifier Assembly)

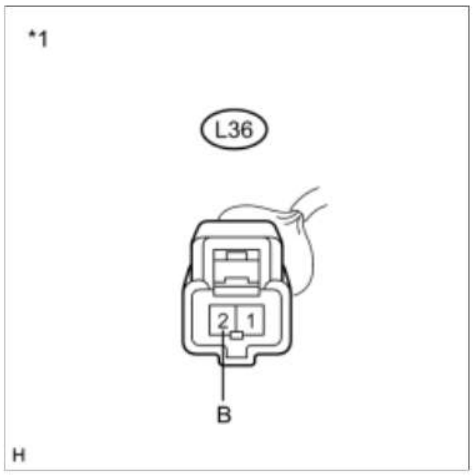
*4: w/ "Bluetooth" Audio System
*5: w/o "Bluetooth" Audio System

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

cardiagn.com

6.	INSPECT NAVIGATION RECEIVER ASSEMBLY



(a) Reconnect the L40*2 or L34*3 navigation receiver assembly connector.

(b) Disconnect the L36 antenna amplifier assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L36-2 (B) - Body ground	Power switch on (IG) Radio switch on	8 V or higher

Text in Illustration

*1	Front view of wire harness connector (to Antenna Amplifier Assembly)

*2: w/ "Bluetooth" Audio System
*3: w/o "Bluetooth" Audio System

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

7.	CHECK ANTENNA CORD

(a) Remove the antenna plug of the navigation receiver assembly and antenna.

(b) Measure the resistance between the antenna and navigation receiver assembly to check for an open circuit in the antenna cord.

cardiagn.com

Standard Resistance:
Below 1 Ω

(c) Measure the resistance between the antenna cord and body ground to check for a short circuit in the antenna cord.

Standard Resistance:
10 kΩ or higher

NG ▶ **REPLACE ANTENNA CORD**

OK ▼

8.	**REPLACE AMPLIFIER ANTENNA ASSEMBLY**

(a) Replace the amplifier antenna assembly and check if radio broadcasts can be received normally INFO .

OK:
Radio broadcasts can be received.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **NORMAL OPERATION**

cardiagn.com

Illumination for Panel Switch does not Come on with Tail Switch ON

INSPECTION PROCEDURE

PROCEDURE

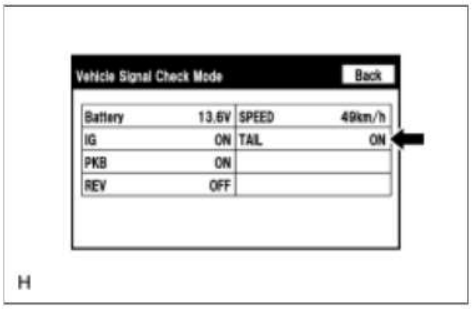
1.	CHECK VEHICLE SIGNAL (OPERATION CHECK)

(a) Enter the "Vehicle Signal Check Mode" screen. Refer to Check Vehicle Signal in Operation Check INFO .

(b) Check that the display changes between ON and OFF according to the light control switch operation.

OK:

LIGHT CONTROL SWITCH	DISPLAY
tail or on	ON
off	OFF



HINT:

This display is updated once per second. As a result, it is normal for the display to lag behind the actual switch operation.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Display does not Dim when Light Control Switch is Turned ON (2010 Prius)

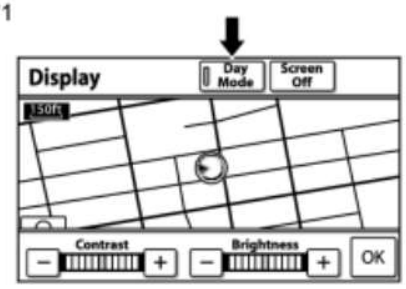
Display does not Dim when Light Control Switch is Turned ON

INSPECTION PROCEDURE

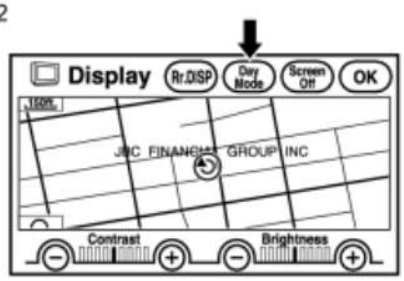
PROCEDURE

1.	**CHECK IMAGE QUALITY SETTING**

*1



*2



(a) Enter the display quality adjustment screen.

(b) Turn the light control switch to the tail position.

(c) Check if "Day Mode" on the display quality adjustment screen is on.

Result:

RESULT	PROCEED TO
"Day Mode" is on	A
"Day Mode" is off	B

Text in Illustration

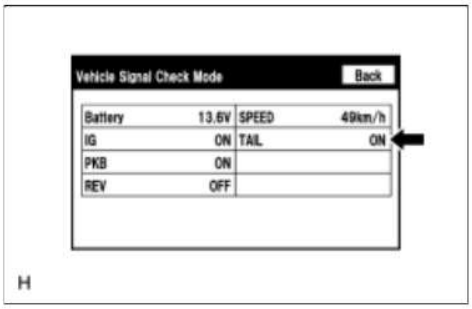
*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

B ▶ **CHECK VEHICLE SIGNAL (OPERATION CHECK)**

A ▶ **TURN "Day Mode" SETTING OFF**

cardiagn.com

2.	**CHECK VEHICLE SIGNAL (OPERATION CHECK)**



(a) Enter the "Vehicle Signal Check Mode" screen. Refer to Check Vehicle Signal in Operation Check INFO .

(b) Check that the display changes between ON and OFF according to the light control switch operation.

OK:

LIGHT CONTROL SWITCH	DISPLAY
tail or on	ON
off	OFF

HINT:

The display is updated once per second. It is normal for the display to lag behind the actual switch operation.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

Panel Switches do not Function

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK PANEL SWITCH

(a) Check for foreign matter around the switches that might prevent operation.

OK:

No foreign matter is found.

NG ▶ REMOVE ANY FOREIGN MATTER FOUND

OK ▼

2.	CHECK PANEL SWITCH (OPERATION CHECK)

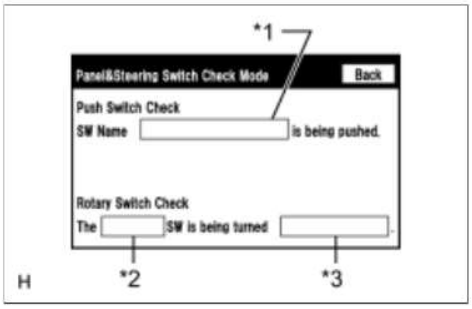
(a) Enter the "Panel & Steering Switch Check Mode" screen. Refer to Check Panel & Steering Switch in Operation Check INFO .

(b) Operate the abnormal switch and check if the switch name and status are correctly displayed.

OK:

The switch name and status are correctly displayed as operated.

Text in Illustration



*1	Name of switch being pushed
*2	Rotary switch name
*3	Rotary switch direction

NG ▶ PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

OK ▶ REPLACE NAVIGATION RECEIVER

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Panel Switches do not Function (2010 Prius)

RECEIVER ASSEMBLY

cardiagn.com

Touch Panel Switch does not Function

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DISPLAY (FOREIGN MATTER)

(a) Check if there is any foreign matter caught between the display and exterior frame of the display.

OK:

No foreign matter is caught between the display and exterior frame of the display.

HINT:

If there is foreign matter between the display and exterior frame of the display, the touch panel will remain pressed, preventing touch switch operation.

NG ▶ REMOVE FOREIGN MATTER

OK ▼

2.	CHECK TOUCH PANEL

(a) Check for foreign matter on the display.

OK:

The display is clean.

NG ▶ CLEAN DISPLAY AND RECHECK TOUCH PANEL

OK ▼

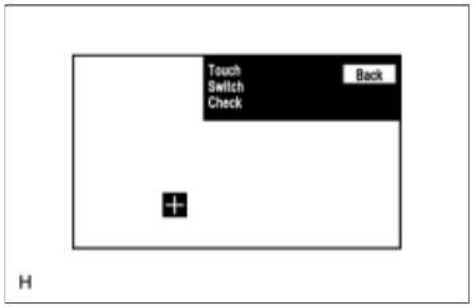
3.	CHECK TOUCH SWITCH (OPERATION CHECK)

(a) Enter the "Touch Switch Check" screen. Refer to Check Touch Switch in Operation Check INFO .

(b) Touch the display in the area where the switch malfunction

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Touch Panel Switch does not Function (2010 Prius)



occurs.

OK:

A "+" mark appears at the touched position.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

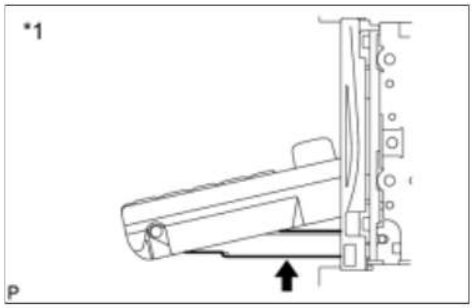
cardiagn.com

Display Panel does not Open, Tilt or Tilts Improperly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**



(a) Check for foreign matter or obstructions caught in the moving parts of the panel.

OK:

No obstruction or foreign matter is found.

Text in Illustration

*1	Example

NG ▶ **REMOVE ANY OBSTRUCTION OR FOREIGN MATTER**

OK ▼

2.	**CHECK OPERATION**

(a) Check if the navigation and audio systems function properly.

OK:

Navigation and audio systems function properly.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Screen Flicker or Color Distortion (2010 Prius)

Last Modified: 7-21-2009	5.6 J	**From:** 200904
Model Year: 2010	**Model:** Prius	**Doc ID:** RM000000POJ056X
Title: NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Screen Flicker or Color Distortion (2010 Prius)		

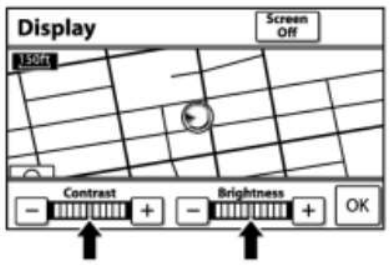
Screen Flicker or Color Distortion

INSPECTION PROCEDURE

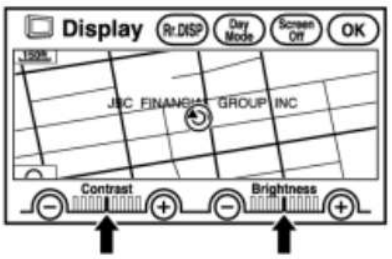
PROCEDURE

1.	**CHECK DISPLAY SETTING**

*1



*2



(a) Enter the display quality adjustment screen.

(b) Reset display settings (contrast, brightness) and check that the screen appears normal.

OK:

The display returns to normal.

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **CHECK CABIN**

OK ▶ **END**

cardiagn.com

2.	**CHECK CABIN**

(a) Check that the cabin temperature is higher than -20°C (-4°F).

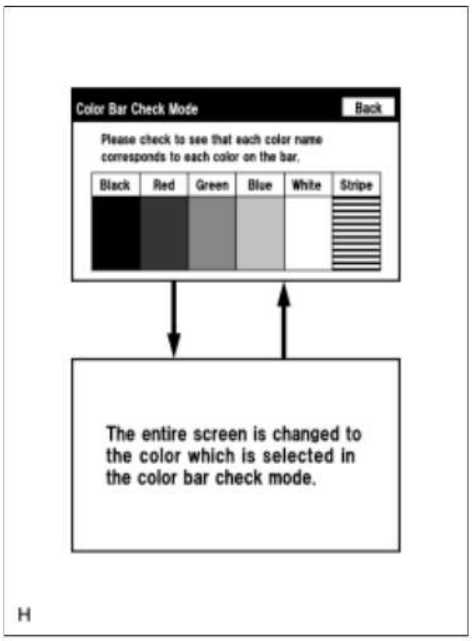
OK:

The cabin temperature is higher than -20°C (-4°F).

NG ▶ **HEAT CABIN AND RECHECK TEMPERATURE**

OK ▼

3.	**CHECK COLOR BAR (OPERATION CHECK)**



(a) Enter the "Color Bar Check Mode" screen. Refer to Check Color Bar in Operation Check INFO .

(b) Check that the color bars match the displayed names.

OK:

Color bars match the displayed names.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Poor Sound Quality in All Modes (Low Volume) (2010 Prius)

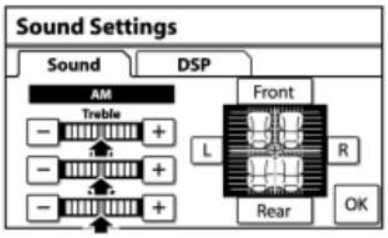
Poor Sound Quality in All Modes (Low Volume)

INSPECTION PROCEDURE

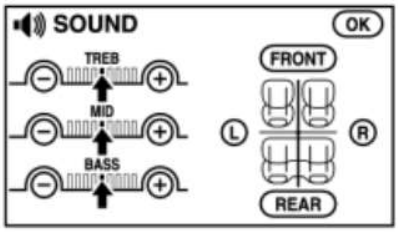
PROCEDURE

1.	**CHECK AUDIO SETTINGS**

*1



*2



(a) Enter the sound quality adjustment screen.

(b) Set "BASS", "MID" and "TREB" to the initial values and check that sound is normal.

OK:

Malfunction disappears.

HINT:

Sound quality adjustment measures vary according to the type of the amplifier.

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **COMPARE WITH ANOTHER VEHICLE OF SAME MODEL**

OK ▶ **END**

2.	**COMPARE WITH ANOTHER VEHICLE OF SAME MODEL**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Poor Sound Quality in All Modes (Low Volume) (2010 Prius)

(a) Compare with another vehicle of the same model.

(1) Compare with another vehicle of the same model which does not have trouble to see if there is any difference in the sound quality.

OK:

No difference is found.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

cardiagn.com

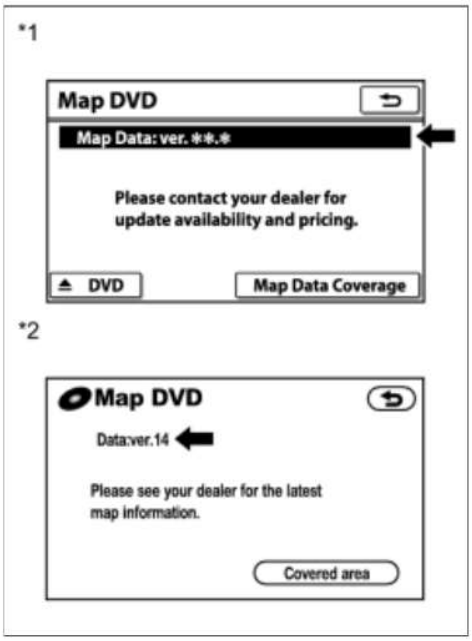
Map Disc cannot be Inserted

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Enter the map data information screen.



(b) Check if a disc is inserted into the map disc slot.

(1) Check if the map data version is displayed.

OK:

The map data version is displayed.

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **CHECK MAP DISC**

OK ▶ **END (EJECT DISC)**

2.	**CHECK MAP DISC**

(a) Check that the map disc is not deformed or cracked.

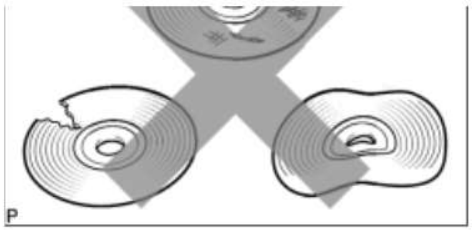
OK:

No deformations or cracks on the map disc



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Map Disc cannot be Inserted (2010 Prius)



NG	REPLACE MAP DISC
OK	PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

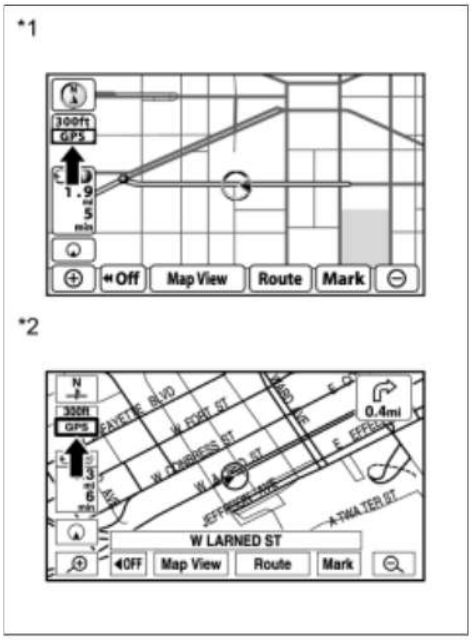
cardiagn.com

Vehicle Position Mark Deviates Greatly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK GPS MARK**



(a) Check that the GPS mark is displayed.

OK:

GPS mark is displayed.

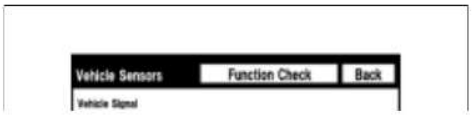
Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **GO TO "GPS MARK IS NOT DISPLAYED" IN PROBLEM SYMPTOMS TABLE**

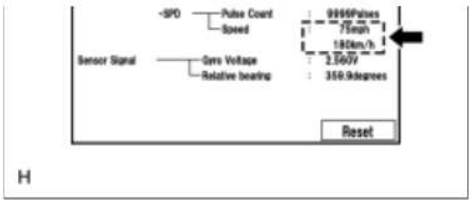
OK ▼

2.	**CHECK VEHICLE SENSOR (OPERATION CHECK)**



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Vehicle Position Mark Deviates Greatly (2010 Prius)



(a) Enter the "Vehicle Sensors" screen. Refer to Check GPS & Vehicle Sensors in Operation Check INFO .

(b) While driving the vehicle, compare the "Speed" indicator to the reading on the speedometer. Check that these readings are almost equal.

OK:

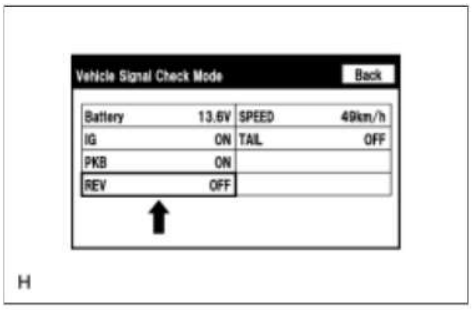
The readings are almost equal.

NG ▶ **CHECK DTC OUTPUT**

OK ▼

3.	CHECK VEHICLE SIGNAL (OPERATION CHECK)

(a) Enter the "Vehicle Signal Check Mode" screen. Refer to Check Vehicle Signal in Operation Check INFO .



(b) Check that the display changes between ON and OFF according to the shift lever operation.

OK:

SHIFT LEVER POSITION	DISPLAY
Except R	OFF
R	ON

HINT:

The display is updated once per second. It is normal for the display to lag behind the actual switch operation.

NG ▶ **GO TO "REVERSE SIGNAL DOES NOT CHANGE IN VEHICLE SIGNAL CHECK MODE" IN PROBLEM SYMPTOMS TABLE**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

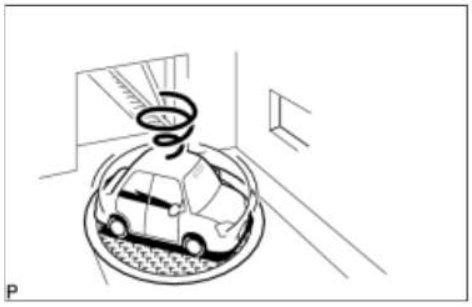
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Cursor or Map Rotates when Vehicle Stopped (2010 Prius)

Cursor or Map Rotates when Vehicle Stopped

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CONDITION**



(a) Check with the customer if the vehicle has been turned by a turntable.

OK:

Vehicle has not been turned by turntable.

HINT:

If the vehicle is turned on a turntable with the power switch on (IG), the system may store the angular velocity. As a result, the vehicle position cursor may deviate.

NG ▶ **TURN POWER SWITCH TO ON (IG) WHEN VEHICLE IS COMPLETELY STOPPED**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

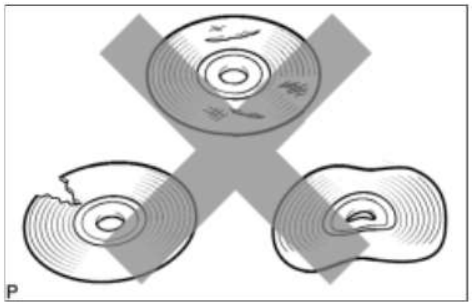
cardiagn.com

Vehicle Position Mark is not Updated

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



(a) Check that the map disc is not deformed or cracked.

OK:

No deformations or cracks on the map disc

NG ▶ **REPLACE MAP DISC**

OK ▼

2.	**CHECK NAVIGATION DISPLAY**

(a) Check if touch scrolling can be performed on the map display.

OK:

Touch scrolling can be performed.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

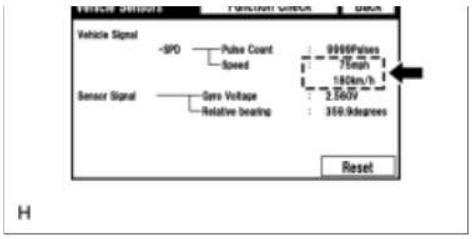
OK ▼

3.	**CHECK VEHICLE SENSOR (OPERATION CHECK)**



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Vehicle Position Mark is not Updated (2010 Prius)



(a) Enter the "Vehicle Sensors" screen. Refer to Check GPS & Vehicle Sensors in Operation Check INFO .

(b) While driving the vehicle, compare the "Speed" indicator to the reading on the speedometer. Check if these readings are almost equal.

OK:

The readings are almost equal.

NG ▶ **CHECK DTC OUTPUT**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

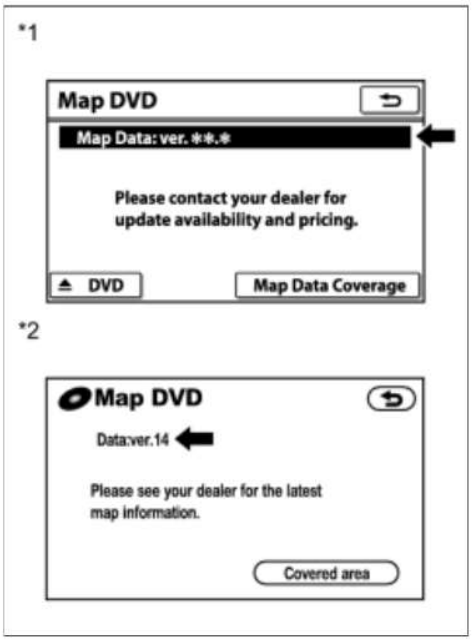
Current Position Display does not Appear

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Enter the map data information screen.



(b) Check if a disc is inserted into the map disc slot.

(1) Check if the map data version is displayed.

OK:

The map data version is displayed.

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **INSERT MAP DISC IN MAP DISC SLOT**

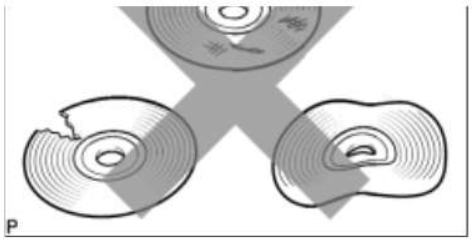
OK ▼

2.	**CHECK MAP DISC**



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Current Position Display does not Appear (2010 Prius)



(a) Check that the map disc is not deformed or cracked.

OK:

No deformations or cracks on the map disc

NG ▶ **REPLACE MAP DISC**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: GPS Mark is not Displayed (2010 Prius)

GPS Mark is not Displayed

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CABIN**

(a) Check the cabin for any object that might interrupt radio reception on the instrument panel. If such an object exists, remove it and check if the GPS mark reappears.

HINT:

The GPS uses extremely faint radio waves originating from satellites. If the signal is interrupted by obstructions or other radio waves, the GPS may not be able to properly receive the signal.

OK:
The GPS mark appears.

NG ▶ **CHECK SURROUNDINGS**

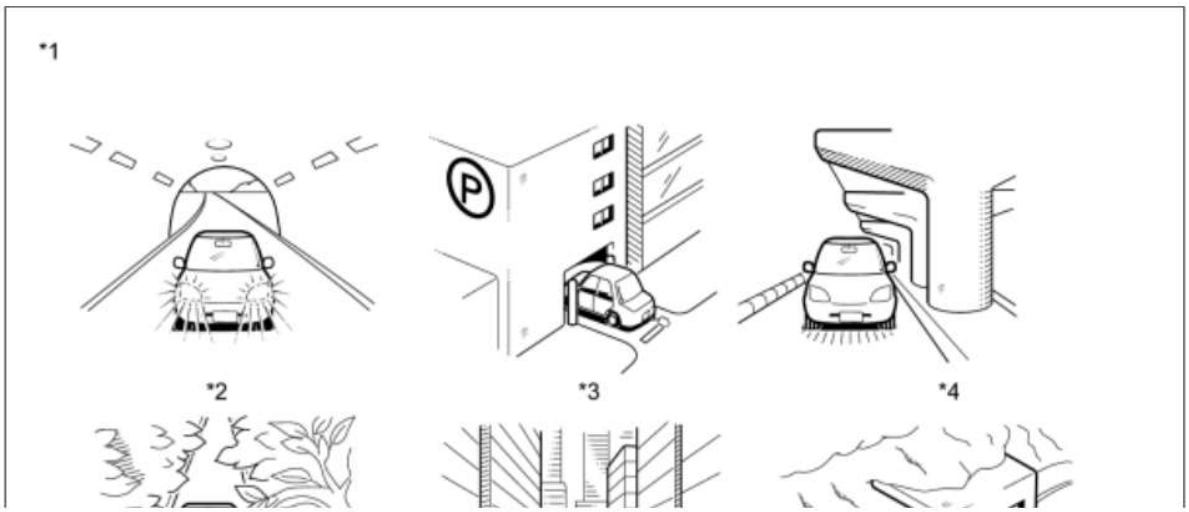
OK ▶ **NORMAL OPERATION**

2.	**CHECK SURROUNDINGS**

(a) Check if the vehicle is in a location where GPS signal reception is poor. If the vehicle is in such a place, relocate the vehicle and check if the GPS mark reappears.

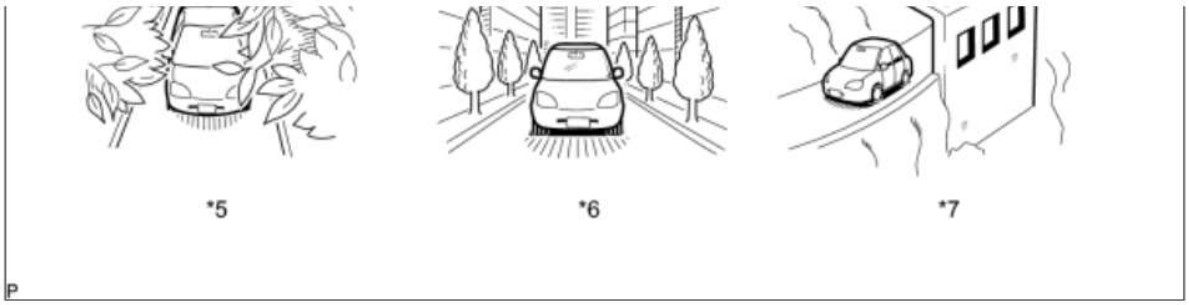
HINT:

The GPS uses 24 satellites in 6 orbits. At any point in time, 4 satellites should be able to pinpoint your vehicle. However, GPS signals may not reach the vehicle due to influence from the surroundings, vehicle direction and time. For examples, see the following illustration.



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: GPS Mark is not Displayed (2010 Prius)



OK:

The GPS mark is displayed.

Text in Illustration

*1	Example	*2	In a tunnel
*3	In a building	*4	Under an overpass
*5	On a forest or tree-lined path	*6	Between tall buildings
*7	Under a cliff or overhang	-	-

NG ▶ **CHECK GPS INFORMATION (OPERATION CHECK)**

OK ▶ **SYSTEM RETURNS TO NORMAL**

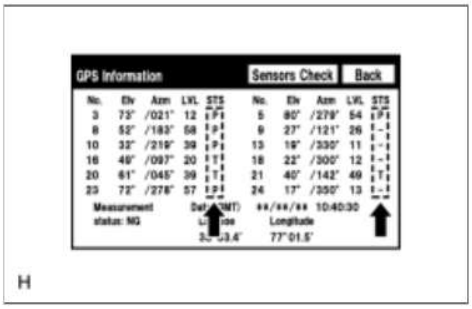
3.	**CHECK GPS INFORMATION (OPERATION CHECK)**

(a) Enter the "GPS Information" screen. Refer to Check GPS & Vehicle Sensors in Operation Check INFO .

(b) Check how many of the following codes appear in the "STS" column.

HINT:

T or P appears.



OK:

At least 3 codes appear.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

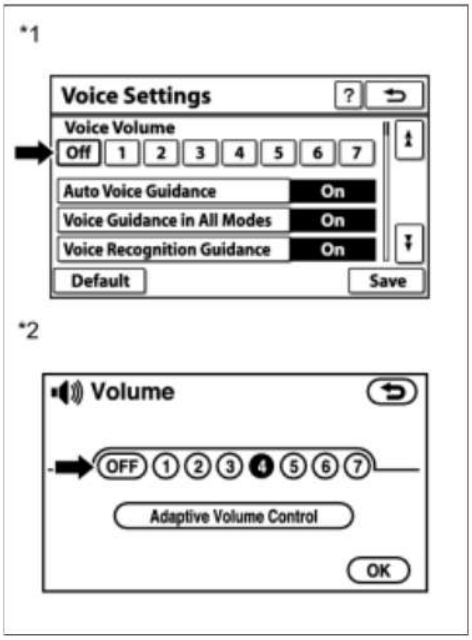
Voice Guidance does not Function

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION SETTING**

(a) Display the "Voice Settings" or "Volume" screen.



(b) Check that "Off" or "OFF" is not selected.

OK:

"Off" or "OFF" is not selected.

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **SELECT VOICE VOLUME SETTING OTHER THAN "Off" OR "OFF"**

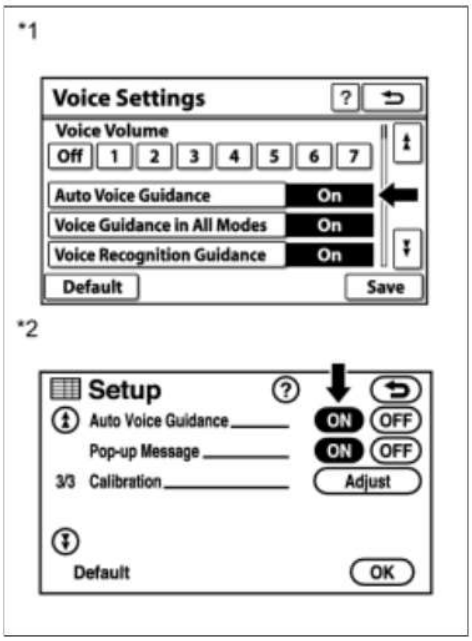
OK ▼

2.	**CHECK NAVIGATION SETTING**

(a) Display the "Voice Settings" or "Setup" screen.

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Voice Guidance does not Function (2010 Prius)



(b) Check that "Auto Voice Guidance" is not "Off" or "OFF".

OK:

"Auto Voice Guidance" is not "Off" or "OFF".

Text in Illustration

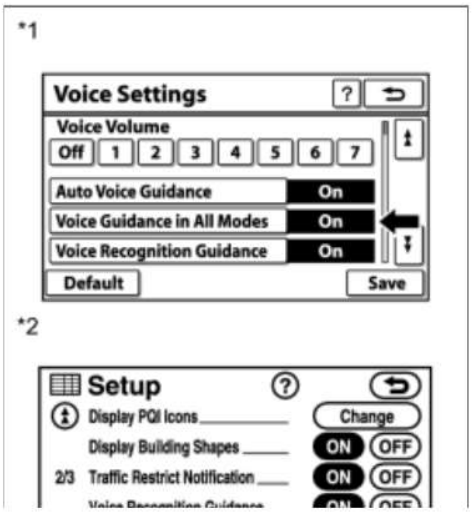
*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **TURN AUTO VOICE GUIDANCE "On" OR "ON"**

OK ▼

3.	**CHECK NAVIGATION SETTING**

(a) Display the "Voice Settings" or "Setup" screen.

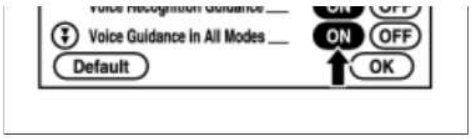


(b) Check that "Voice Guidance in All Modes" is not "Off" or "OFF".

OK:

"Voice Guidance in All Modes" is not "Off" or "OFF".

cardiagn.com



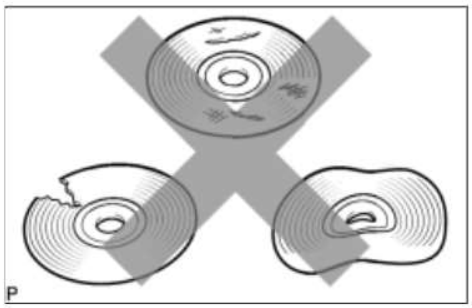
Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

4.	**CHECK MAP DISC**



(a) Check that the map disc is not deformed or cracked.

OK:

No deformations or cracks on the map disc

NG ▶ **REPLACE MAP DISC**

OK ▼

5.	**CHECK AUDIO FUNCTION**

(a) Check that audio sound can be heard from the driver side speaker.

OK:

Audio sound can be heard.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

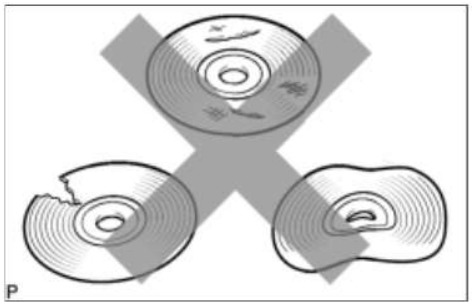
cardiagn.com

Map Display Incomplete

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



(a) Check that the map disc is not deformed or cracked.

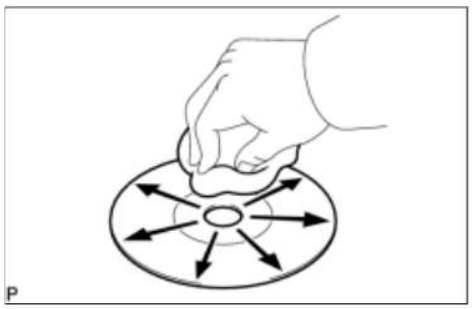
OK:

No deformations or cracks on the map disc

NG ▶ **REPLACE MAP DISC**

OK ▼

2.	**CHECK MAP DISC**



(a) Check for dirt on the map disc surface.

OK:

No dirt is on the map disc surface.

NOTICE:

Do not use a conventional record cleaner or anti-static preservative.

HINT:

If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

NG ▶ **CLEAN MAP DISC**

OK ▼

cardiagn.com

3.	**CHECK NAVIGATION DISPLAY**

(a) Check that displays other than the navigation display are complete.

OK:

No other incomplete displays are found.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

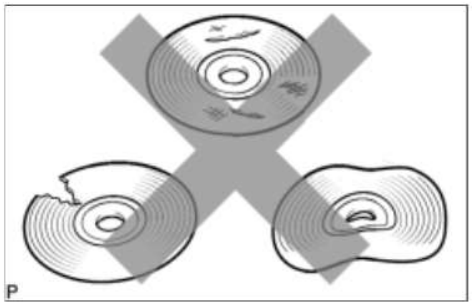
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Route cannot be Calculated (2010 Prius)

Route cannot be Calculated

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



(a) Check that the map disc is not deformed or cracked.

OK:

No deformations or cracks on the map disc

NG ▶ **REPLACE MAP DISC**

OK ▼

2.	**SET DESTINATION**

(a) Set another destination and check if the system can calculate the route correctly.

OK:

Route can be correctly calculated.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **NORMAL OPERATION**

cardiagn.com

Voice Recognition Difficulty

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CONDITION**

(a) Check if the system voice recognition level is low when recognizing a particular voice.

Result:

RESULT	PROCEED TO
System voice recognition level is low with any voice.	A
System voice recognition level is low only for a particular voice.	B

HINT:

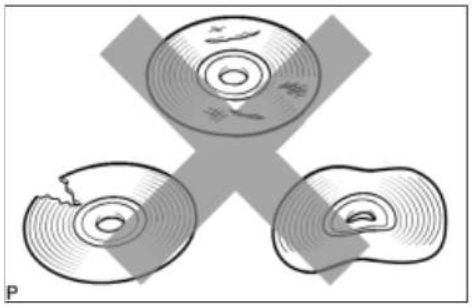
System voice recognition level varies depending on voice and pronunciation. This is not a malfunction.

B ▶ **END**

A

▼

2.	**CHECK MAP DISC**



(a) Check that the map disc is not deformed or cracked.

OK:

No deformations or cracks on the map disc

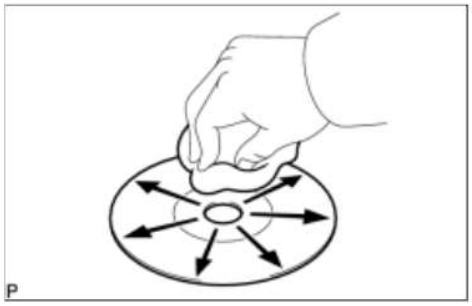
NG ▶ **REPLACE MAP DISC**

OK

▼

cardiagn.com

3.	CHECK MAP DISC



(a) Check for dirt on the map disc surface.

OK:

No dirt is on the map disc surface.

NOTICE:

Do not use a conventional record cleaner or anti-static preservative.

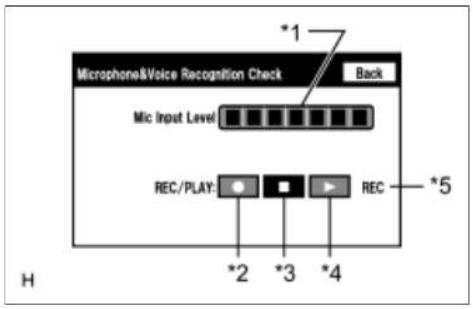
HINT:

If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

NG ▶ **CLEAN MAP DISC**

OK ▼

4.	CHECK MICROPHONE AND VOICE RECOGNITION (OPERATION CHECK)



(a) Enter the "Microphone & Voice Recognition Check" screen. Refer to Check Mic & Voice Recognition in Operation Check INFO .

(b) When voice is input into the microphone, check that the microphone input level meter changes according to the input voice.

(c) Push the recording switch and perform voice recording.

HINT:

- Select the recording switch with the blower motor of the air conditioning system stopped. If an outlet of the air conditioning system is facing the microphone, noise may be recorded.
- Voice can be recorded up to 5 seconds.

(d) Check that the recording indicator remains on while recording and that the recorded voice is played normally without noise or distortion.

OK:

All check results are normal.

Text in Illustration

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Voice Recognition Difficulty (2010 Prius)

*1	Microphone Input Level Meter
*2	Recording Switch
*3	Stop Switch
*4	Play Switch
*5	Recording Indicator

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

cardiagn.com

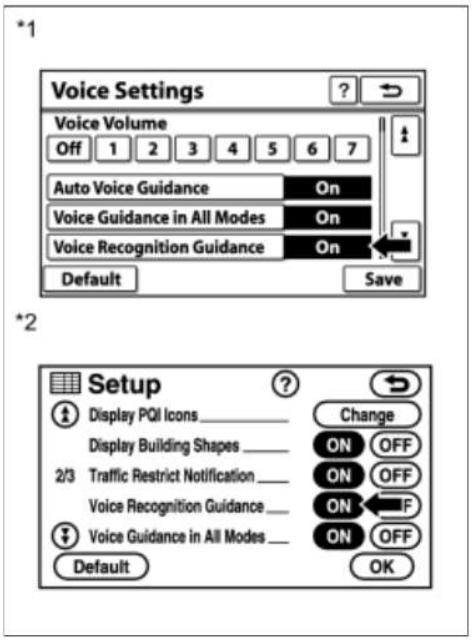
Voice is not Recognized

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION SETTING**

(a) Display the "Voice Settings" or "Setup" screen.



(b) Check that "Voice Recognition Guidance" is not "Off" or "OFF".

OK:

"Voice Recognition Guidance" is not "Off" or "OFF".

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **TURN VOICE RECOGNITION GUIDANCE "On" OR "ON"**

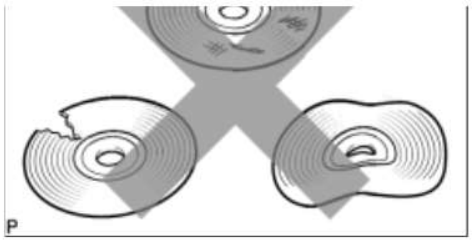
OK ▼

2.	**CHECK MAP DISC**



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Voice is not Recognized (2010 Prius)



(a) Check that the map disc is not deformed or cracked.

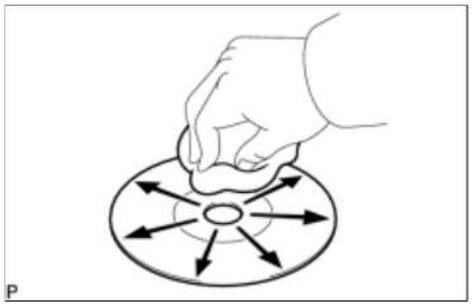
OK:

No deformations or cracks on the map disc

NG ▶ **REPLACE MAP DISC**

OK ▼

3.	CHECK MAP DISC



(a) Check for dirt on the map disc surface.

OK:

No dirt is on the map disc surface.

NOTICE:

Do not use a conventional record cleaner or anti-static preservative.

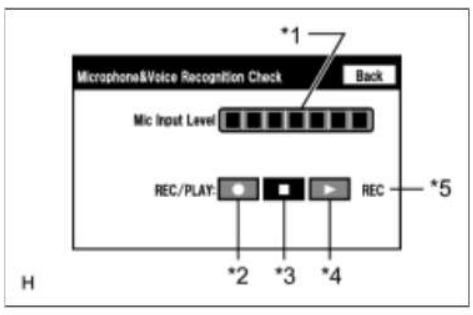
HINT:

If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

NG ▶ **CLEAN MAP DISC**

OK ▼

4.	CHECK MICROPHONE AND VOICE RECOGNITION (OPERATION CHECK)



(a) Enter the "Microphone & Voice Recognition Check" screen. Refer to Check Mic & Voice Recognition in Operation Check INFO .

(b) When voice is input into the microphone, check that the microphone input level meter changes

cardiagn.com

according to the input voice.

(c) Push the recording switch and perform voice recording.

HINT:

- Select the recording switch with the blower motor of the air conditioning system stopped. If an outlet of the air conditioning system is facing the microphone, noise may be recorded.
- Voice can be recorded up to 5 seconds.

(d) Check that the recording indicator remains on while recording and that the recorded voice is played normally without noise or distortion.

OK:

All check results are normal.

Text in Illustration

*1	Microphone Input Level Meter
*2	Recording Switch
*3	Stop Switch
*4	Play Switch
*5	Recording Indicator

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

Cellular Phone Registration Failure, Phone Directory Transfer Failure

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CURRENT CONDITIONS**

(a) Proceed to the next step according to the table below.

Result:

RESULT	PROCEED TO
Another "Bluetooth" compatible cellular phone is present.	A
Another "Bluetooth" compatible vehicle is present.	B
None of the above	C

C ▶ **CHECK CELLULAR PHONE**

B ▶ **CHECK USING ANOTHER "Bluetooth" COMPATIBLE VEHICLE**

A ▼

2.	**CHECK USING ANOTHER CELLULAR PHONE**

(a) Check if the system functions using another "Bluetooth" compatible cellular phone.

HINT:

- Confirm that either the same or a different version of another "Bluetooth" compatible cellular phone complies with the system.
- Depending on the version, some "Bluetooth" compatible cellular phones cannot be used.

OK:

The system functions.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **USE A "Bluetooth" COMPATIBLE CELLULAR PHONE**

3.	**CHECK USING ANOTHER "Bluetooth" COMPATIBLE VEHICLE**

cardiagn.com

(a) Register the cellular phone with another vehicle and check if the system functions normally.

HINT:

Depending on the version, some "Bluetooth" compatible cellular phones cannot be used.

OK:
The system functions.

NG ▶ **REPAIR OR REPLACE CELLULAR PHONE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

4.	**CHECK CELLULAR PHONE**

(a) Check if the cellular phone is "Bluetooth" compatible.

HINT:

Some versions of "Bluetooth" compatible cellular phones may not function.

OK:
The phone is "Bluetooth" compatible.

NG ▶ **USE A "Bluetooth" COMPATIBLE CELLULAR PHONE**

OK ▼

5.	**CHECK CELLULAR PHONE**

(a) Check if a call can be made from the cellular phone.

HINT:

When the battery is low, registration or directory transfer cannot be done.

OK:
A call can be made from the cellular phone.

NG ▶ **REPAIR OR REPLACE CELLULAR PHONE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

Cellular Phone cannot Send/Receive

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK "Bluetooth" SETTINGS**

(a) Check if the "Bluetooth" settings are correct.

OK:
"Bluetooth" settings are correct.

NG ▶ **SET SETTINGS CORRECTLY**

OK ▼

2.	**CHECK CELLULAR PHONE**

(a) Check if the cellular phone is "Bluetooth" compatible.

HINT:

Some versions of "Bluetooth" compatible cellular phones may not function.

OK:
The phone is "Bluetooth" compatible.

NG ▶ **END (ONLY A "Bluetooth" COMPATIBLE CELLULAR PHONE CAN BE USED)**

OK ▼

3.	**CHECK SETTINGS**

(a) Check the cellular phone functions.

HINT:

The cellular phone is unable to call under any of the following conditions:

- The cellular phone is locked

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Cellular Phone cannot Send/Receive (2010 Prius)

- The cellular phone is locked.
- The directory is being transferred.
- The line is crossed.
- Outside service range
- The power is off.
- The cellular phone is not connected to "Bluetooth" ("BT" is displayed while connected).

OK:

None of the above conditions exist.

NG ▶ **SET CORRECTLY**

OK ▼

4.	CHECK CELLULAR PHONE

(a) Check if the cellular phone can make a call.

HINT:

When the battery is low, calls cannot be made or received.

OK:

Cellular phone can make a call.

NG ▶ **REPAIR OR REPLACE CELLULAR PHONE**

OK ▼

5.	CHECK RECEPTION

(a) Set the cellular phone so that it can receive calls.

(b) Place the cellular phone close to the navigation receiver assembly.

(c) Check if the cellular phone has reception according to the navigation receiver assembly.

OK:

The cellular phone has reception.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

Cannot Call in a Certain Place

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK SURROUNDING CONDITIONS**

(a) Check if the cellular phone can make calls in a certain place.

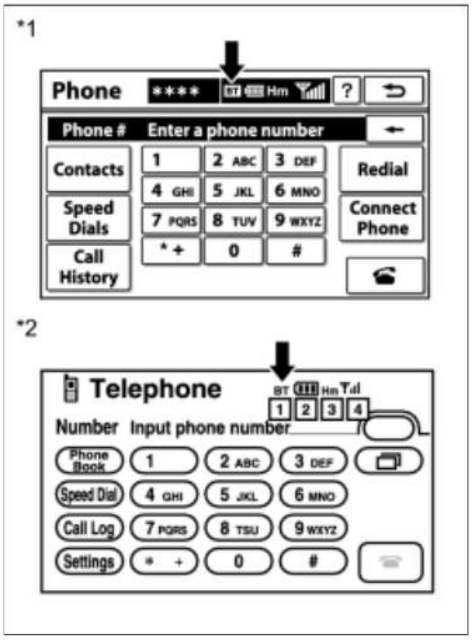
OK:

It can make calls.

NG ▶ **END (CELLULAR PHONES CAN ONLY FUNCTION IN CELLULAR SERVICE AREAS)**

OK ▼

2.	**CHECK RECEPTION**



(a) Display the "Phone" or "Telephone" screen and check the "Bluetooth" connection indicator ("BT" indicator).

Result:

RESULT	PROCEED TO
"BT" indicator color is yellow.	A
"BT" indicator color is blue.	B
No connection mark is displayed	C

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Cannot Call in a Certain Place (2010 Prius)

C ▶ **SELECT A REGISTERED CELLULAR PHONE OR REGISTER A "Bluetooth" COMPATIBLE PHONE**

B ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

A ▶ **MOVE CELLULAR PHONE TO A LOCATION WHERE "BT" MARK TURNS BLUE**

cardiagn.com

The Other Caller's Voice cannot be Heard, is too Quiet, or Distorted

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CELLULAR PHONE**

(a) Check if the voice on the other side can be heard using a cellular phone.

OK:

Voice can be heard.

NG ▶ **REPAIR OR REPLACE CELLULAR PHONE**

OK ▼

2.	**CHECK NAVIGATION SYSTEM**

(a) Check that navigation sound can be heard from the front speaker.

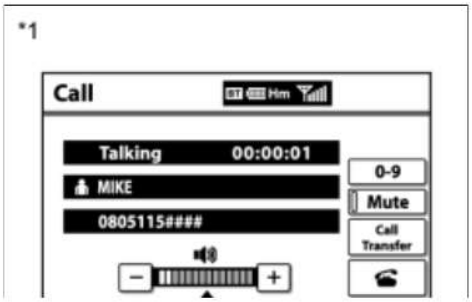
OK:

Sound can be heard from the navigation system.

NG ▶ **GO TO "VOICE GUIDANCE DOES NOT FUNCTION" IN PROBLEM SYMPTOMS TABLE**

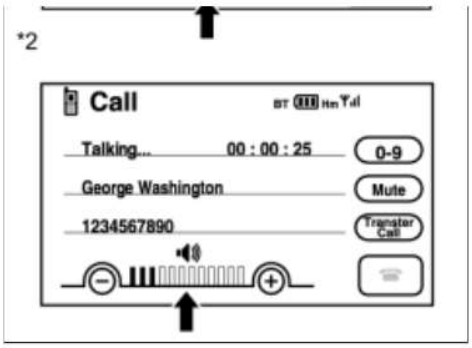
OK ▼

3.	**CHECK SETTINGS**



(a) Check if the volume level is set to low on the "Call" screen.

cardiagn.com



OK:
The level is not set to low.

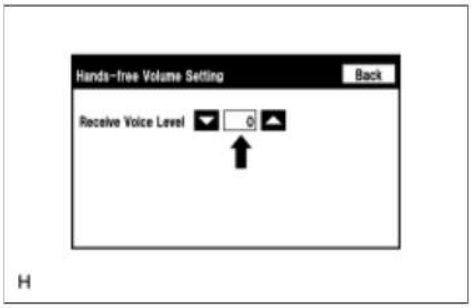
Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

NG ▶ **SET VOLUME TO HIGH**

OK ▼

4.	**CHECK SETTINGS (OPERATION CHECK)**



(a) Enter the "Hands-free Volume Setting" screen. Refer to Check Hands-free Volume Setting in Operation Check INFO .

(b) Check if the Receive Voice Level is set to "0".

HINT:

The Receive Voice Level can be set to 11 different levels, -5 to +5, with a 3 dB difference.

(c) Check if the Receive Voice Level is set to the minimum or maximum level.

HINT:

When the Receive Voice Level is set to the minimum or maximum level, the sound may be distorted.

OK:
The Receive Voice Level is set to "0".

NG ▶ **SET RECEIVE VOICE LEVEL TO "0"**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: The Other Caller's Voice cannot be Heard, is too Quiet, or Distorted (2010 Prius)

PROBLEM SYMPTOMS TABLE

cardiagn.com

The Other Caller cannot Hear Your Voice, or Your Voice is too Quiet or Distorted

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CELLULAR PHONE**

(a) Check if the other caller can hear your voice correctly.

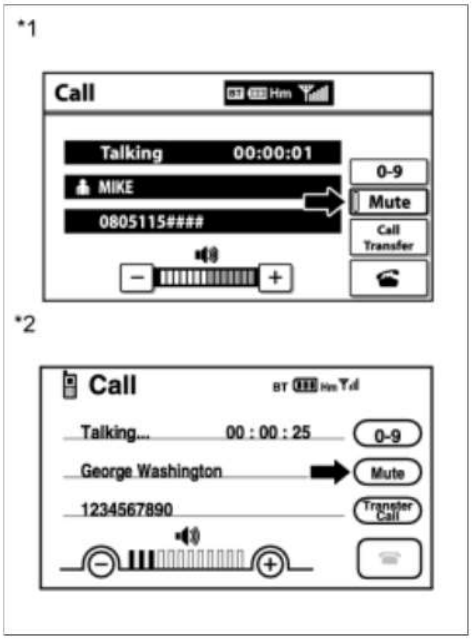
OK:

Your voice can be heard correctly.

NG ▶ **REPLACE CELLULAR PHONE**

OK ▼

2.	**CHECK SETTINGS**



(a) Check if the Mute switch is set to on.

OK:

Mute switch is not set to on.

Text in Illustration

*1	Example (w/ "Bluetooth" Audio System)
*2	Example (w/o "Bluetooth" Audio System)

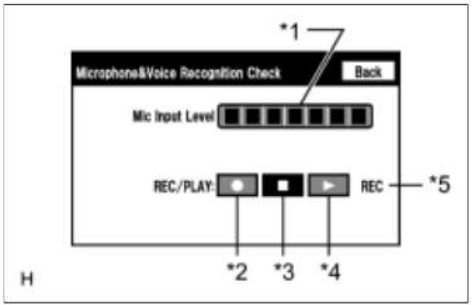
NG ▶ **TURN MUTE SWITCH OFF**

cardiagn.com

TURN MUTE SWITCH OFF

OK

3.	CHECK MICROPHONE AND VOICE RECOGNITION (OPERATION CHECK)



(a) Enter the "Microphone & Voice Recognition Check" screen. Refer to Check Mic & Voice Recognition in Operation Check INFO .

(b) When voice is input into the microphone, check that the microphone input level meter changes according to the input voice.

(c) Push the recording switch and perform voice recording.

HINT:

- Select the recording switch with the blower motor of the air conditioning system stopped. If an outlet of the air conditioning system is facing the microphone, noise may be recorded.
- Voice can be recorded up to 5 seconds.

(d) Check that the recording indicator remains on while recording and that the recorded voice is played normally without noise or distortion.

OK:

All check results are normal.

Text in Illustration

*1	Microphone Input Level Meter
*2	Recording Switch
*3	Stop Switch
*4	Play Switch
*5	Recording Indicator

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

Sound of Portable Player cannot be Heard from Speakers or Sound is Low

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK PORTABLE PLAYER SETTINGS**

(a) Check the portable player settings.

(1) Check that the volume is not set to "0".

(2) Check that the mute is off.

(b) Check that the sound of the portable player can be heard from the speakers.

OK:

Sound of the portable player can be heard from the speakers.

NG ▶ **CHECK AUDIO SETTINGS**

OK ▶ **END**

2.	**CHECK AUDIO SETTINGS**

(a) Check the audio settings.

(1) Check that the volume is not set to "0".

(b) Check that the sound of the portable player can be heard from the speakers.

OK:

Sound of the portable player can be heard from the speakers.

NG ▶ **CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL**

OK ▶ **END**

3.	**CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL**

(a) Check that the sound of the portable player can be heard from the speakers on another "Bluetooth" audio compatible vehicle of the same model.

OK:

Sound of the portable player can be heard from the speakers.

NG ▶ **MALFUNCTION IN PORTABLE PLAYER**

cardiagn.com

	MALFUNCTION IN PORTABLE PLAYER
OK	PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

cardiagn.com

Does not Play even after Bluetooth Audio Mode is Selected

INSPECTION PROCEDURE

HINT:

Even if the portable player can play audio content, it may not be able to play via the in-vehicle device. This does not necessarily indicate a malfunction of the in-vehicle device.

PROCEDURE

1.	CHECK OPERATION

(a) Check if the portable player operates normally.

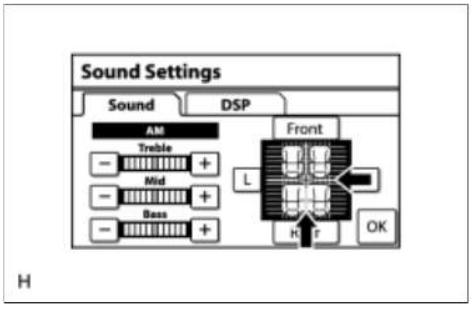
OK:

The portable player operates normally.

NG ▶ MALFUNCTION IN PORTABLE PLAYER

OK ▼

2.	CHECK AUDIO SETTINGS



(a) Enter the "Sound Settings" screen by pressing the "Sound" switch on the audio display.

(b) Set volume, fader and balance to the initial values and check that sound is normal.

OK:

Audio system returns to normal.

HINT:

Sound quality adjustment measures vary according to the type of the amplifier.

NG ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

OK

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Does not Play even after Bluetooth Audio Mode is Selected (2010 Prius)

OK

3.	**CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL**

(a) Check if the "Bluetooth" audio player plays normally on another "Bluetooth" audio compatible vehicle of the same model.

OK:

"Bluetooth" audio plays normally.

NG ▶ **MALFUNCTION IN PORTABLE PLAYER**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

Noise Occurs or Sound Skips when Portable Player Plays

INSPECTION PROCEDURE

HINT:

- Perform this check with the portable player volume set at an appropriate level.
- Make sure there are no obstructions between the portable player and navigation receiver assembly that may block signals, and that the portable player and radio receiver assembly are not excessively far apart.
- Make sure devices other than the navigation receiver assembly are not connected to the portable player.
- Make sure there is no interference from a wireless LAN, etc.

PROCEDURE

1.	CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL

(a) Check that the same problem does not occur in the sound heard from the speakers on another "Bluetooth" audio compatible vehicle of the same model.

OK:

The same problem does not occur in the sound heard from the speakers.

NG ▶ MALFUNCTION IN PORTABLE PLAYER

OK ▼

2.	REMOVE ADDITIONAL DEVICES WHICH USE RADIO WAVES

(a) Remove additional devices which use radio waves.

(b) Play the portable player and check that the same problem does not occur in the sound heard from the speakers.

OK:

The same problem does not occur in the sound heard from the speakers.

NG ▶ PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

OK ▶ END

cardiagn.com

Portable Player cannot be Connected Manually/Automatically

INSPECTION PROCEDURE

HINT:

Some versions of "Bluetooth" compatible audio players may not function, or the function may be limited using the navigation receiver assembly, even if the portable audio player itself can play files INFO **.**

PROCEDURE

1.	CHECK CONNECTED DEVICE SETTINGS



(a) Display the "Select Portable Player" screen and check if the portable player is registered as a connected device.

NOTICE:

If a cellular phone is used as a portable player, it must be registered independently from the registration that is performed for the hands-free system.

HINT:

Only 2 portable players can be registered.

Result:

RESULT	PROCEED TO
The portable player is registered as a connected device.	A
The portable player is not registered as a connected device.	B

B ▶ **REGISTER PORTABLE PLAYER AS CONNECTED DEVICE**

A ▼

2.	CHECK SYMPTOMS

(a) Check the connection condition between the portable player and navigation receiver assembly.

The portable player cannot be connected under any of the following conditions:

- The portable player is connected to another device.
- The portable player is connected to the navigation receiver assembly using the hands-free function.
- The navigation receiver assembly has cleared the portable player registration.

cardiagn.com

- The portable player is off.

Result:

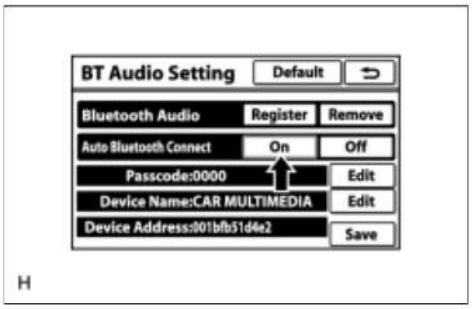
RESULT	PROCEED TO
The portable player cannot be connected manually.	A
The portable player cannot connect automatically.	B

B ▶ **CHECK PORTABLE PLAYER STATUS**

A ▼

3.	CHECK AUTOMATIC CONNECTION SETTINGS

(a) Display the "BT Audio Setting" screen and check automatic connection settings of the "Bluetooth" audio.



(1) Check if "On" is displayed for "Auto Bluetooth Connect" on the "BT Audio Setting" screen.

OK:

"On" is displayed for "Auto Bluetooth Connect".

NG ▶ **CHANGE AUTO BLUETOOTH CONNECT TO "On"**

OK ▼

4.	CHECK PORTABLE PLAYER STATUS

(a) Check the status of the portable player.

(1) Check that the portable player is in standby mode.

(2) Check that the portable player is not connected to another device (headphones etc.).

OK:

The portable player is in standby mode and not connected to another device (headphones etc.).

NG ▶ **CHANGE PORTABLE PLAYER TO STANDBY MODE AND**

cardiagn.com

NG ▶ **DISCONNECT OTHER DEVICES (HEADPHONES etc.)**

OK ▼

5.	**CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL**

(a) Check if the portable player can be connected manually/automatically on another "Bluetooth" audio compatible vehicle of the same model.

OK:

The portable player can be connected manually/automatically.

NG ▶ **PORTABLE PLAYER IS NOT COMPATIBLE**

OK ▼

6.	**REMOVE ADDITIONAL DEVICES WHICH USE RADIO WAVES**

(a) Remove additional devices which use radio waves.

(b) Check if the portable player can be connected manually/automatically.

OK:

The portable player can be connected manually/automatically.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Registered Device cannot be Deleted (2010 Prius)

Registered Device cannot be Deleted

INSPECTION PROCEDURE

PROCEDURE

1.	**DELETE OPERATION**

(a) Check if a registered portable player can be deleted normally.

OK:

Registered portable player can be deleted normally.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

cardiagn.com

Portable Player cannot be Registered

INSPECTION PROCEDURE

HINT:

Some versions of "Bluetooth" compatible audio players may not function, or the function may be limited using the navigation receiver assembly, even if the portable audio player itself can play files INFO **.**

PROCEDURE

1.	**CHECK THAT PORTABLE PLAYER IS "Bluetooth" AUDIO COMPATIBLE**

(a) Check if the portable player is "Bluetooth" audio compatible.

Result:

RESULT	PROCEED TO
The portable player is "Bluetooth" audio compatible.	A
The portable player is not "Bluetooth" audio compatible.	B

B ▶ **USE A "Bluetooth" AUDIO COMPATIBLE PORTABLE PLAYER**

A ▼

2.	**CHECK CONNECTION PROCEDURE OF CONNECTED DEVICE**

(a) Referring to the owner's manual, correctly register the portable player.

(b) Check that the portable player has been registered as a connected device.

The portable player cannot be registered under any of the following conditions:

- The A2DP (Advanced Audio Distribution Profile) is not used when registering a cellular phone.
- A different portable player registration remains in the navigation receiver assembly.
- A different navigation receiver assembly registration remains in the portable player.
- The portable player is off.

OK:

The portable player has been registered as a connected device.

NG ▶ **CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL**

cardiagn.com

OK ▶ **END**

3.	**CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL**

(a) Check if the portable player can be registered normally on another "Bluetooth" audio compatible vehicle of the same model.

OK:

The portable player can be registered.

NG ▶ **MALFUNCTION IN PORTABLE PLAYER**

OK ▼

4.	**REMOVE ADDITIONAL DEVICES WHICH USE RADIO WAVES**

(a) Remove additional devices which use radio waves.

(b) Check that the portable player can be registered as a connected device.

OK:

The portable player can be registered.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

cardiagn.com

Black Screen

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK DISPLAY SETTING**

(a) Check that the display is not in "Screen OFF" mode.

OK:

The display setting is not in "Screen OFF" mode.

NG ▶ **CHANGE SCREEN TO "SCREEN ON" MODE**

OK ▼

2.	**CHECK IMAGE QUALITY SETTING**

(a) Check that the screen color quality can be set.

OK:

Setting is possible.

NG ▶ **CHECK CABIN**

OK ▶ **PRESS PANEL SWITCH "DISPLAY" AND SET SCREEN COLOR QUALITY TO NORMAL**

3.	**CHECK CABIN**

(a) Check that condensation is not likely to occur in the cabin, and that the temperature is not high or extremely low in the cabin.

HINT:

- A humid cabin and a rapid change in temperature may lead to condensation. Condensation in the cabin may cause a short circuit.
- The appropriate cabin temperature is 20 to 30°C (68 to 86°F).

OK:

Condensation is not likely being produced and the temperature is not high or extremely low.

NG ▶ **SET CABIN TO APPROPRIATE TEMPERATURE**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Black Screen (2010 Prius)

OK	▶ PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Steering Pad Switch Circuit (2010 Prius)

Steering Pad Switch Circuit

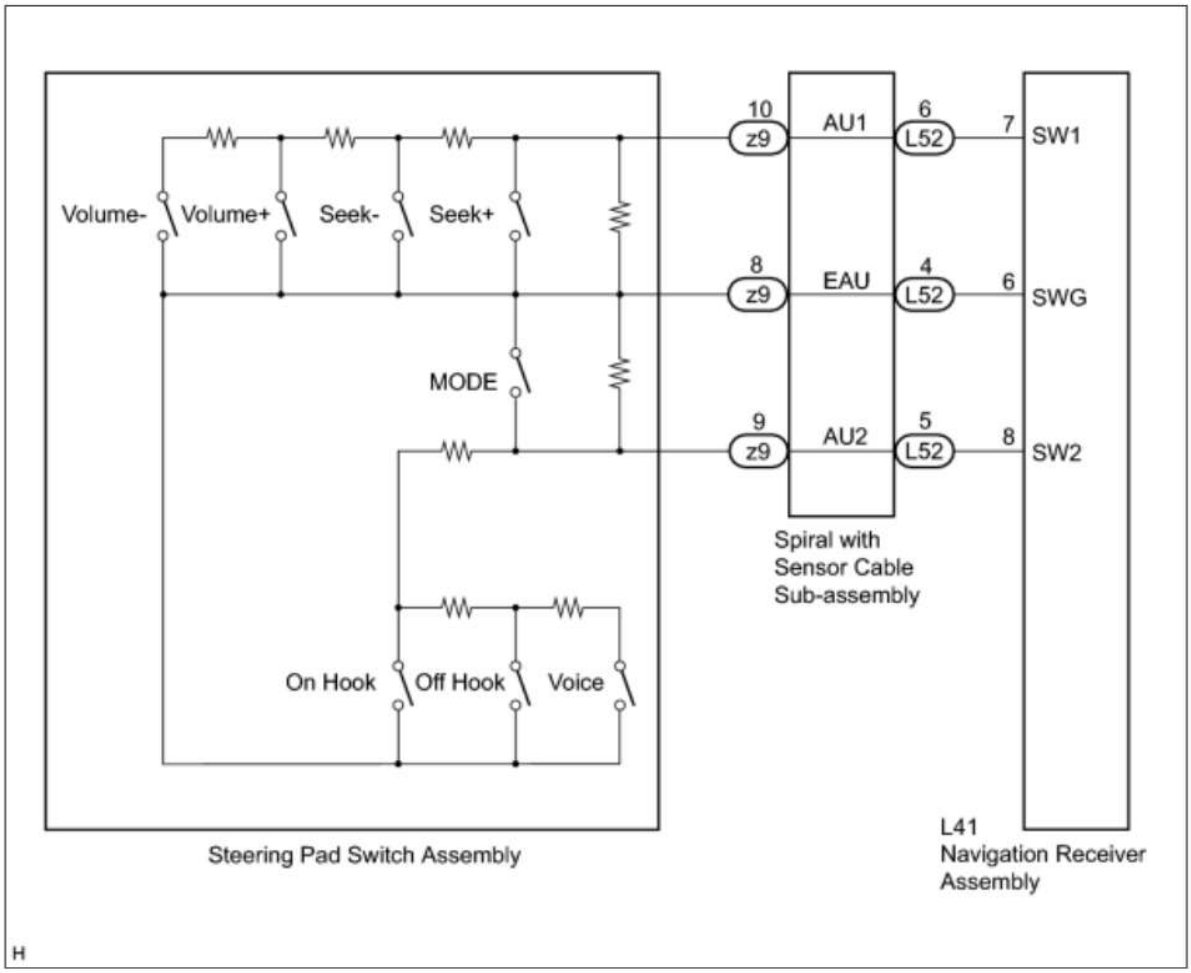
DESCRIPTION

This circuit sends an operation signal from the steering pad switch assembly to the navigation receiver assembly.

If there is an open in the circuit, the navigation system cannot be operated using the steering pad switch assembly.

If there is a short in the circuit, the resulting condition is the same as to if the switch were continuously pressed. Therefore, the navigation receiver assembly cannot be operated using the steering pad switch assembly, and the navigation receiver assembly itself cannot function.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

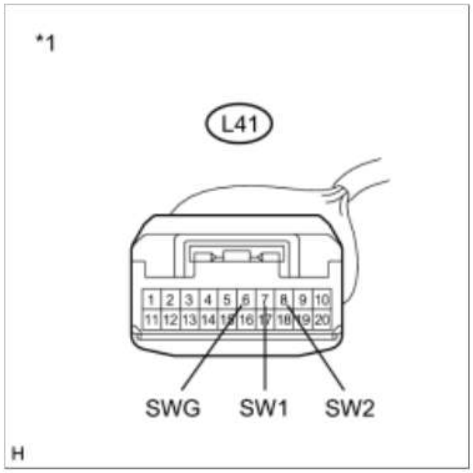
The vehicle is equipped with an SRS (Supplemental Restraint System). Before servicing (including removal or installation of parts), be sure to read the precaution for Supplemental Restraint System INFO .

PROCEDURE

1.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Steering Pad Switch Circuit (2010 Prius)



(a) Disconnect the L41 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
L41-7 (SW1) - L41-6 (SWG)	No switch pushed	95 to 105 kΩ
L41-7 (SW1) - L41-6 (SWG)	Seek+ switch pushed	Below 2.5 Ω
L41-7 (SW1) - L41-6 (SWG)	Seek- switch pushed	323 to 335 Ω
L41-7 (SW1) - L41-6 (SWG)	Volume+ switch pushed	980 to 1020 Ω
L41-7 (SW1) - L41-6 (SWG)	Volume- switch pushed	3048 to 3172 Ω
L41-8 (SW2) - L41-6 (SWG)	No switch pushed	95 to 105 kΩ
L41-8 (SW2) - L41-6 (SWG)	MODE switch pushed	Below 2.5 Ω
L41-8 (SW2) - L41-6 (SWG)	Voice switch pushed	3048 to 3172 Ω
L41-8 (SW2) - L41-6 (SWG)	On Hook switch pushed	323 to 335 Ω
L41-8 (SW2) - L41-6 (SWG)	Off Hook switch pushed	980 to 1020 Ω

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)

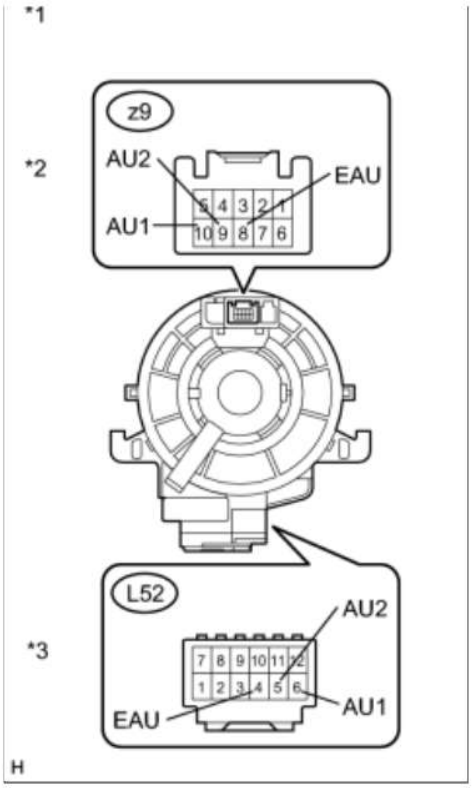
NG ▶ **INSPECT SPIRAL WITH SENSOR CABLE SUB-ASSEMBLY**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**INSPECT SPIRAL WITH SENSOR CABLE SUB-ASSEMBLY**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Steering Pad Switch Circuit (2010 Prius)



(a) Disconnect the steering pad switch assembly and spiral with sensor cable sub-assembly connectors.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
z9-8 (EAU) - L52-4 (EAU)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	
z9-10 (AU1) - L52-6 (AU1)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	
z9-9 (AU2) - L52-5 (AU2)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	

NOTICE:

The spiral with sensor cable sub-assembly is an important part of the SRS airbag system. Incorrect removal or installation of the spiral with sensor cable sub-assembly may prevent the airbag from deploying. Refer to the pages shown in the brackets.

HINT:

- Removal INFO
- Installation INFO

Text in Illustration

*1	Component without harness connected (Spiral with Sensor Cable Sub-assembly)

cardiagn.com

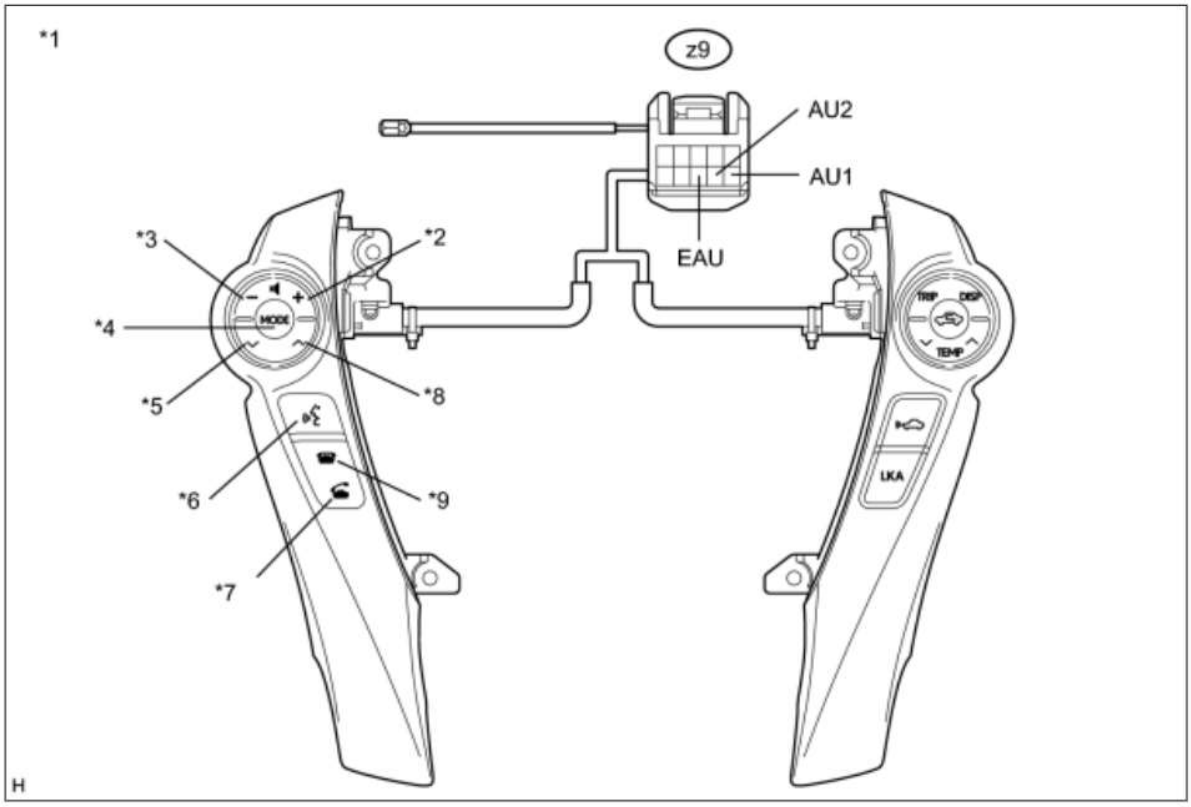
*2	Steering Pad Switch Assembly Side
*3	Vehicle Side

NG ▶ **REPLACE SPIRAL WITH SENSOR CABLE SUB-ASSEMBLY**

OK ▼

3.	**INSPECT STEERING PAD SWITCH ASSEMBLY**

(a) Disconnect the z9 steering pad switch assembly connector.



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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
z9-10 (AU1) - z9-8 (EAU)	No switch pushed	95 to 105 kΩ
z9-10 (AU1) - z9-8 (EAU)	Seek+ switch pushed	Below 2.5 Ω
z9-10 (AU1) - z9-8 (EAU)	Seek- switch pushed	323 to 335 Ω
z9-10 (AU1) - z9-8 (EAU)	Volume+ switch pushed	980 to 1020 Ω
z9-10 (AU1) - z9-8 (EAU)	Volume- switch pushed	3048 to 3172 Ω

cardiagn.com

z9-9 (AU2) - z9-8 (EAU)	No switch pushed	95 to 105 kΩ
z9-9 (AU2) - z9-8 (EAU)	MODE switch pushed	Below 2.5 Ω
z9-9 (AU2) - z9-8 (EAU)	Voice switch pushed	3048 to 3172 Ω
z9-9 (AU2) - z9-8 (EAU)	On Hook switch pushed	323 to 335 Ω
z9-9 (AU2) - z9-8 (EAU)	Off Hook switch pushed	980 to 1020 Ω

Text in Illustration

*1	Component without harness connected (Steering Pad Switch Assembly)	*2	Volume+
*3	Volume-	*4	MODE
*5	Seek-	*6	Voice Switch
*7	Off Hook	*8	Seek+
*9	On Hook	-	-

NG ▶ **REPLACE STEERING PAD SWITCH ASSEMBLY**

OK ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (NAVIGATION RECEIVER - SPIRAL WITH SENSOR CABLE)**

cardiagn.com

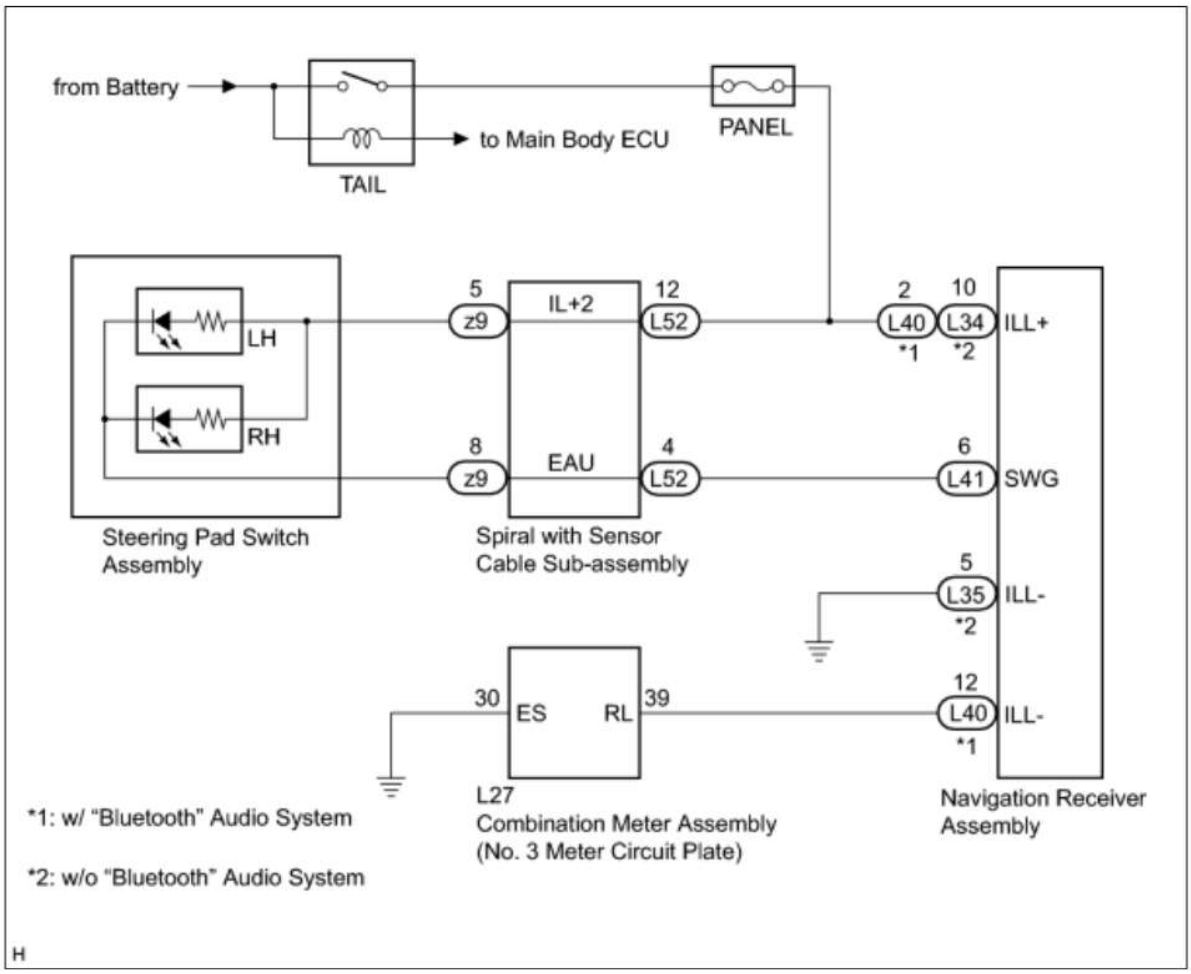
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Illumination Circuit (2010 Prius)

Illumination Circuit

DESCRIPTION

Power is supplied to the navigation receiver assembly and steering pad switch illumination when the light control switch is in the tail or head position.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- Inspect the fuses for circuits related to this system before performing the following inspection procedure.
- The vehicle is equipped with an SRS (Supplemental Restraint System). Before servicing (including removal or installation of parts), be sure to read the precaution for Supplemental Restraint System INFO .

PROCEDURE

1.	**CHECK ILLUMINATION**

(a) Check if the illumination for the navigation receiver assembly, steering pad switch assembly, glove box

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Illumination Circuit (2010 Prius)

(a) Check if the illumination for the navigation receiver assembly, steering pad switch assembly, glove box or others (hazard switch, transmission control switch, etc.) comes on when the light control switch is turned to the tail or head position.

Result:

RESULT	PROCEED TO
Illumination comes on for all components except steering pad switch assembly.	A
Illumination comes on for all components except navigation receiver assembly.	B
Illumination comes on for all components except navigation receiver assembly and steering pad switch assembly. (w/ "Bluetooth" Audio System)	C
Illumination comes on for all components except navigation receiver assembly and steering pad switch assembly. (w/o "Bluetooth" Audio System)	D
No illumination comes on (navigation receiver assembly, steering pad switch assembly, hazard switch, glove box, etc.).	E

E ▶ **GO TO LIGHTING SYSTEM**

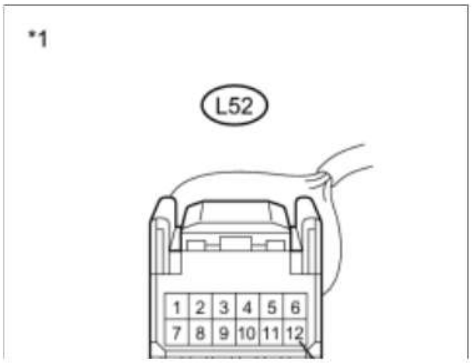
D ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - BODY GROUND)**

C ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - COMBINATION METER ASSEMBLY)**

B ▶ **CHECK HARNESS AND CONNECTOR (BATTERY - NAVIGATION RECEIVER ASSEMBLY)**

A ▼

2.	**CHECK HARNESS AND CONNECTOR (BATTERY - SPIRAL WITH SENSOR CABLE SUB-ASSEMBLY)**



(a) Disconnect the L52 spiral with sensor cable sub-assembly connector.

cardiagn.com



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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L52-12 (IL+2) - Body ground	Light control switch in tail or head	11 to 14 V

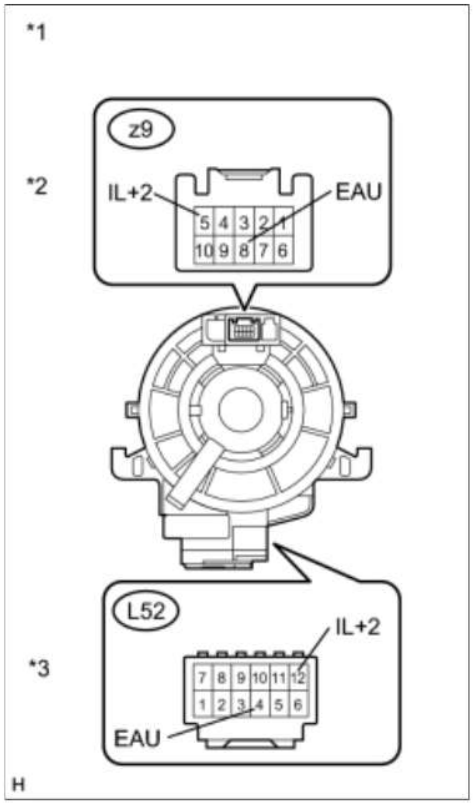
Text in Illustration

*1	Front view of wire harness connector (to Spiral with Sensor Cable Sub-assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT SPIRAL WITH SENSOR CABLE SUB-ASSEMBLY**



(a) Disconnect the steering pad switch assembly and spiral with sensor cable sub-assembly connectors.

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

cardiagn.com

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
z9-8 (EAU) - L52-4 (EAU)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	
z9-5 (IL+2) - L52-12 (IL+2)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	

NOTICE:

The spiral with sensor cable sub-assembly is an important part of the SRS airbag system. Incorrect removal or installation of the spiral with sensor cable sub-assembly may prevent the airbag from deploying. Refer to the pages shown in the brackets.

HINT:

- Removal INFO
- Installation INFO

Text in Illustration

*1	Component without harness connected (Spiral with Sensor Cable Sub-assembly)
*2	Steering Pad Switch Assembly Side
*3	Vehicle Side

NG ▶ **REPLACE SPIRAL WITH SENSOR CABLE SUB-ASSEMBLY**

OK ▼

4.	**CHECK HARNESS AND CONNECTOR (SPIRAL WITH SENSOR CABLE - NAVIGATION RECEIVER)**

*1



(a) Disconnect the L41 navigation receiver assembly.

cardiagn.com





(b) Disconnect the L52 spiral with sensor cable sub-assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L41-6 (SWG) - L52-4 (EAU)	Always	Below 1 Ω
L41-6 (SWG) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Spiral with Sensor Cable Sub-assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

5.	**INSPECT STEERING PAD SWITCH ASSEMBLY**

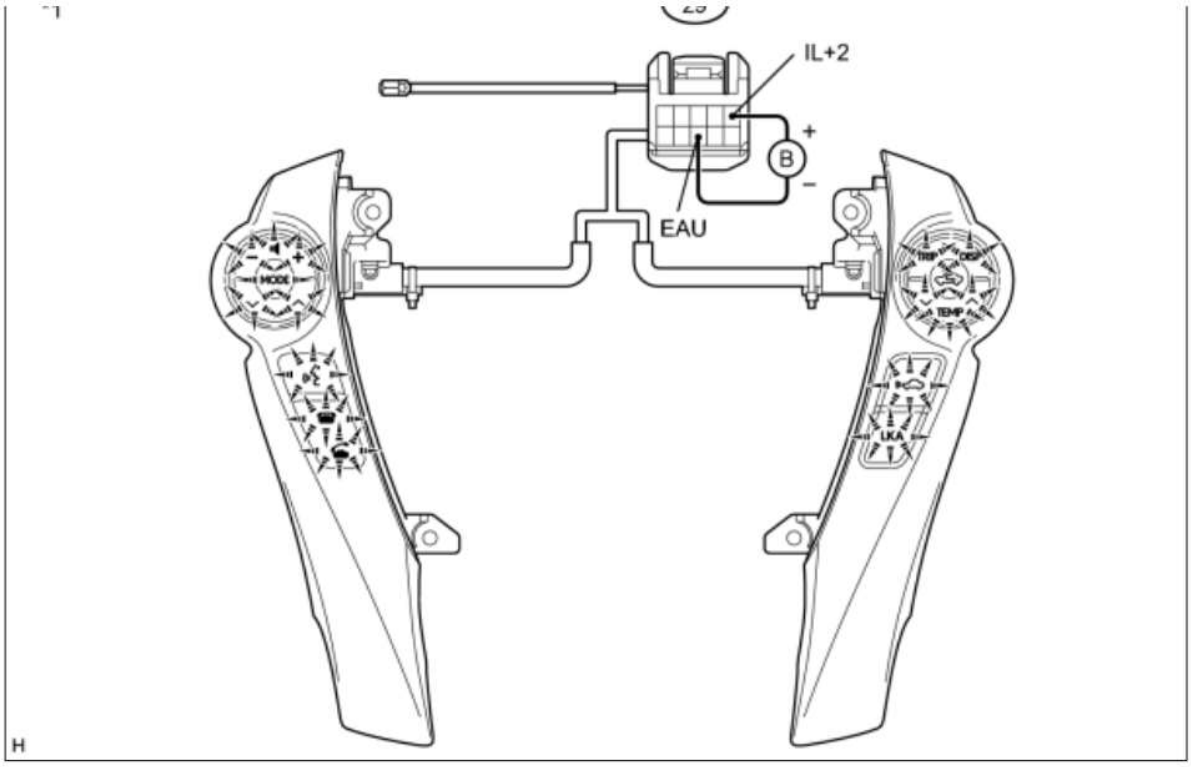
(a) Disconnect the z9 steering pad switch assembly connector.

(b) Connect a positive (+) lead from the battery to terminal IL+2 and a negative (-) lead to terminal EAU of the steering pad switch assembly connector.



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Illumination Circuit (2010 Prius)



(c) Check if the illumination for the steering pad switch comes on.

OK:

Illumination for the steering pad switch comes on.

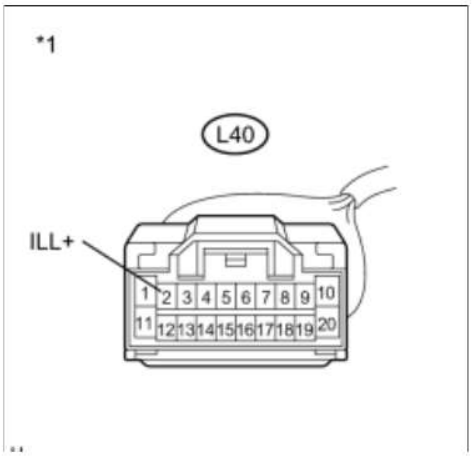
Text in Illustration

*1	Component without harness connected (Steering Pad Switch Assembly)	-	-

NG ▶ **REPLACE STEERING PAD SWITCH ASSEMBLY**

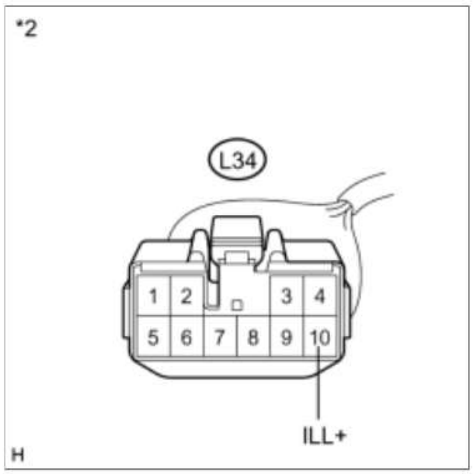
OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

6.	**CHECK HARNESS AND CONNECTOR (BATTERY - NAVIGATION RECEIVER ASSEMBLY)**



(a) Disconnect the L40 navigation receiver assembly connector (w/ "Bluetooth" Audio System).

cardiagn.com



(b) Disconnect the L34 navigation receiver assembly connector (w/o "Bluetooth" Audio System).

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L40-2 (ILL+) - Body ground*3	Light control switch in tail or head	11 to 14 V
L34-10 (ILL+) - Body ground*4	Light control switch in tail or head	11 to 14 V

Text in Illustration

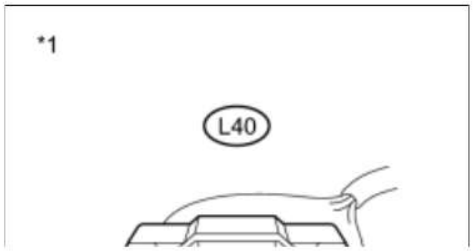
*1	Front view of wire harness connector (to Navigation Receiver Assembly)*3
*2	Front view of wire harness connector (to Navigation Receiver Assembly)*4

*3: w/ "Bluetooth" Audio System
*4: w/o "Bluetooth" Audio System

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

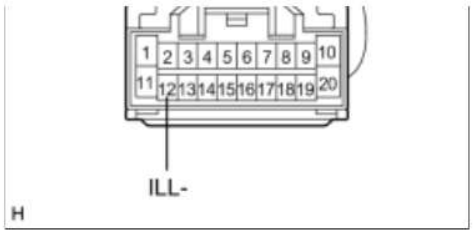
OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

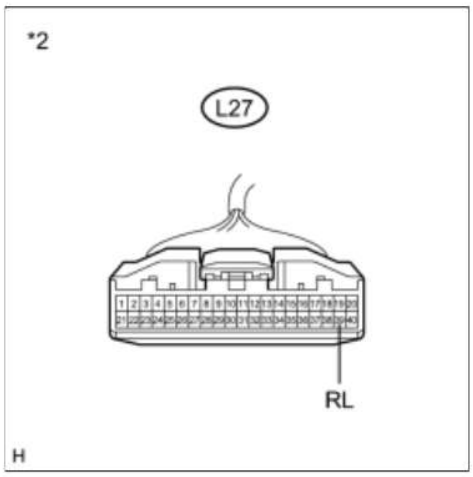
7.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - COMBINATION METER ASSEMBLY)**



(a) Disconnect the L40 navigation receiver assembly connector.

cardiagn.com





(b) Disconnect the L27 combination meter assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L40-12 (ILL-) - L27-39 (RL)	Always	Below 1 Ω
L40-12 (ILL-) - Body ground	Always	10 kΩ or higher

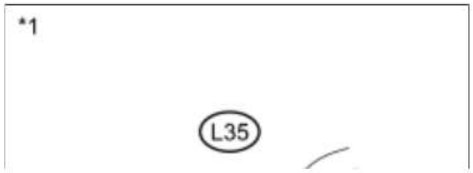
Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Combination Meter Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

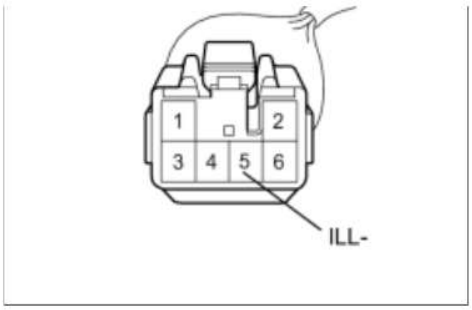
OK ▶ **GO TO METER / GAUGE SYSTEM**

8.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - BODY GROUND)**



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Illumination Circuit (2010 Prius)



(a) Disconnect the L35 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L35-5 (ILL-) - Body ground	Always	Below 1 Ω

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

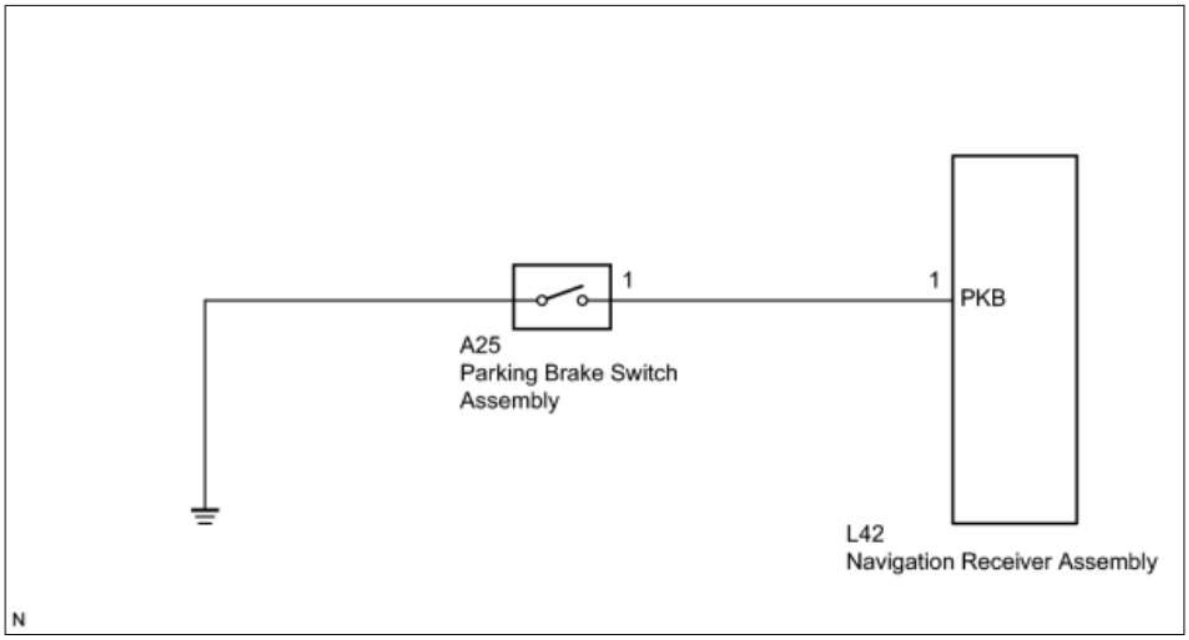
cardiagn.com

Parking Brake Switch Circuit

DESCRIPTION

This circuit is from the parking brake switch assembly to the navigation receiver assembly.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK BRAKE WARNING LIGHT

(a) Check that the brake warning light comes on when the parking brake is applied and goes off when it is released.

OK:

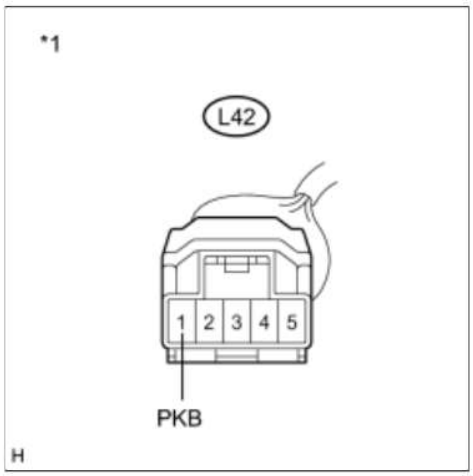
The brake warning light operates as specified above.

NG ▶ INSPECT PARKING BRAKE SWITCH ASSEMBLY

OK ▼

2.	CHECK HARNESS AND CONNECTOR (PARKING BRAKE SWITCH ASSEMBLY - NAVIGATION RECEIVER ASSEMBLY)

cardiagn.com



(a) Disconnect the L42 navigation receiver assembly connector.



(b) Disconnect the A25 parking brake switch assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L42-1 (PKB) - A25-1	Always	Below 1 Ω
L42-1 (PKB) - Body ground	Always	10 kΩ or higher

Text in Illustration

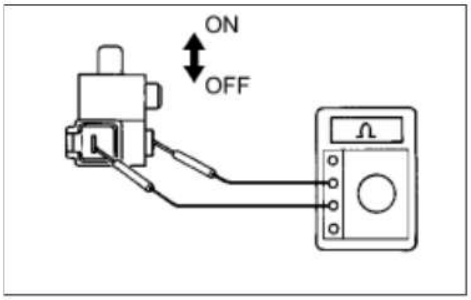
*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Parking Brake Switch Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

3.	**INSPECT PARKING BRAKE SWITCH ASSEMBLY**



(a) Disconnect the parking brake switch assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Switch connector - Switch body	ON (When shaft is not pressed)	Below 1 Ω
Switch connector - Switch body	OFF (When shaft is pressed)	10 kΩ or higher

NG ▶ **REPLACE PARKING BRAKE SWITCH ASSEMBLY**

OK ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Speaker Circuit (2010 Prius)

Speaker Circuit

DESCRIPTION

The sound signals amplified by the stereo component amplifier assembly are sent to the speakers from the stereo component amplifier assembly via the speaker circuit.

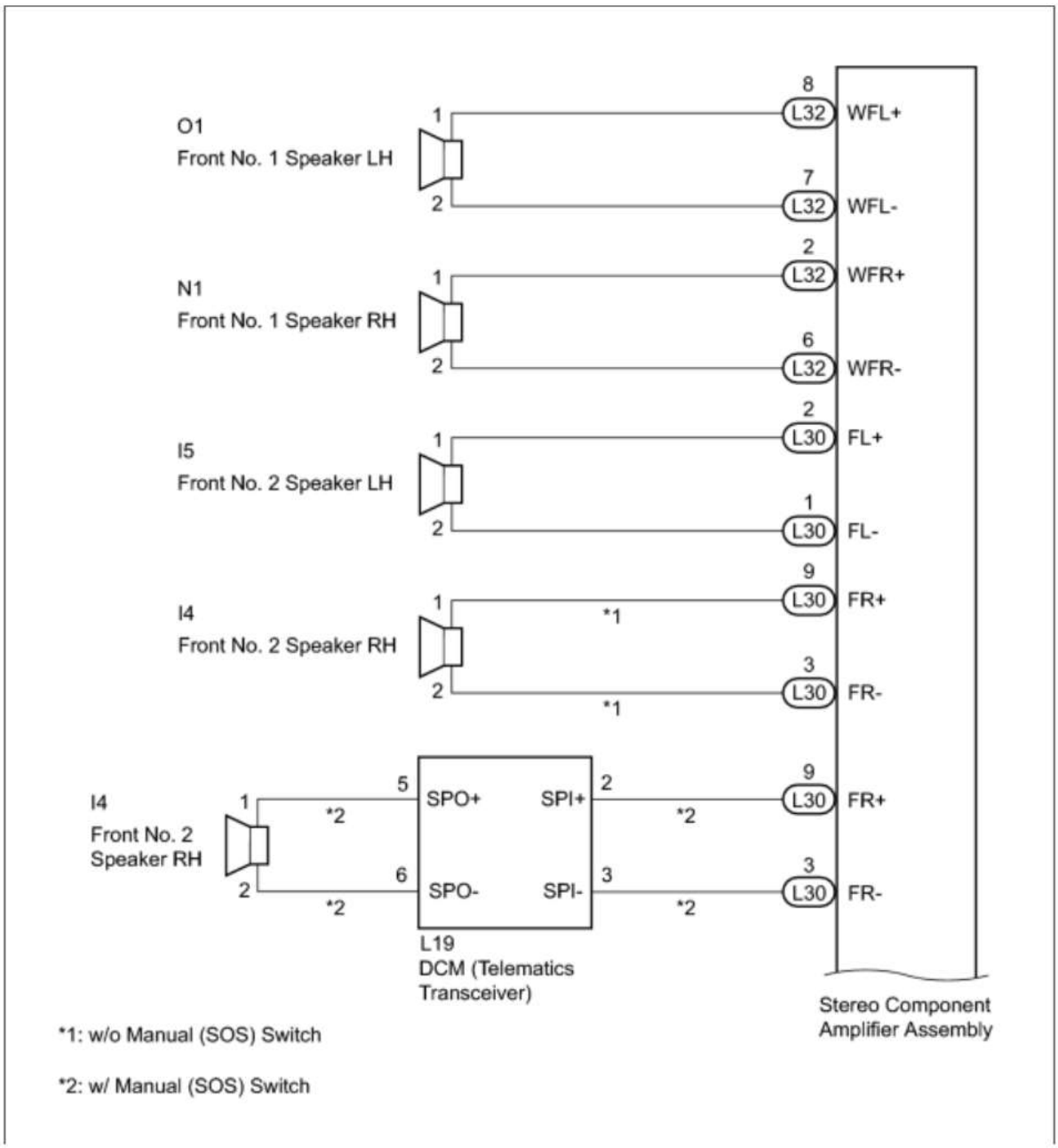
If there is a short in this circuit, the stereo component amplifier assembly detects it and stops output to the speakers.

Thus sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier assembly or speakers.

If a short is detected in the speaker circuit, no sound can be heard from the speakers.

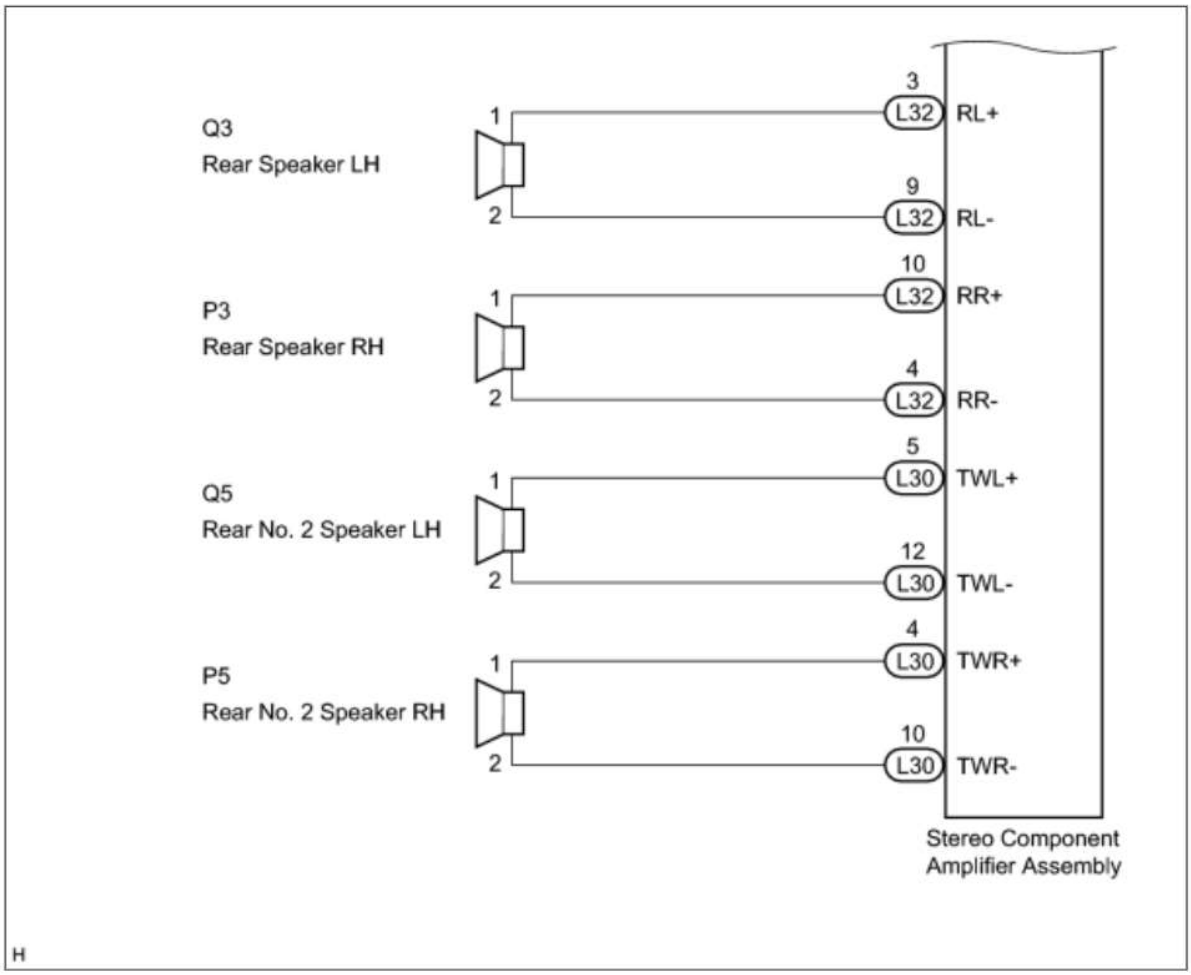
WIRING DIAGRAM

1. w/ "Bluetooth" Audio System

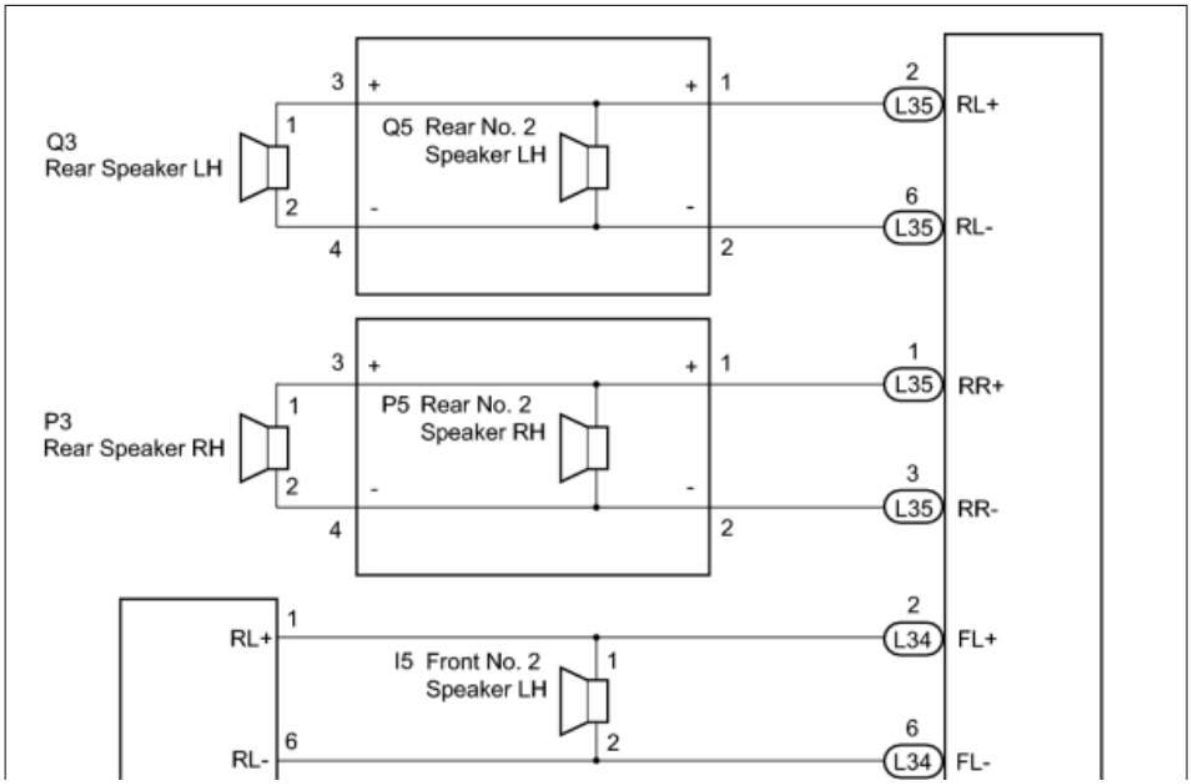


cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Speaker Circuit (2010 Prius)

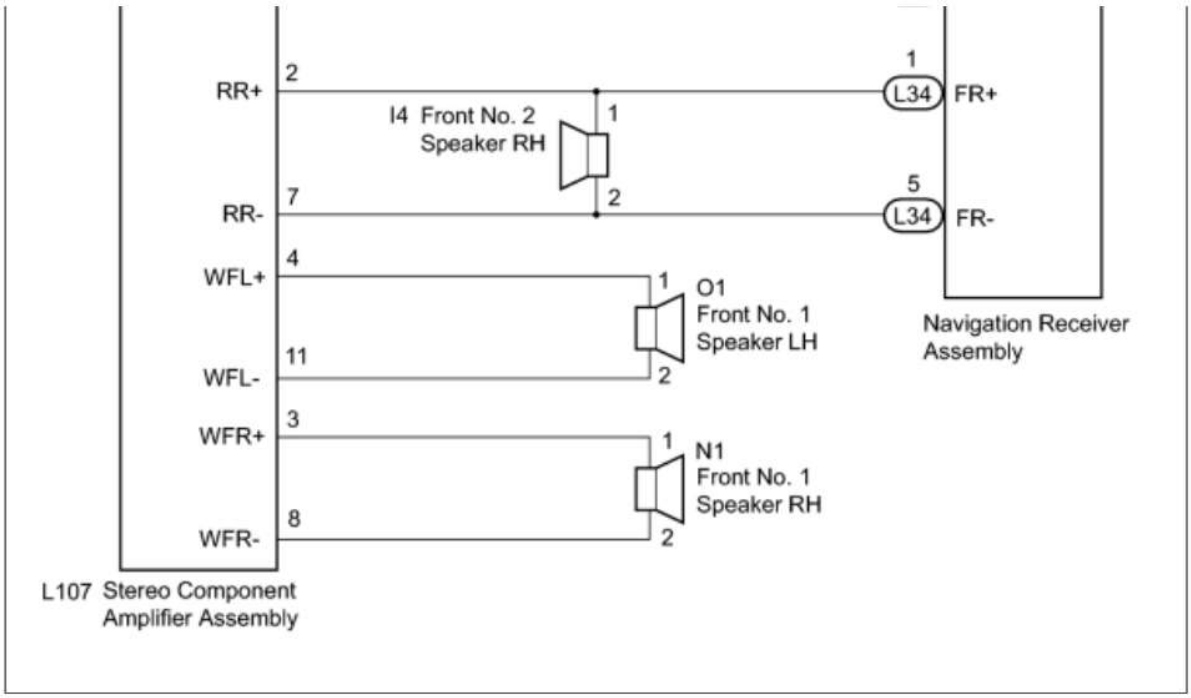


2. w/o "Bluetooth" Audio System



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Speaker Circuit (2010 Prius)



INSPECTION PROCEDURE

NOTICE:

If the DCM (telematics transceiver) has been replaced, perform the Activate DCM procedure using the Techstream INFO .

PROCEDURE

1.	**CONFIRM MODEL**

Result:

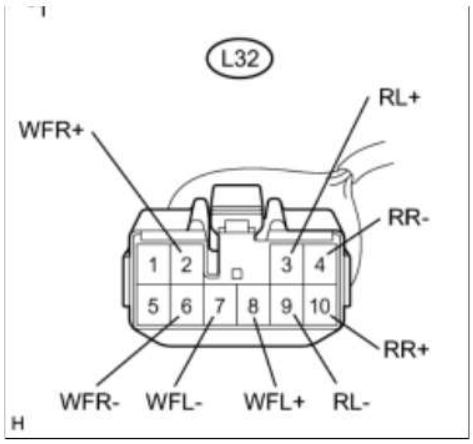
RESULT	PROCEED TO
w/ "Bluetooth" Audio System	A
w/o "Bluetooth" Audio System	B

B ▶ CHECK HARNESS AND CONNECTOR

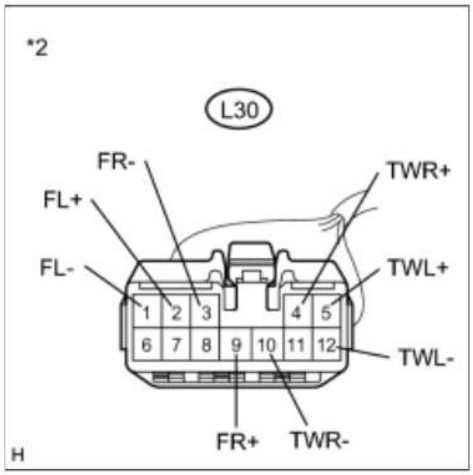
A

2.	**CHECK HARNESS AND CONNECTOR**

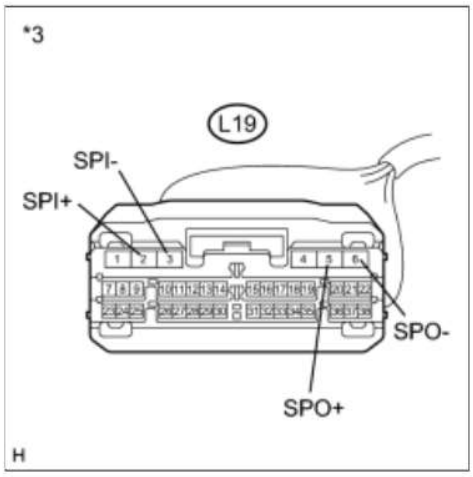
cardiagn.com



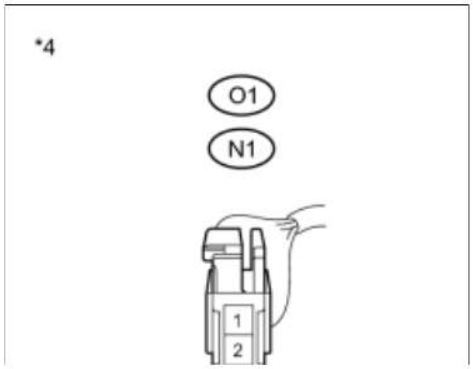
(a) Disconnect the L32 stereo component amplifier assembly connector.



(b) Disconnect the L30 stereo component amplifier assembly connector.

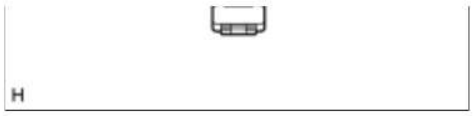


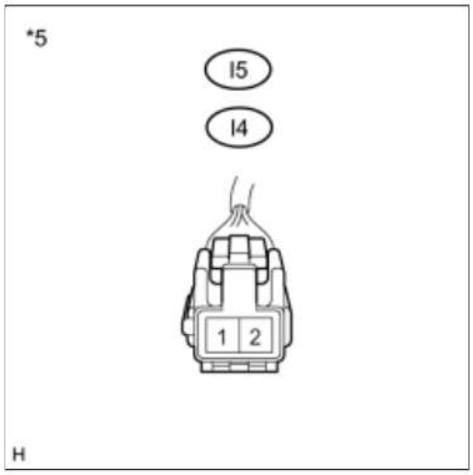
(c) Disconnect the L19 DCM (telematics transceiver) connector (w/ Manual (SOS) Switch).



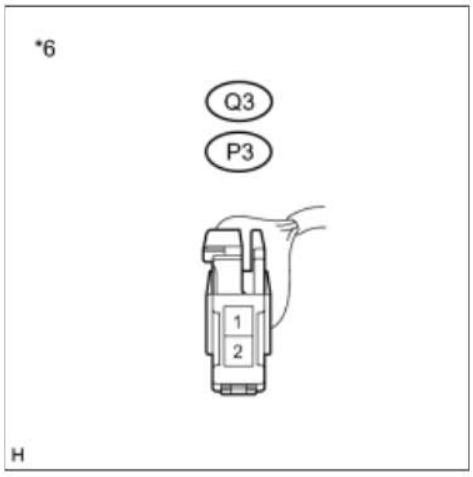
(d) Disconnect the O1 and N1 front No. 1 speaker connectors.

cardiagn.com

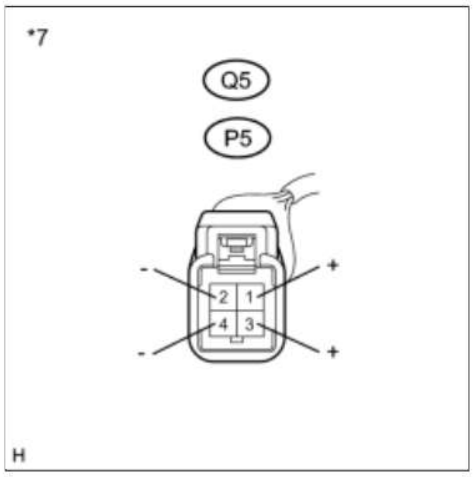




(e) Disconnect the I5 and I4 front No. 2 speaker connectors.



(f) Disconnect the Q3 and P3 rear speaker connectors.



(g) Disconnect the Q5 and P5 rear No. 2 speaker connectors.

(h) Measure the resistance between each of the front No. 1 speakers and the stereo component amplifier assembly to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION

cardiagn.com

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L32-8 (WFL+) - O1-1	Always	Below 1 Ω
L32-7 (WFL-) - O1-2	Always	Below 1 Ω
L32-2 (WFR+) - N1-1	Always	Below 1 Ω
L32-6 (WFR-) - N1-2	Always	Below 1 Ω
L32-8 (WFL+) - Body ground	Always	10 kΩ or higher
L32-7 (WFL-) - Body ground	Always	10 kΩ or higher
L32-2 (WFR+) - Body ground	Always	10 kΩ or higher
L32-6 (WFR-) - Body ground	Always	10 kΩ or higher

(i) w/o Manual (SOS) Switch:

Measure the resistance between each of the front No. 2 speakers and the stereo component amplifier assembly to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L30-2 (FL+) - I5-1	Always	Below 1 Ω
L30-1 (FL-) - I5-2	Always	Below 1 Ω
L30-9 (FR+) - I4-1	Always	Below 1 Ω
L30-3 (FR-) - I4-2	Always	Below 1 Ω
L30-2 (FL+) - Body ground	Always	10 kΩ or higher
L30-1 (FL-) - Body ground	Always	10 kΩ or higher
L30-9 (FR+) - Body ground	Always	10 kΩ or higher
L30-3 (FR-) - Body ground	Always	10 kΩ or higher

cardiagn.com

(j) w/ Manual (SOS) Switch:

Measure the resistance between the DCM (telematics transceiver) and the front No. 2 speaker RH to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-5 (SPO+) - I4-1	Always	Below 1 Ω
L19-6 (SPO-) - I4-2	Always	Below 1 Ω
L19-5 (SPO+) - Body ground	Always	10 kΩ or higher
L19-6 (SPO-) - Body ground	Always	10 kΩ or higher

(k) w/ Manual (SOS) Switch:

Measure the resistance between the DCM (telematics transceiver) and the stereo component amplifier assembly to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-2 (SPI+) - L30-9 (FR+)	Always	Below 1 Ω
L19-3 (SPI-) - L30-3 (FR-)	Always	Below 1 Ω
L19-2 (SPI+) - Body ground	Always	10 kΩ or higher
L19-3 (SPI-) - Body ground	Always	10 kΩ or higher

(l) w/ Manual (SOS) Switch:

Measure the resistance between the front No. 2 speaker LH and the stereo component amplifier assembly to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L30-2 (FL+) - I5-1	Always	Below 1 Ω
L30-1 (FL-) - I5-2	Always	Below 1 Ω
L30-2 (FL+) - Body ground	Always	10 kΩ or higher
L30-1 (FL-) - Body ground	Always	10 kΩ or higher

(m) Measure the resistance between each of the rear speakers and the stereo component amplifier assembly to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L32-3 (RL+) - Q3-1	Always	Below 1 Ω
L32-9 (RL-) - Q3-2	Always	Below 1 Ω
L32-10 (RR+) - P3-1	Always	Below 1 Ω
L32-4 (RR-) - P3-2	Always	Below 1 Ω
L32-3 (RL+) - Body ground	Always	10 kΩ or higher
L32-9 (RL-) - Body ground	Always	10 kΩ or higher
L32-10 (RR+) - Body ground	Always	10 kΩ or higher
L32-4 (RR-) - Body ground	Always	10 kΩ or higher

(n) Measure the resistance between each of the rear No. 2 speakers and the stereo component amplifier assembly to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L30-5 (TWL+) - Q5-1	Always	Below 1 Ω
L30-12 (TWL-) - Q5-2	Always	Below 1 Ω
L30-4 (TWR+) - P5-1	Always	Below 1 Ω
L30-10 (TWR-) - P5-2	Always	Below 1 Ω
L30-5 (TWL+) - Body ground	Always	10 kΩ or higher

cardiagn.com

L30-12 (TWL-) - Body ground	Always	10 kΩ or higher
L30-4 (TWR+) - Body ground	Always	10 kΩ or higher
L30-10 (TWR-) - Body ground	Always	10 kΩ or higher

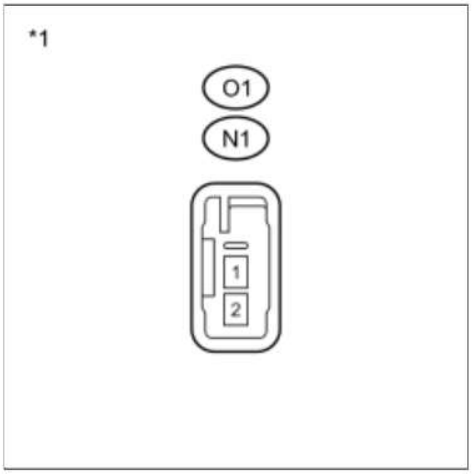
Text in Illustration

*1	Front view of wire harness connector (to Stereo Component Amplifier Assembly)
*2	Front view of wire harness connector (to Stereo Component Amplifier Assembly)
*3	Front view of wire harness connector (to DCM (Telematics Transceiver))
*4	Front view of wire harness connector (to Front No. 1 Speaker)
*5	Front view of wire harness connector (to Front No. 2 Speaker)
*6	Front view of wire harness connector (to Rear Speaker)
*7	Front view of wire harness connector (to Rear No. 2 Speaker)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT FRONT NO. 1 SPEAKER**



(a) Resistance check

(1) Measure the resistance between the terminals of the speaker.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
O1-1 - O1-2	Always	1.4 to 2.2 Ω
N1-1 - N1-2	Always	1.4 to 2.2 Ω

NOTICE:

The speaker should not be removed to check resistance.

Text in Illustration

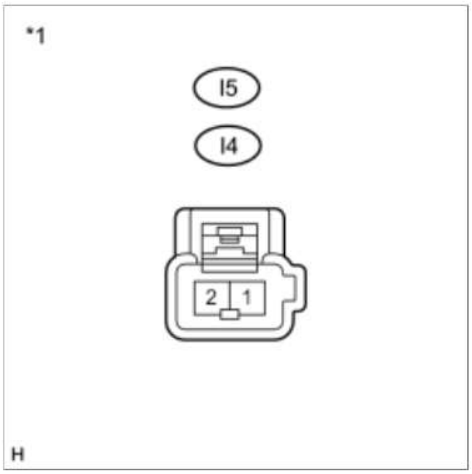
cardiagn.com

*1	Component without harness connected (Front No. 1 Speaker)

NG ▶ **REPLACE FRONT NO. 1 SPEAKER**

OK ▼

4.	**INSPECT FRONT NO. 2 SPEAKER**



(a) Resistance check

(1) Measure the resistance between the terminals of the speaker.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I5-1 - I5-2	Always	1.5 to 2.5 Ω
I4-1 - I4-2	Always	1.5 to 2.5 Ω

NOTICE:

The speaker should not be removed to check resistance.

Text in Illustration

*1	Component without harness connected (Front No. 2 Speaker)

NG ▶ **REPLACE FRONT NO. 2 SPEAKER**

OK ▼

5.	**INSPECT REAR SPEAKER**



(a) Resistance check

(1) Measure the resistance between the terminals of the speaker.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION

cardiagn.com



Q3-1 - Q3-2	Always	1.5 to 2.2 Ω
P3-1 - P3-2	Always	1.5 to 2.2 Ω

NOTICE:
The speaker should not be removed to check resistance.

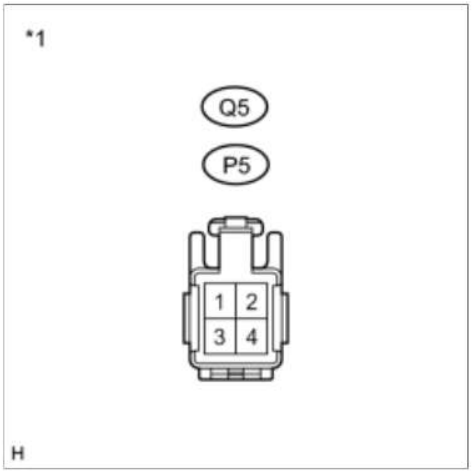
Text in Illustration

*1	Component without harness connected (Rear Speaker)

NG ▶ **REPLACE REAR SPEAKER**

OK ▼

6.	**INSPECT REAR NO. 2 SPEAKER**



(a) Resistance check

(1) Measure the resistance between the terminals of the speaker.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Q5-1 - Q5-2	Always	1.5 to 2.5 Ω
P5-1 - P5-2	Always	1.5 to 2.5 Ω

NOTICE:
The speaker should not be removed to check resistance.

Text in Illustration

*1	Component without harness connected (Rear No. 2 Speaker)

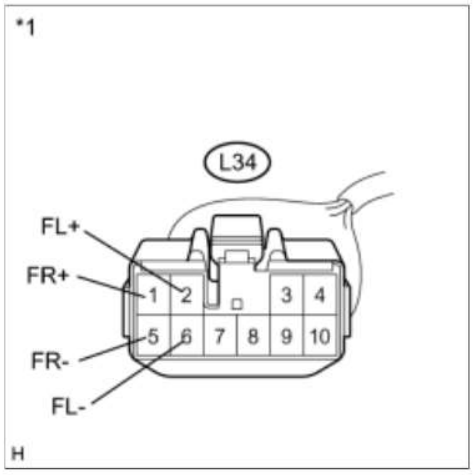
NG ▶ **REPLACE REAR NO. 2 SPEAKER**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

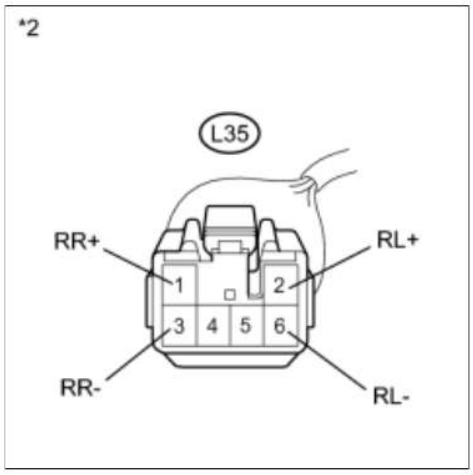
7.	**CHECK HARNESS AND CONNECTOR**

cardiagn.com

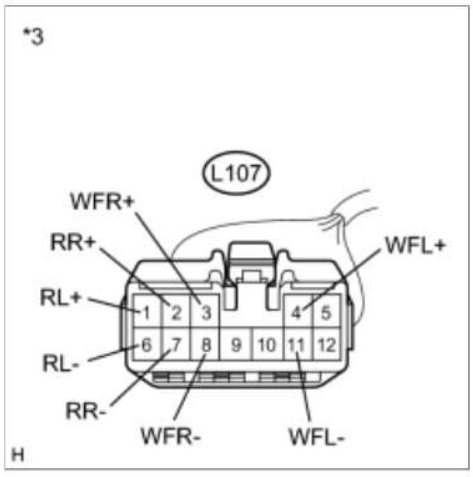
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Speaker Circuit (2010 Prius)



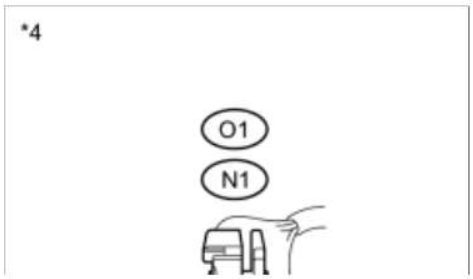
(a) Disconnect the L34 navigation receiver assembly connector.



(b) Disconnect the L35 navigation receiver assembly connector.

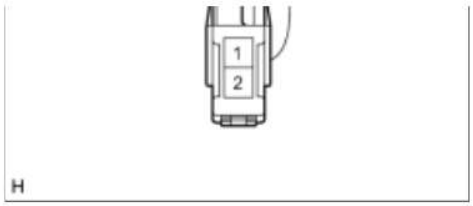


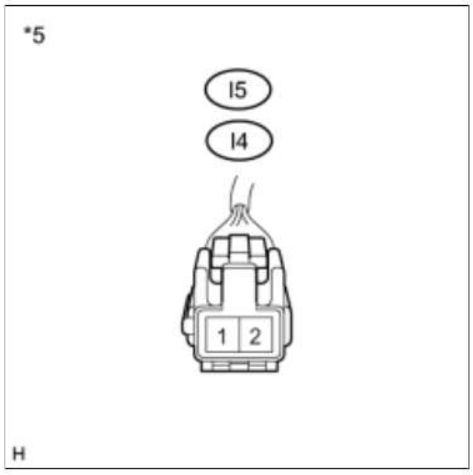
(c) Disconnect the L107 stereo component amplifier assembly connector.



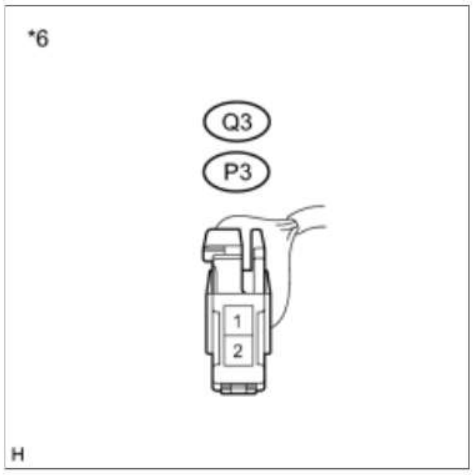
(d) Disconnect the O1 and N1 front No. 1 speaker connectors.

cardiagn.com

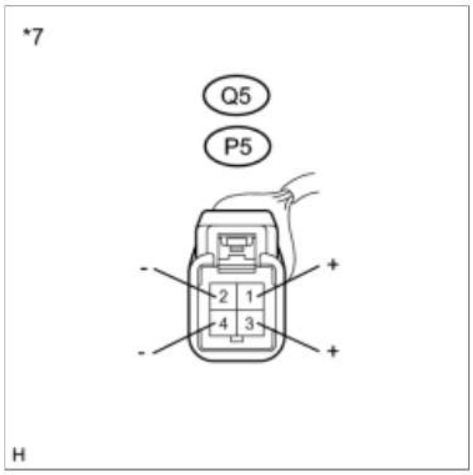




(e) Disconnect the I5 and I4 front No. 2 speaker connectors.



(f) Disconnect the Q3 and P3 rear speaker connectors.



(g) Disconnect the Q5 and P5 rear No. 2 speaker connectors.

(h) Measure the resistance between each of the front No. 2 speakers and the navigation receiver assembly to check for an open or a short circuit in the wire harness.

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Speaker Circuit (2010 Prius)

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L34-2 (FL+) - I5-1	Always	Below 1 Ω
L34-6 (FL-) - I5-2	Always	Below 1 Ω
L34-1 (FR+) - I4-1	Always	Below 1 Ω
L34-5 (FR-) - I4-2	Always	Below 1 Ω
L34-2 (FL+) - Body ground	Always	10 kΩ or higher
L34-6 (FL-) - Body ground	Always	10 kΩ or higher
L34-1 (FR+) - Body ground	Always	10 kΩ or higher
L34-5 (FR-) - Body ground	Always	10 kΩ or higher

(i) Measure the resistance between the navigation receiver assembly and the stereo component amplifier assembly to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L34-2 (FL+) - L107-1 (RL+)	Always	Below 1 Ω
L34-6 (FL-) - L107-6 (RL-)	Always	Below 1 Ω
L34-1 (FR+) - L107-2 (RR+)	Always	Below 1 Ω
L34-5 (FR-) - L107-7 (RR-)	Always	Below 1 Ω
L34-2 (FL+) - Body ground	Always	10 kΩ or higher
L34-6 (FL-) - Body ground	Always	10 kΩ or higher
L34-1 (FR+) - Body ground	Always	10 kΩ or higher
L34-5 (FR-) - Body ground	Always	10 kΩ or higher

cardiagn.com

(j) Measure the resistance between each of the front No. 1 speakers and the stereo component amplifier assembly to check for an open or a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L107-4 (WFL+) - O1-1	Always	Below 1 Ω
L107-11 (WFL-) - O1-2	Always	Below 1 Ω
L107-3 (WFR+) - N1-1	Always	Below 1 Ω
L107-8 (WFR-) - N1-2	Always	Below 1 Ω
L107-4 (WFL+) - Body ground	Always	10 kΩ or higher
L107-11 (WFL-) - Body ground	Always	10 kΩ or higher
L107-3 (WFR+) - Body ground	Always	10 kΩ or higher
L107-8 (WFR-) - Body ground	Always	10 kΩ or higher

(k) Measure the resistance between each of the rear No. 2 speakers and the navigation receiver assembly

to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L35-2 (RL+) - Q5-1 (+)	Always	Below 1 Ω
L35-6 (RL-) - Q5-2 (-)	Always	Below 1 Ω
L35-1 (RR+) - P5-1 (+)	Always	Below 1 Ω
L35-3 (RR-) - P5-2 (-)	Always	Below 1 Ω
L35-2 (RL+) - Body ground	Always	10 kΩ or higher
L35-6 (RL-) - Body ground	Always	10 kΩ or higher
L35-1 (RR+) - Body ground	Always	10 kΩ or higher
L35-3 (RR-) - Body ground	Always	10 kΩ or higher

(l) Measure the resistance between each of the rear No. 2 speakers and the rear speakers to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Q5-3 (+) - Q3-1	Always	Below 1 Ω
Q5-4 (-) - Q3-2	Always	Below 1 Ω
P5-3 (+) - P3-1	Always	Below 1 Ω
P5-4 (-) - P3-2	Always	Below 1 Ω
Q5-3 (+) - Body ground	Always	10 kΩ or higher
Q5-4 (-) - Body ground	Always	10 kΩ or higher
P5-3 (+) - Body ground	Always	10 kΩ or higher
P5-4 (-) - Body ground	Always	10 kΩ or higher

cardiagn.com

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Navigation Receiver Assembly)
*3	Front view of wire harness connector (to Stereo Component Amplifier Assembly)
*4	Front view of wire harness connector (to Front No. 1 Speaker)
*5	Front view of wire harness connector (to Front No. 2 Speaker)
*6	Front view of wire harness connector (to Rear Speaker)
*7	Front view of wire harness connector (to Rear No. 2 Speaker)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

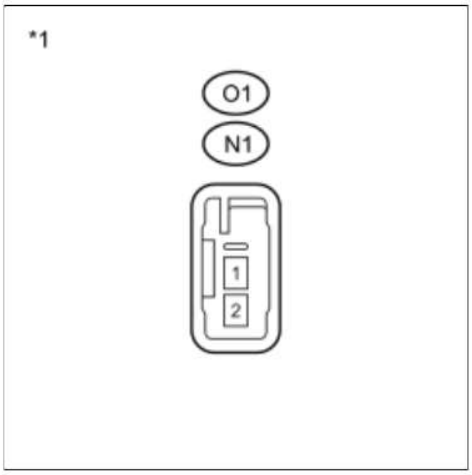
OK ▼

8.	**INSPECT FRONT NO. 1 SPEAKER**

(a) Resistance check

(1) Measure the resistance between the terminals of the speaker.

Standard Resistance:



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
O1-1 - O1-2	Always	1.6 to 2.4 Ω
N1-1 - N1-2	Always	1.6 to 2.4 Ω

NOTICE:

The speaker should not be removed to check resistance.

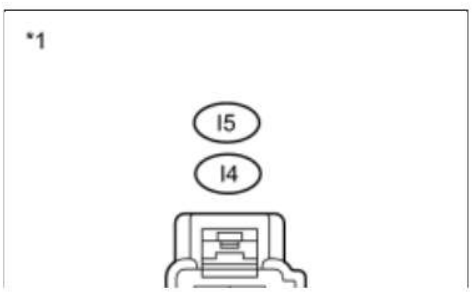
Text in Illustration

*1	Component without harness connected (Front No. 1 Speaker)

NG ▶ **REPLACE FRONT NO. 1 SPEAKER**

OK ▼

9.	**INSPECT FRONT NO. 2 SPEAKER**



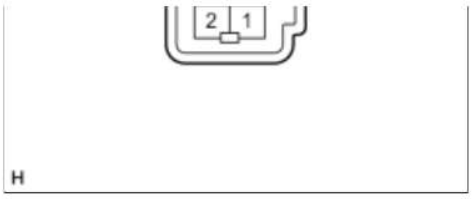
(a) Resistance check

(1) Measure the resistance between the terminals of the speaker.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
I5-1 - I5-2	Always	6.4 to 9.6 Ω

cardiagn.com



I4-1 - I4-2	Always	6.4 to 9.6 Ω

NOTICE:
The speaker should not be removed to check resistance.

Text in Illustration

*1	Component without harness connected (Front No. 2 Speaker)

NG ▶ **REPLACE FRONT NO. 2 SPEAKER**

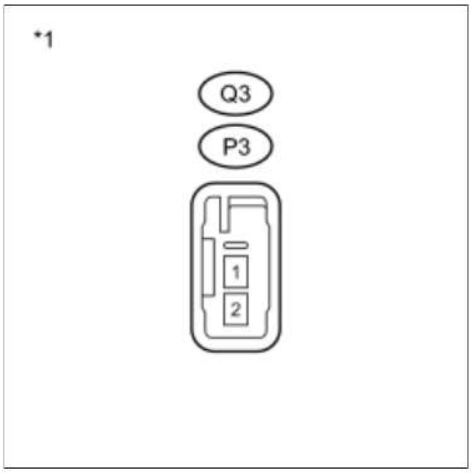
OK ▼

10.	**INSPECT REAR SPEAKER**

(a) Resistance check

(1) Measure the resistance between the terminals of the speaker.

Standard Resistance:



TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
Q3-1 - Q3-2	Always	3.2 to 4.8 Ω
P3-1 - P3-2	Always	3.2 to 4.8 Ω

NOTICE:
The speaker should not be removed to check resistance.

Text in Illustration

*1	Component without harness connected (Rear Speaker)

NG ▶ **REPLACE REAR SPEAKER**

OK ▼

11.	**INSPECT REAR NO. 2 SPEAKER**

cardiagn.com

(a) Check that the malfunction disappears when another speaker in good condition is installed.

Standard:

Malfunction disappears.

HINT:

- Connect all the connectors to the rear No. 2 speakers that were disconnected.
- If there is a possibility that either the right or left rear No. 2 speaker is defective, inspect by interchanging the right one with the left one.
- Perform the above inspection on both LH and RH sides.

NG ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ▶ **REPLACE REAR NO. 2 SPEAKER**

cardiagn.com

Sound Signal Circuit between Navigation Receiver Assembly and Stereo Component Amplifier

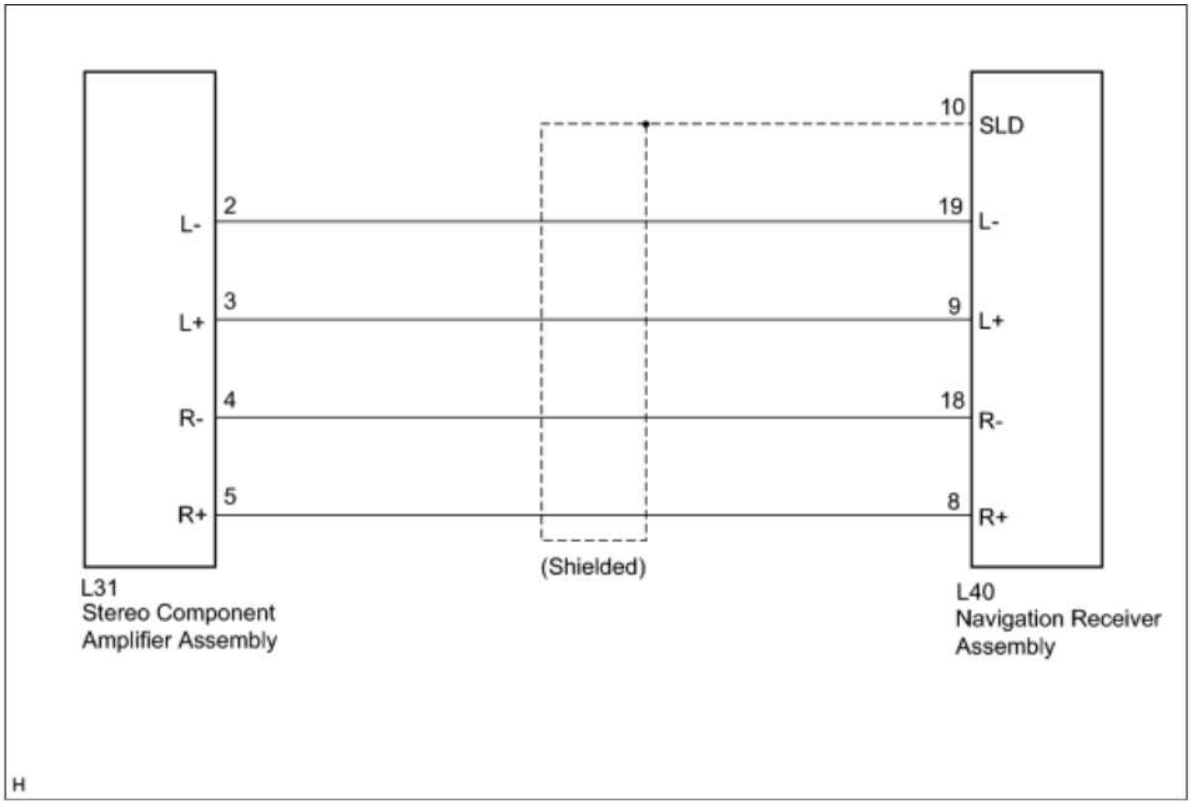
DESCRIPTION

The navigation receiver assembly sends a sound signal to the stereo component amplifier assembly via the sound signal circuit.

The sound signal that has been sent is amplified by the stereo component amplifier assembly, and then is sent to the speakers.

If there is an open or short in the circuit, sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier assembly or speakers.

WIRING DIAGRAM



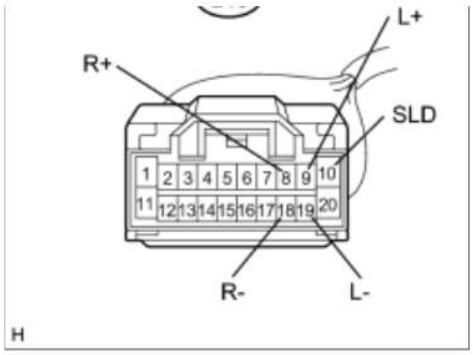
INSPECTION PROCEDURE

PROCEDURE

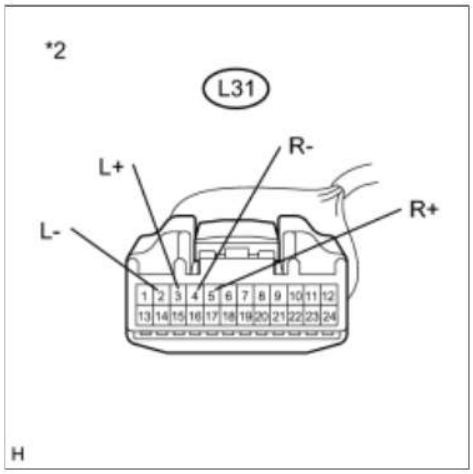
1.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT AMPLIFIER)**



cardiagn.com



(a) Disconnect the L40 navigation receiver assembly connector.



(b) Disconnect the L31 stereo component amplifier assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L40-8 (R+) - L31-5 (R+)	Always	Below 1 Ω
L40-18 (R-) - L31-4 (R-)	Always	Below 1 Ω
L40-9 (L+) - L31-3 (L+)	Always	Below 1 Ω
L40-19 (L-) - L31-2 (L-)	Always	Below 1 Ω
L40-10 (SLD) - Body ground	Always	10 kΩ or higher
L40-8 (R+) - Body ground	Always	10 kΩ or higher
L40-18 (R-) - Body ground	Always	10 kΩ or higher
L40-9 (L+) - Body ground	Always	10 kΩ or higher
L40-19 (L-) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

cardiagn.com

OK	▶ PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

cardiagn.com

Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter

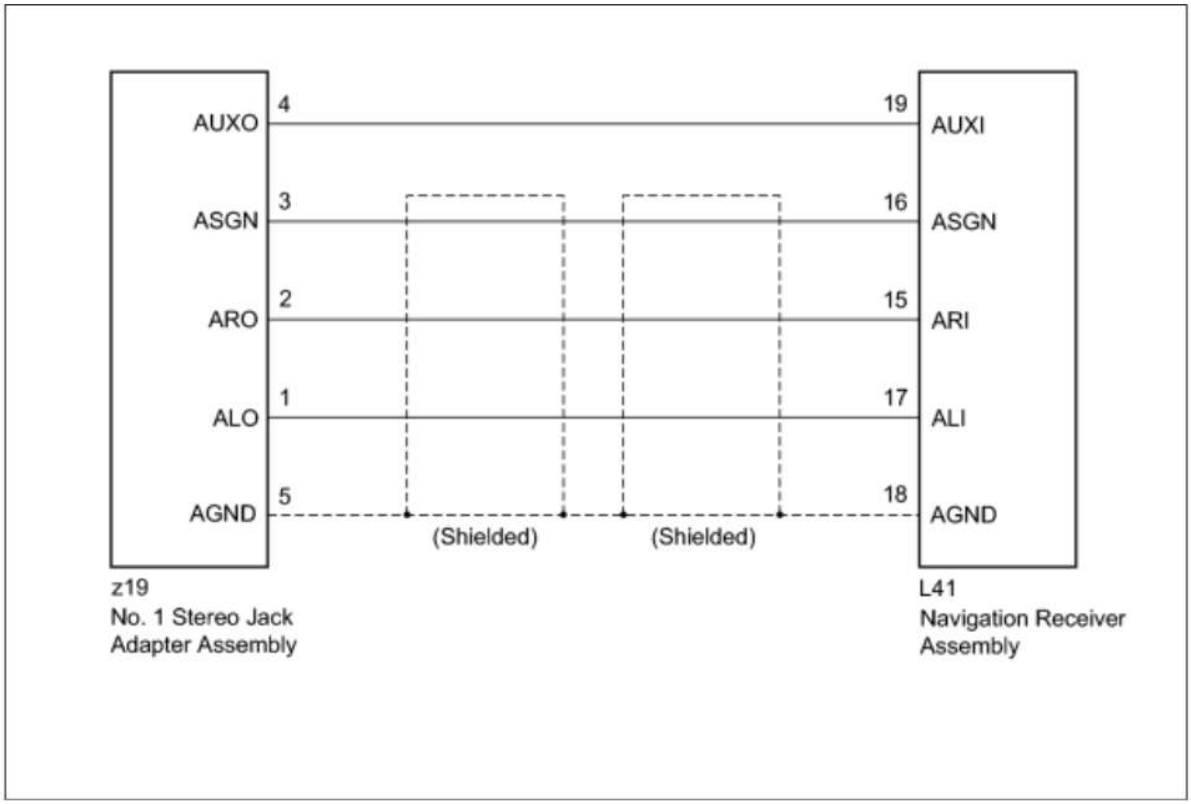
DESCRIPTION

The No. 1 stereo jack adapter assembly sends an external device sound signal to the navigation receiver assembly via the sound signal circuit.

The sound signal that has been sent is amplified by the stereo component amplifier assembly, and then is sent to the speakers.

If there is an open or short in the circuit, sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier assembly, navigation receiver assembly or speakers.

WIRING DIAGRAM



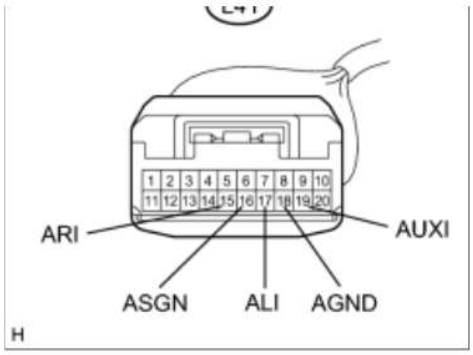
cardiagn.com

INSPECTION PROCEDURE

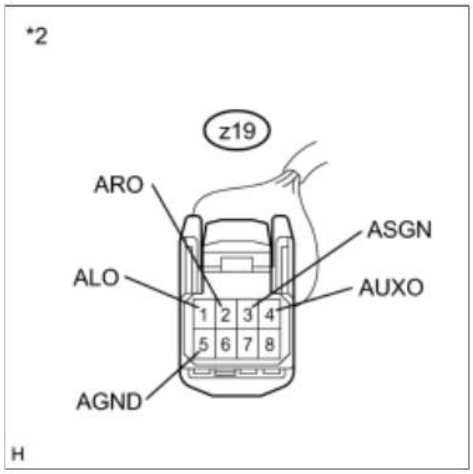
PROCEDURE

1.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - NO. 1 STEREO JACK ADAPTER)**





(a) Disconnect the L41 navigation receiver assembly connector.



(b) Disconnect the z19 No. 1 stereo jack adapter assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L41-19 (AUXI) - z19-4 (AUXO)	Always	Below 1 Ω
L41-18 (AGND) - z19-5 (AGND)	Always	Below 1 Ω
L41-15 (ARI) - z19-2 (ARO)	Always	Below 1 Ω
L41-17 (ALI) - z19-1 (ALO)	Always	Below 1 Ω
L41-16 (ASGN) - z19-3 (ASGN)	Always	Below 1 Ω
L41-19 (AUXI) - Body ground	Always	10 kΩ or higher
L41-18 (AGND) - Body ground	Always	10 kΩ or higher
L41-15 (ARI) - Body ground	Always	10 kΩ or higher
L41-17 (ALI) - Body ground	Always	10 kΩ or higher
L41-16 (ASGN) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to No. 1 Stereo Jack Adapter Assembly)

NG

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Ada...

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

cardiagn.com

Sound Signal Circuit between Navigation Receiver Assembly and Stereo Component Tuner Assembly

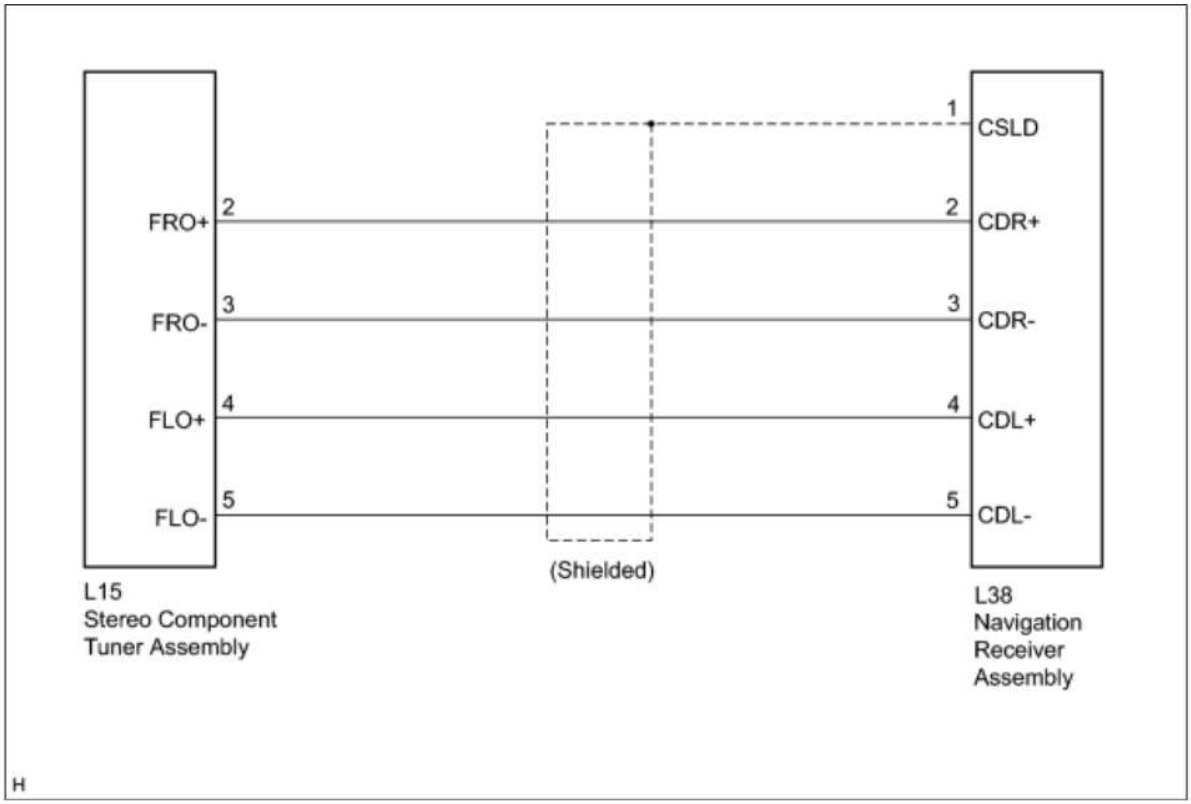
DESCRIPTION

The stereo component tuner assembly sends satellite radio sound signals to the navigation receiver assembly via the sound signal circuit.

The sound signal that has been sent is amplified by the stereo component amplifier assembly, and then is sent to the speakers.

If there is an open or short in the circuit, sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier assembly, navigation receiver assembly or speakers.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

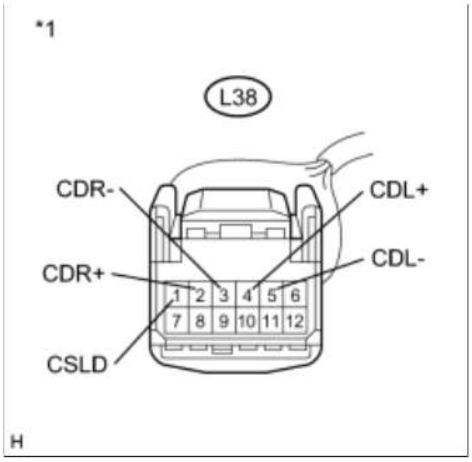
After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

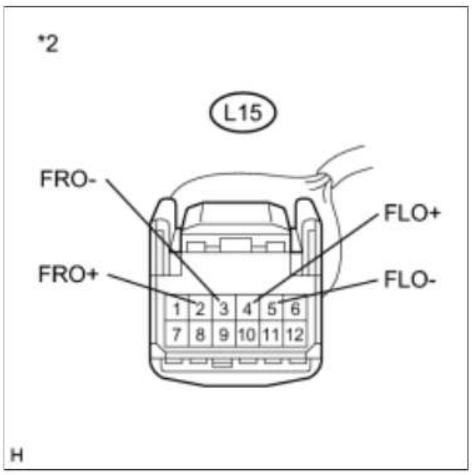
1.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT TUNER)**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Sound Signal Circuit between Navigation Receiver Assembly and Stereo Compone...



(a) Disconnect the L38 navigation receiver assembly connector.



(b) Disconnect the L15 stereo component tuner assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L38-2 (CDR+) - L15-2 (FRO+)	Always	Below 1 Ω
L38-3 (CDR-) - L15-3 (FRO-)	Always	Below 1 Ω
L38-4 (CDL+) - L15-4 (FLO+)	Always	Below 1 Ω
L38-5 (CDL-) - L15-5 (FLO-)	Always	Below 1 Ω
L38-2 (CDR+) - Body ground	Always	10 kΩ or higher
L38-3 (CDR-) - Body ground	Always	10 kΩ or higher
L38-4 (CDL+) - Body ground	Always	10 kΩ or higher
L38-5 (CDL-) - Body ground	Always	10 kΩ or higher
L38-1 (CSLD) - Body ground	Always	10 kΩ or higher

Text in Illustration

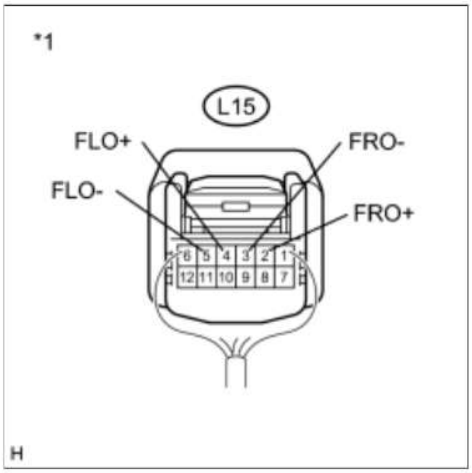
*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Tuner Assembly)

cardiagn.com

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

2.	**INSPECT STEREO COMPONENT TUNER ASSEMBLY**



(a) Reconnect the L15 stereo component tuner assembly connector.

(b) Check the waveform according to the conditions in the table below.

Standard:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L15-2 (FRO+) - Body ground	Voice sound being produced	A waveform synchronized with sound is output
L15-3 (FRO-) - Body ground	Voice sound being produced	A waveform synchronized with sound is output
L15-4 (FLO+) - Body ground	Voice sound being produced	A waveform synchronized with sound is output
L15-5 (FLO-) - Body ground	Voice sound being produced	A waveform synchronized with sound is output

Text in Illustration

*1	Component with harness connected (Stereo Component Tuner Assembly)

NG ▶ **REPLACE STEREO COMPONENT TUNER ASSEMBLY**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

Mute Signal Circuit between Navigation Receiver Assembly and Stereo Component Amplifier

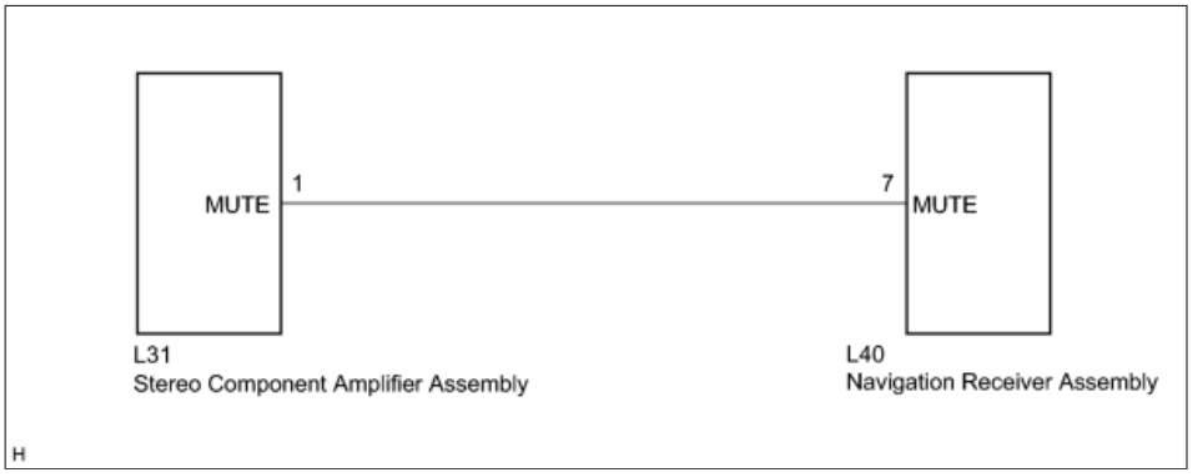
DESCRIPTION

This circuit sends a signal to the stereo component amplifier assembly to mute noise. Because of that, the noise produced by changing the sound source ceases.

If there is an open in the circuit, noise can be heard from the speakers when changing the sound source.

If there is a short in the circuit, even though the stereo component amplifier assembly is functioning normally, no sound or only an extremely faint sound can be heard.

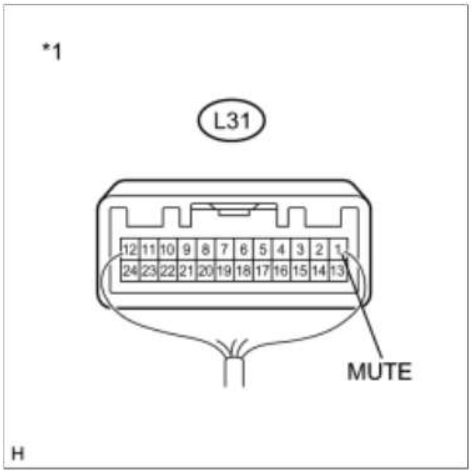
WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY**



(a) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L31-1 (MUTE) - Body ground	Power switch on (ACC), Audio system playing → Changing source	Above 3.5 V → Below 1 V

Text in Illustration

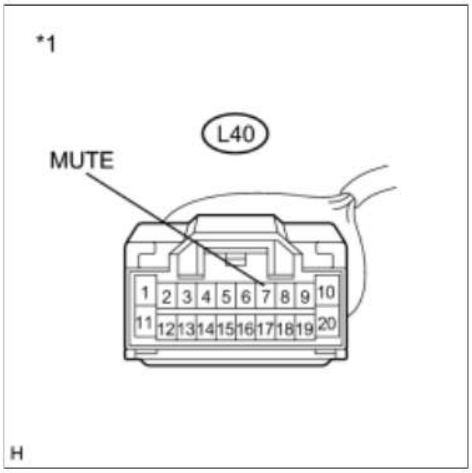
cardiagn.com

*1	Component with harness connected (Stereo Component Amplifier Assembly)

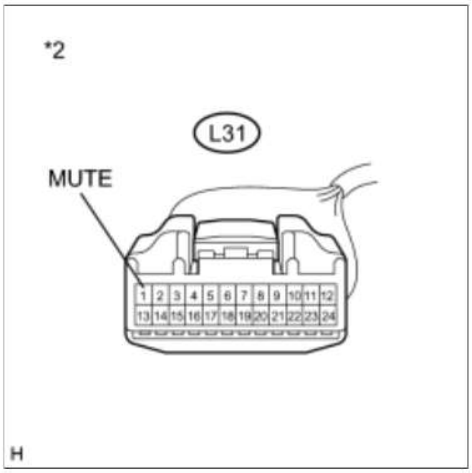
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT AMPLIFIER)**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT AMPLIFIER)**



(a) Disconnect the L40 navigation receiver assembly connector.



(b) Disconnect the L31 stereo component amplifier assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L40-7 (MUTE) - L31-1 (MUTE)	Always	Below 1 Ω
L40-7 (MUTE) - Body ground	Always	10 kΩ or higher

cardiagn.com

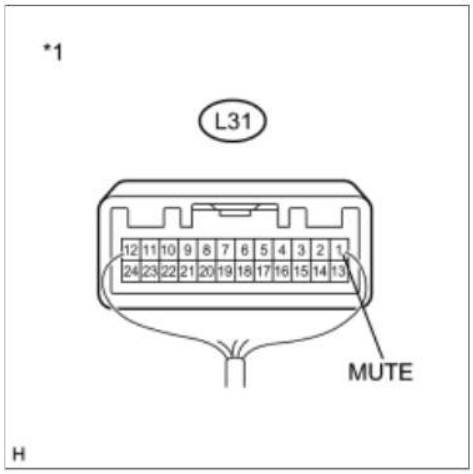
Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY (OUTPUT SIGNAL)**



(a) Reconnect the L31 stereo component amplifier assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L31-1 (MUTE) - Body ground	Power switch on (ACC) Audio system playing	Above 3.5 V

Text in Illustration

*1	Component with harness connected (Stereo Component Amplifier Assembly)

NG ▶ **REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

cardiagn.com

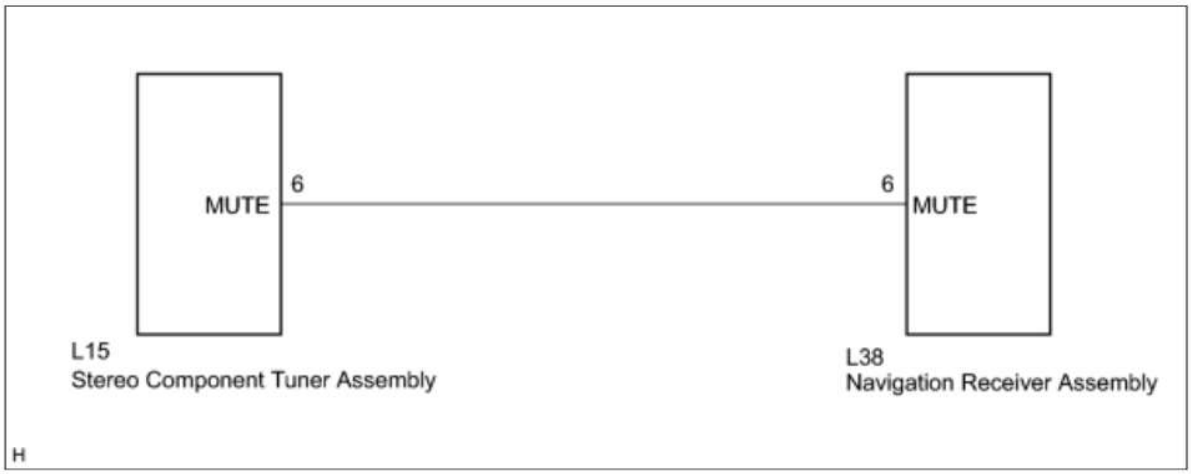
Mute Signal Circuit between Navigation Receiver Assembly and Stereo Component Tuner Assembly

DESCRIPTION

The navigation receiver assembly controls the volume according to the MUTE signal from the stereo component tuner assembly.

The MUTE signal is sent to reduce noise and a popping sound generated when switching the mode etc. If there is an open in the circuit, noise can be heard from the speakers when changing the sound source. If there is a short in the circuit, even though the navigation receiver assembly is functioning normally, no sound or only an extremely faint sound can be heard.

WIRING DIAGRAM



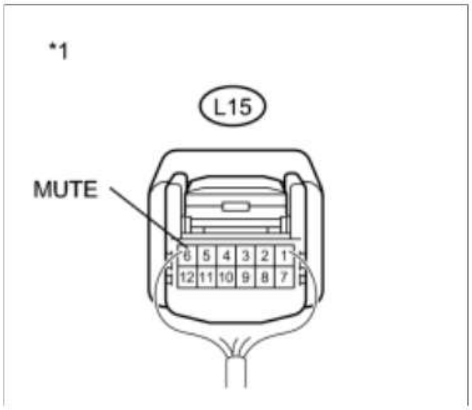
INSPECTION PROCEDURE

NOTICE:

After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

1.	**INSPECT STEREO COMPONENT TUNER ASSEMBLY**



(a) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L15-6 (MUTE) - Body ground	Power switch on (ACC), Satellite radio playing → Changing source	Above 3.5 V → Below 1 V

cardiagn.com

H

Text in Illustration

*1	Component with harness connected (Stereo Component Tuner Assembly)

NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT TUNER)**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT TUNER)**



(a) Disconnect the L38 navigation receiver assembly connector.



(b) Disconnect the L15 stereo component tuner assembly connector.

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

Standard Resistance:

cardiagn.com

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L38-6 (MUTE) - L15-6 (MUTE)	Always	Below 1 Ω
L38-6 (MUTE) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Tuner Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**REPLACE STEREO COMPONENT TUNER ASSEMBLY**

(a) Replace the stereo component tuner assembly and check if it operates normally INFO .

OK:

The navigation system operates normally.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

cardiagn.com

Mute Signal Circuit between Stereo Component Amplifier and Telematics Transceiver

DESCRIPTION

The DCM (telematics transceiver) sends a mute signal to the stereo component amplifier assembly.

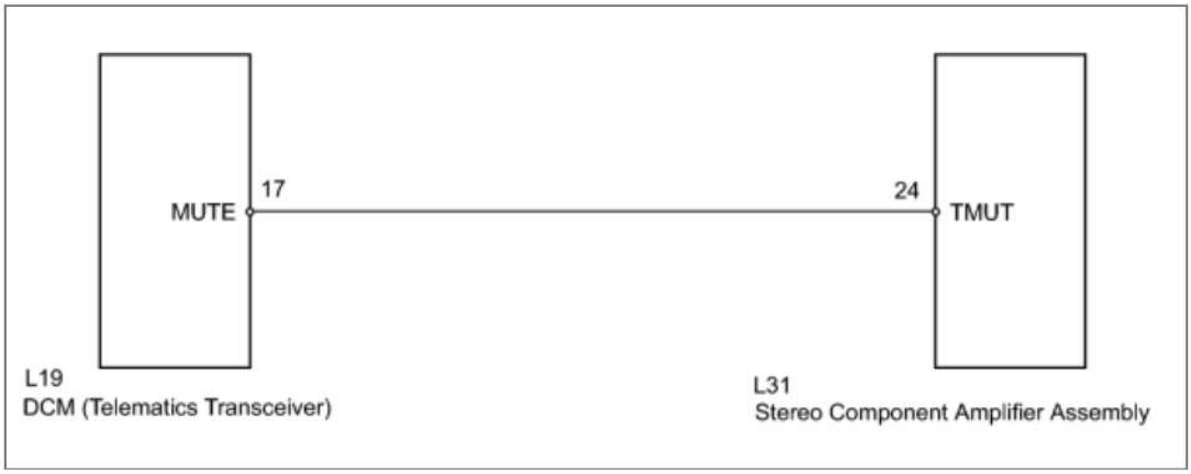
The stereo component amplifier assembly controls the volume according to the mute signal from the DCM (telematics transceiver).

The mute signal is sent to reduce noise and popping sounds generated when switching modes.

If there is an open in the circuit, noise can be heard from the speakers when changing the sound source.

If there is a short in the circuit, even though the stereo component amplifier assembly is functioning, no sound, or only an extremely faint sound, can be heard.

WIRING DIAGRAM



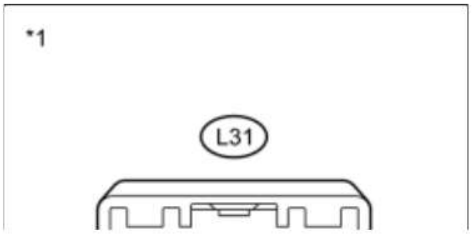
INSPECTION PROCEDURE

NOTICE:

If the DCM (telematics transceiver) has been replaced, perform the Activate DCM procedure using the Techstream INFO **.**

PROCEDURE

1.	**INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY**

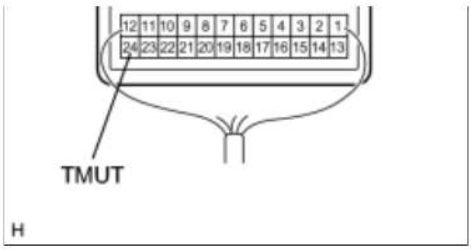


(a) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L31-24 (TMUT) - Body ground	Power switch on (ACC), Audio system is playing → Manual (SOS) switch on, Emergency call mode	Above 3.5 V → Below 1 V

cardiagn.com



	Emergency call mode

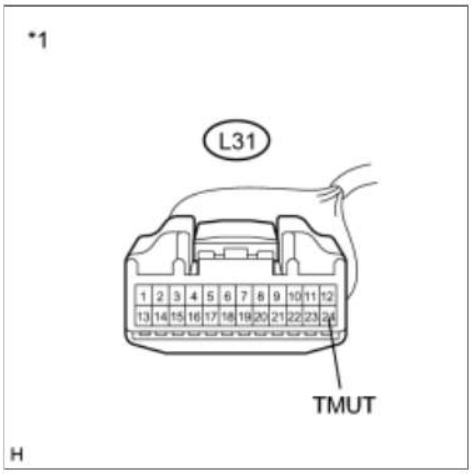
Text in Illustration

*1	Component with harness connected (Stereo Component Amplifier Assembly)

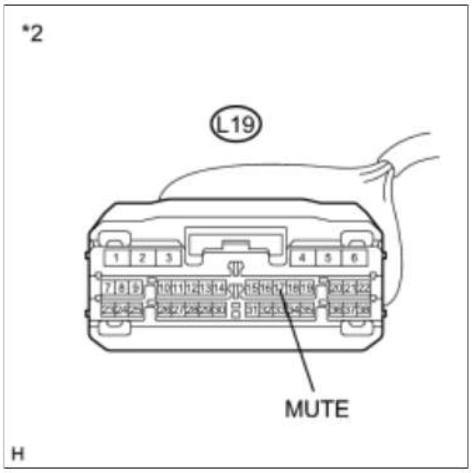
NG ▶ **CHECK HARNESS AND CONNECTOR**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**CHECK HARNESS AND CONNECTOR**



(a) Disconnect the L31 stereo component amplifier assembly connector.



(b) Disconnect the L19 DCM (telematics transceiver) connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION

cardiagn.com

L31-24 (TMUT) - L19-17 (MUTE)	Always	Below 1 Ω
L31-24 (TMUT) - Body ground	Always	10 kΩ or higher

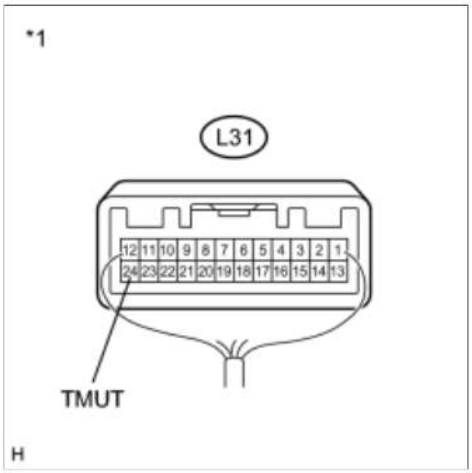
Text in Illustration

*1	Front view of wire harness connector (to Stereo Component Amplifier Assembly)
*2	Front view of wire harness connector (to DCM (Telematics Transceiver))

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY**



(a) Reconnect the L31 stereo component amplifier assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L31-24 (TMUT) - Body ground	Power switch on (ACC)	Above 3.5 V

Text in Illustration

*1	Component with harness connected (Stereo Component Amplifier Assembly)

NG ▶ **REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY**

OK ▶ **REPLACE DCM (TELEMATICS TRANSCEIVER)**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Mute Signal Circuit between Stereo Component Amplifier and Telematics Transce...

OK ▶ REPLACE DCM (TELEMATICS TRANSCEIVER)

cardiagn.com

AVC-LAN Circuit

DESCRIPTION

Each unit of the navigation system connected to the AVC-LAN (communication bus) transfers switch signals by the AVC-LAN.

If a short to +B or short to ground occurs in this AVC-LAN, the navigation system will not function normally as communication is stopped.

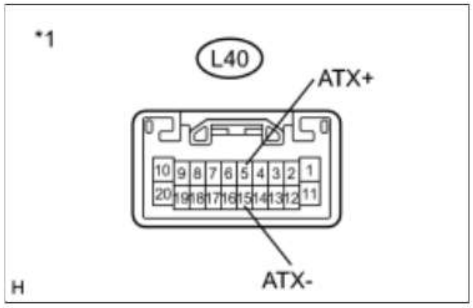
INSPECTION PROCEDURE

NOTICE:

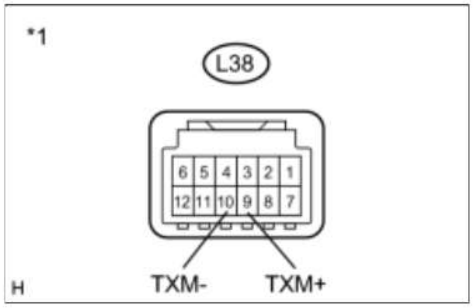
- The navigation receiver assembly is the master unit.
- After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, registration of the XM radio ID is necessary.

PROCEDURE

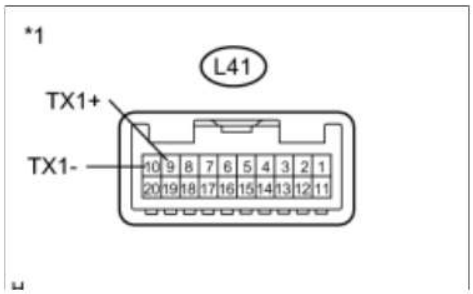
1.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**



(a) Disconnect the L40 navigation receiver assembly connector (w/ "Bluetooth" Audio System).



(b) Disconnect the L38 navigation receiver assembly connector (w/ SDARS System).



(c) Disconnect the L41 navigation receiver assembly connector (w/ Advanced Parking Assist System).

cardiagn.com

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L40-5 (ATX+) - L40-15 (ATX-)*2	Always	60 to 80 Ω
L38-9 (TXM+) - L38-10 (TXM-)*3	Always	60 to 80 Ω
L41-9 (TX1+) - L41-10 (TX1-)*4	Always	60 to 80 Ω

Text in Illustration

*1	Component without harness connected (Navigation Receiver Assembly)

*2: w/ "Bluetooth" Audio System
*3: w/ SDARS System
*4: w/ Advanced Parking Assist System

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

2.	**CHECK HARNESS AND CONNECTOR (AVC-LAN CIRCUIT)**

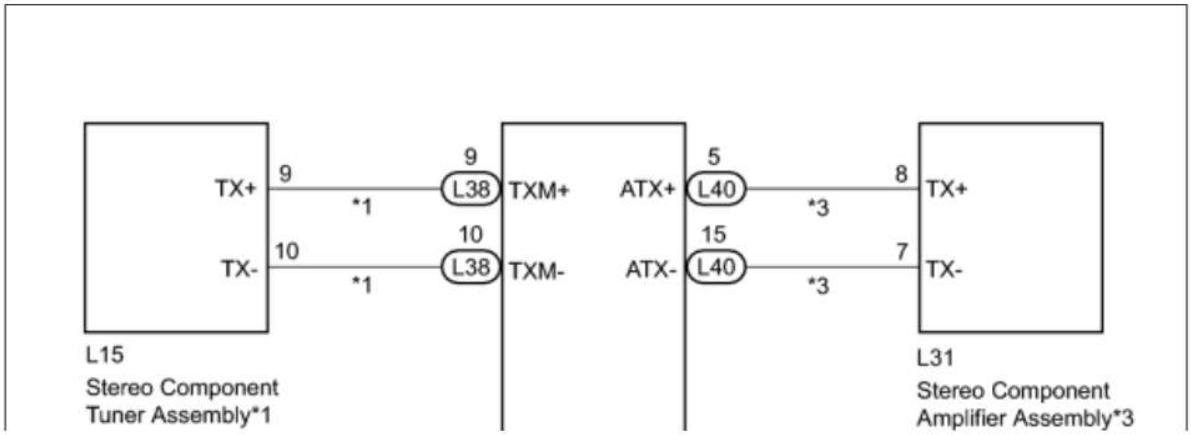
HINT:

For details of the connectors, refer to Terminals of ECU INFO **.**

(a) Referring to the AVC-LAN wiring diagram below, check all AVC-LAN circuits.

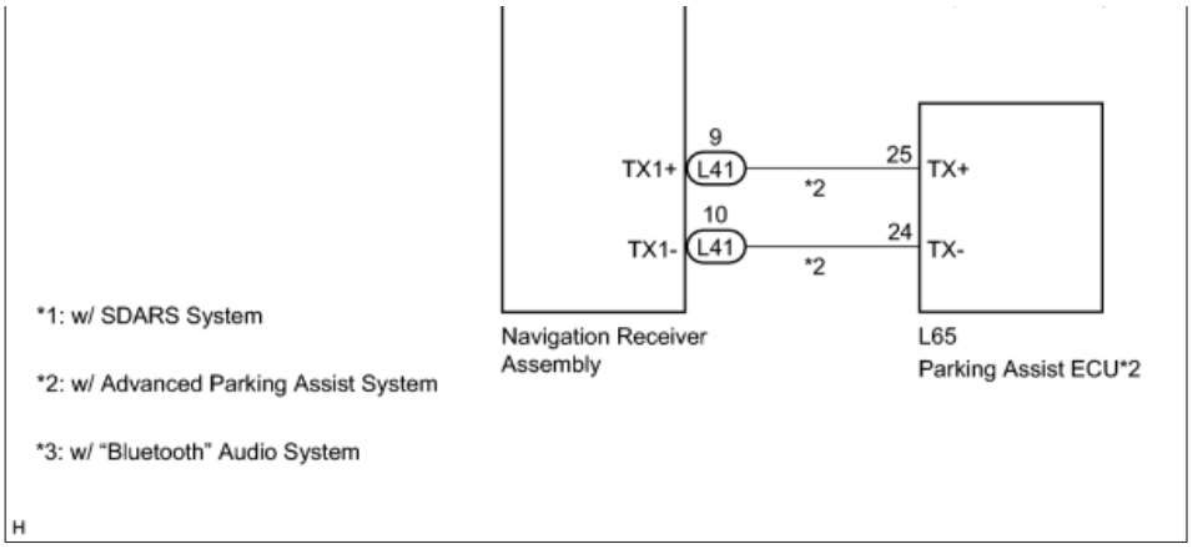
(1) Disconnect all connectors in all AVC-LAN circuits.

(2) Check for an open or short in all AVC-LAN circuits.



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: AVC-LAN Circuit (2010 Prius)



OK:

There is no open or short circuit.

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT MALFUNCTIONING PARTS**

(a) Disconnect and reconnect each slave unit one by one until the master unit returns to normal operation.

HINT:

- Check all slave units.
- If disconnecting a slave unit causes the master unit to return to normal operation, the slave unit is defective and should be replaced.

OK:

Master unit returns to normal operation.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **REPLACE MALFUNCTIONING PARTS**

cardiagn.com

Vehicle Speed Signal Circuit between Stereo Component Amplifier and Combination Meter

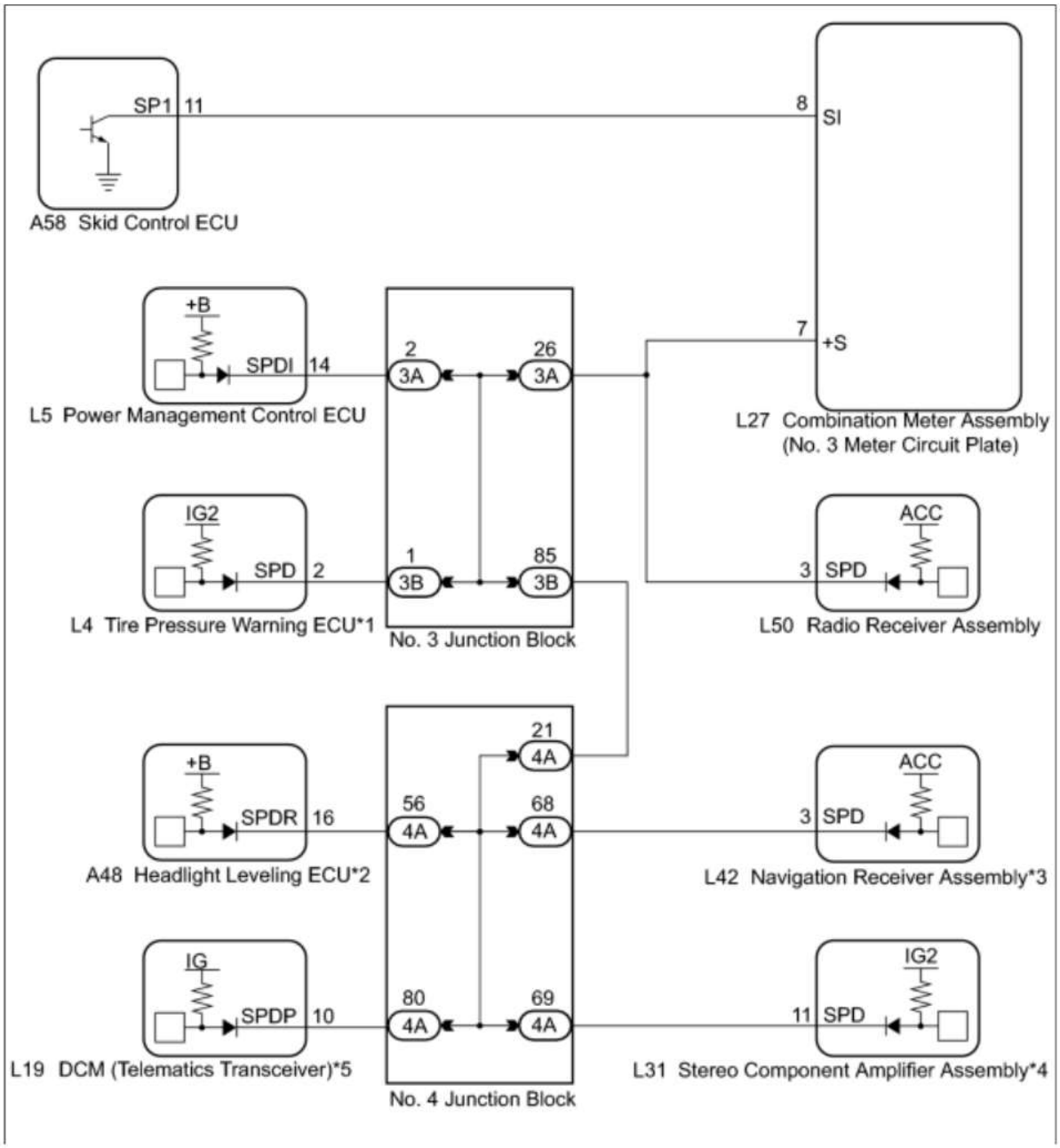
DESCRIPTION

The stereo component amplifier assembly (No. 3 meter circuit plate) receives a vehicle speed signal from the combination meter assembly (No. 3 meter circuit plate) to control the ASL function.

HINT:

- A voltage of 12 V or 5 V is output from each ECU and then input to the combination meter assembly (No. 3 meter circuit plate). The signal is changed to a pulse signal at the transistor in the combination meter assembly (No. 3 meter circuit plate). Each ECU controls the respective systems based on the pulse signal.
- If a short occurs in any of the ECUs or in the wire harness connected to an ECU, all systems in the diagram below will not operate normally.

WIRING DIAGRAM



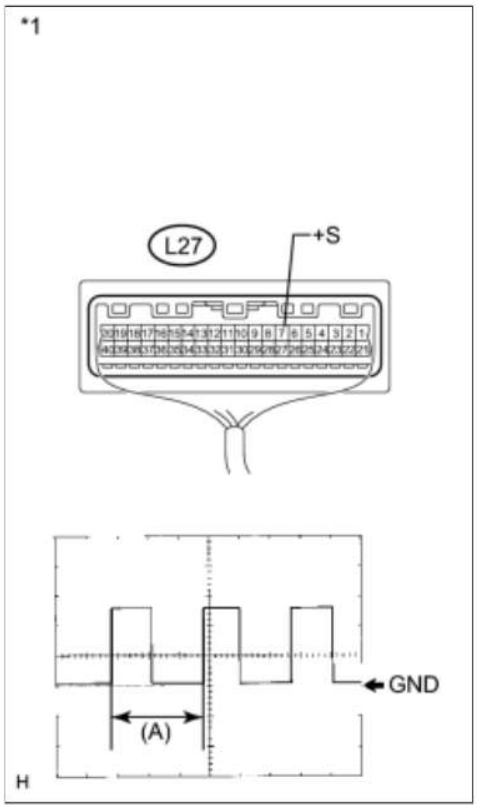
cardiagn.com

*1: w/ Tire Pressure Warning System	*2: w/ Automatic Type Headlight Beam Level Control
*3: w/ Navigation System	*4: for Separate Type Amplifier System
*5: w/ Manual (SOS) Switch	

INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT COMBINATION METER ASSEMBLY (NO. 3 METER CIRCUIT PLATE OUTPUT WAVEFORM)**



(a) Check the output waveform.

(1) Remove the combination meter assembly with the connector(s) still connected.

(2) Connect an oscilloscope to terminal L27-7 (+S) and body ground.

(3) Turn the power switch on (IG).

(4) Turn a wheel slowly.

(5) Check the signal waveform according to the condition(s) in the table below.

ITEM	CONDITION
Measurement terminal	L27-7 (+S) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Vehicle condition	Wheel being rotated

OK:

The waveform is similar to that shown in the illustration.

HINT:

When the system is functioning normally, one wheel revolution generates 4 pulses. As the vehicle speed increases, the width indicated by (A) in the illustration narrows.

Text in Illustration

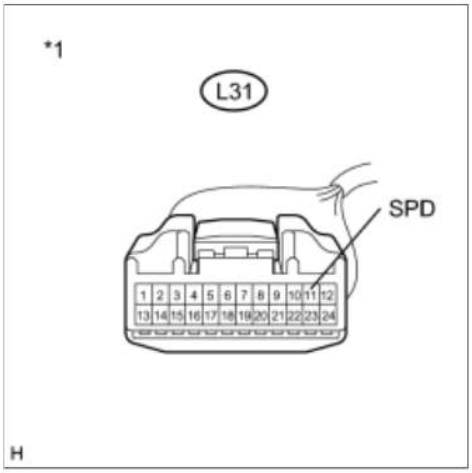
*1	Component with harness connected (Combination Meter Assembly)

NG ▶ **GO TO METER / GAUGE SYSTEM**

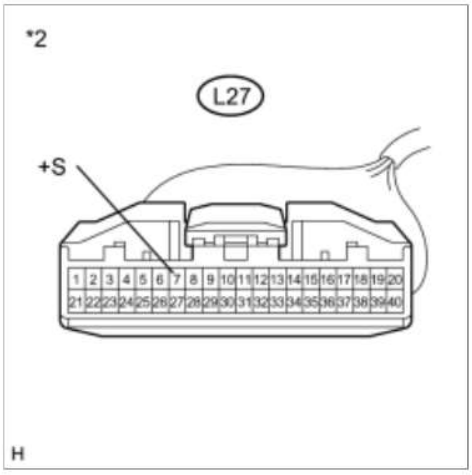
OK

cardiagn.com

2.	**CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER - COMBINATION METER)**



(a) Disconnect the L31 stereo component amplifier assembly connector.



(b) Disconnect the L27 combination meter assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L31-11 (SPD) - L27-7 (+S)	Always	Below 1 Ω

Text in Illustration

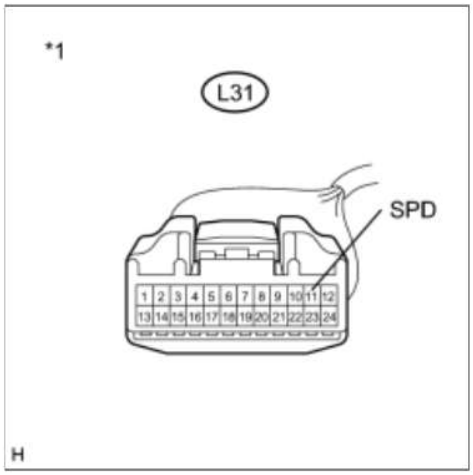
*1	Front view of wire harness connector (to Stereo Component Amplifier Assembly)
*2	Front view of wire harness connector (to Combination Meter Assembly)

cardiagn.com

NG ▶ **CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER - NO. 4 JUNCTION CONNECTOR)**

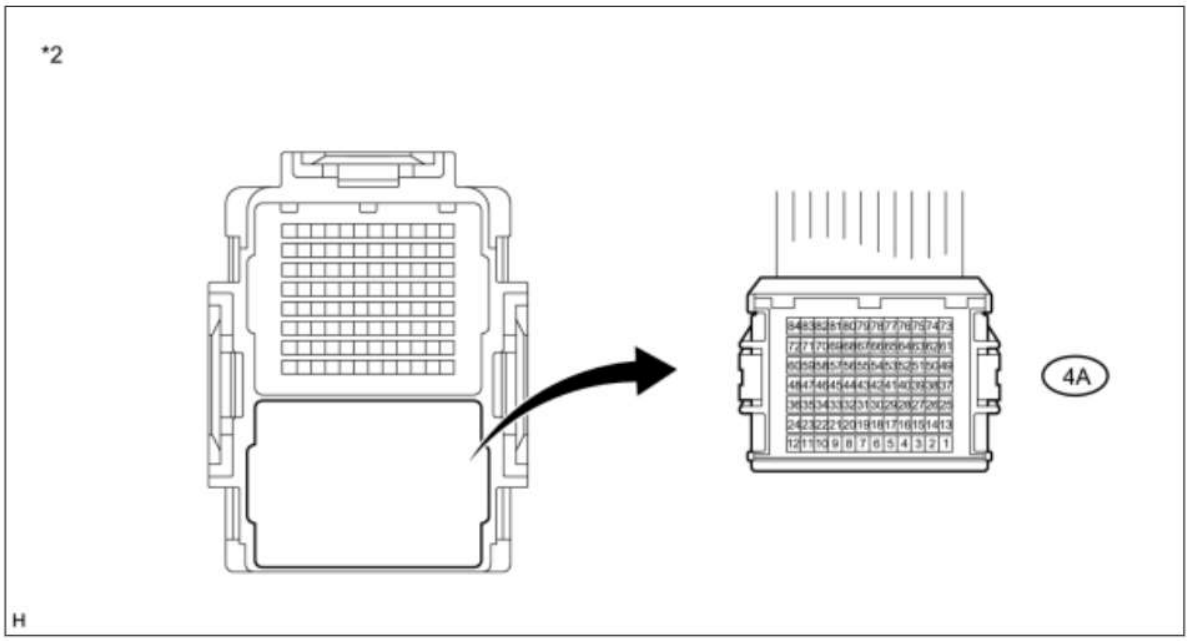
OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

3.	**CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER - NO. 4 JUNCTION CONNECTOR)**



(a) Disconnect the L31 stereo component amplifier assembly connector.

(b) Disconnect the 4A No. 4 junction block connector.



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION

cardiagn.com

L31-11 (SPD) - 4A-69	Always	Below 1 Ω

Text in Illustration

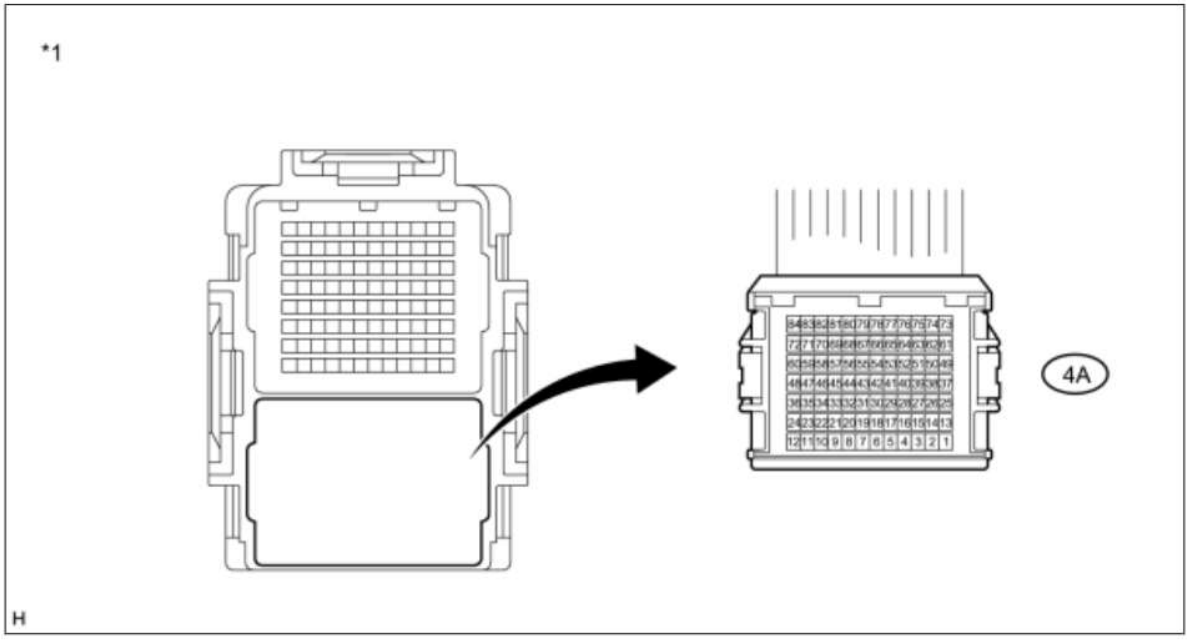
*1	Front view of wire harness connector (to Stereo Component Amplifier Assembly)
*2	Front view of wire harness connector (to No. 4 Junction Block)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (STEREO COMPONENT AMPLIFIER - NO. 4 JUNCTION CONNECTOR)**

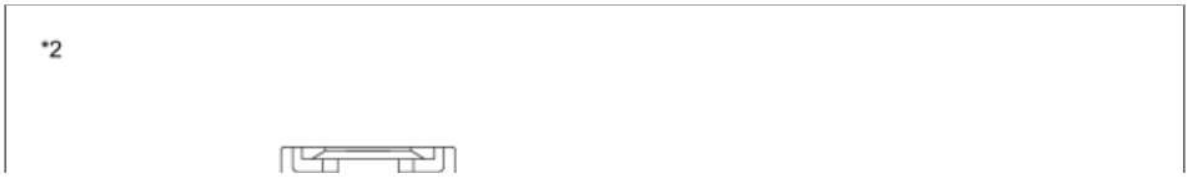
OK ▼

4.	**CHECK HARNESS AND CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)**

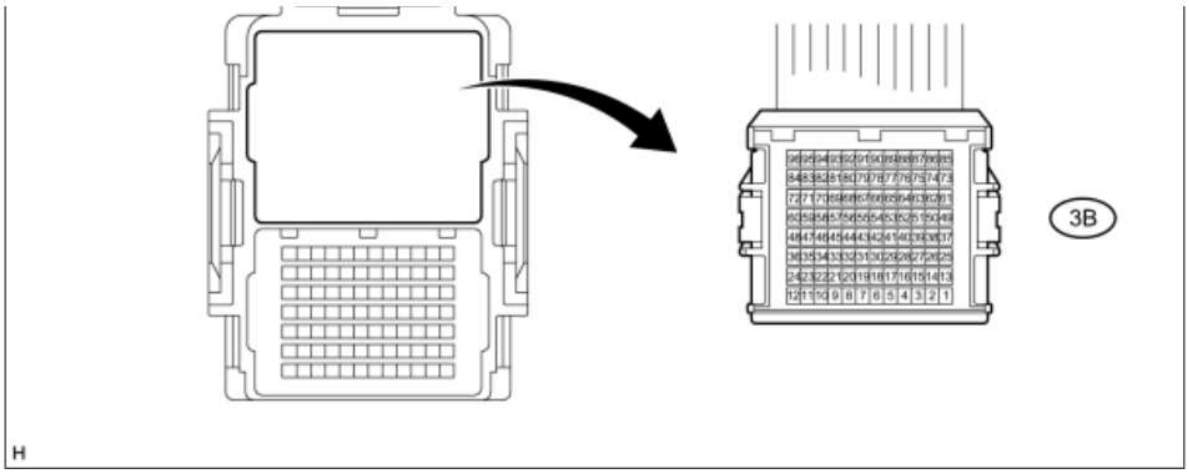
(a) Disconnect the 4A No. 4 junction block connector.



(b) Disconnect the 3B No. 3 junction block connector.



cardiagn.com



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
4A-21 - 3B-85	Always	Below 1 Ω

Text in Illustration

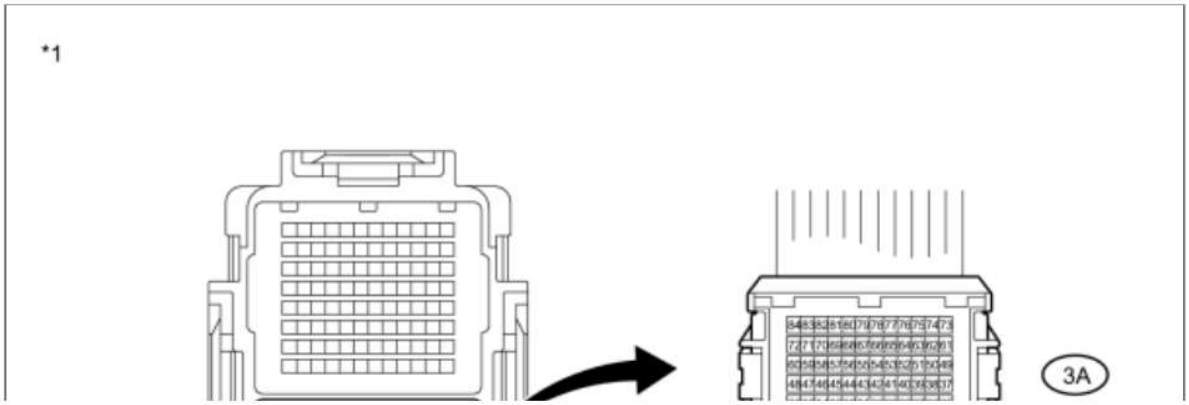
*1	Front view of wire harness connector (to No. 4 Junction Block)	*2	Front view of wire harness connector (to No. 3 Junction Block)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)**

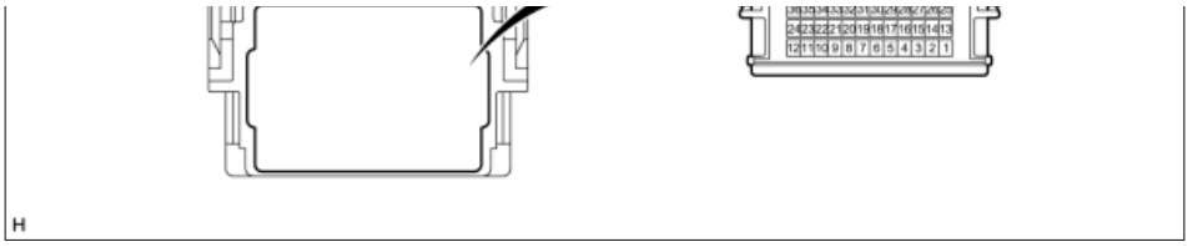
OK ▼

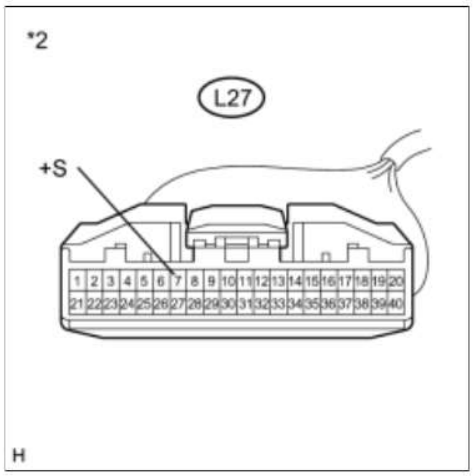
5.	**CHECK HARNESS AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)**

(a) Disconnect the 3A No. 3 junction block connector.



cardiagn.com





(b) Disconnect the L27 combination meter assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-26 - L27-7 (+S)	Always	Below 1 Ω

Text in Illustration

*1	Front view of wire harness connector (to No. 3 Junction Block)
*2	Front view of wire harness connector (to Combination Meter Assembly)

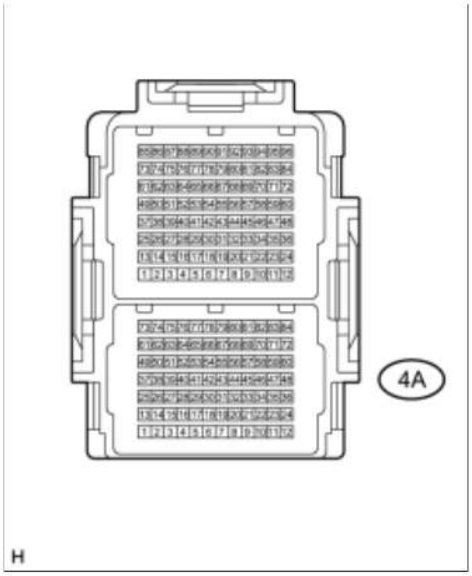
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)**

OK ▼

6.	**INSPECT NO. 4 JUNCTION BLOCK**

*1

cardiagn.com



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
4A-69 - 4A-21	Always	Below 1 Ω

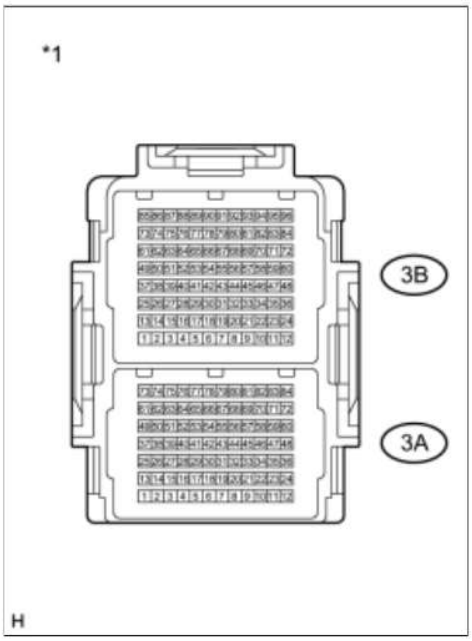
Text in Illustration

*1	No. 4 Junction Block

NG ▶ **REPLACE NO. 4 JUNCTION BLOCK**

OK ▼

7.	**INSPECT NO. 3 JUNCTION BLOCK**



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3A-26 - 3B-85	Always	Below 1 Ω

Text in Illustration

cardiagn.com

*1	No. 3 Junction Block

NG ▶ **REPLACE NO. 3 JUNCTION BLOCK**

OK ▶ **REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY**

cardiagn.com

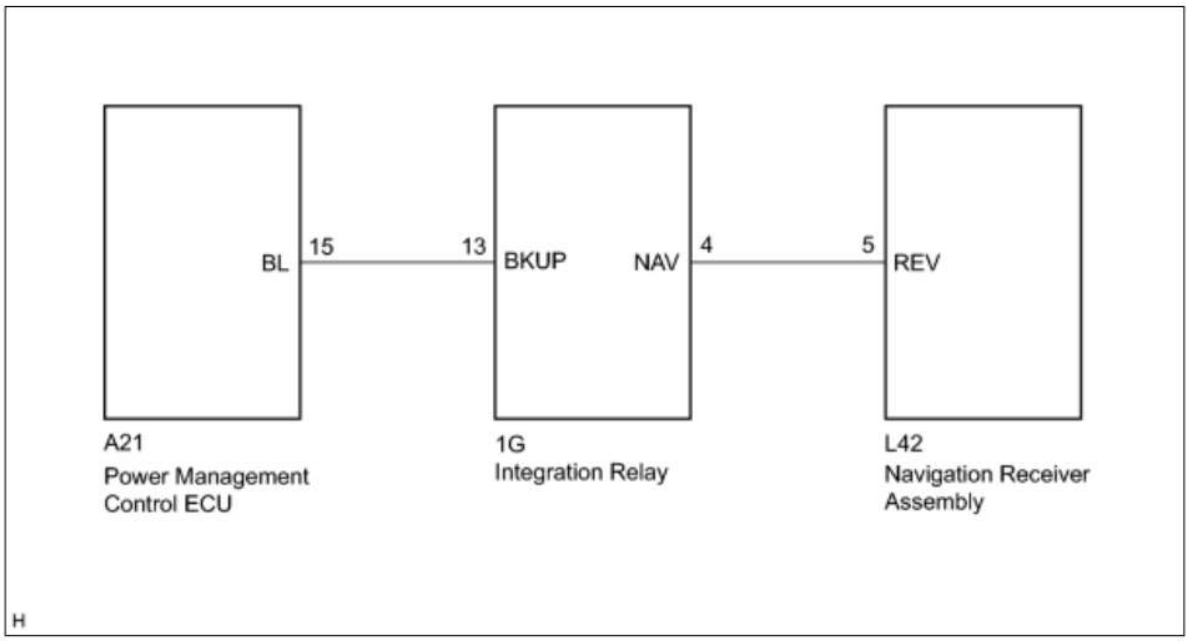
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Reverse Signal Circuit (2010 Prius)

Reverse Signal Circuit

DESCRIPTION

The navigation receiver assembly receives a reverse signal from the power management control ECU via the integration relay to use for adjusting the vehicle position on the navigation display.

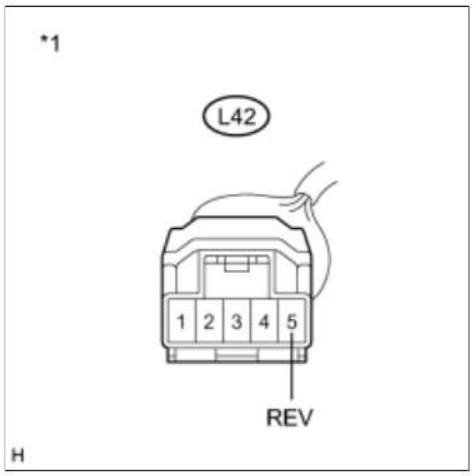
WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**



(a) Disconnect the L42 navigation receiver assembly connector.

cardiagn.com

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L42-5 (REV) - Body ground	Power switch on (IG) Shift lever in R	11 to 14 V
L42-5 (REV) - Body ground	Power switch on (IG) Shift lever in any position except R	Below 1 V

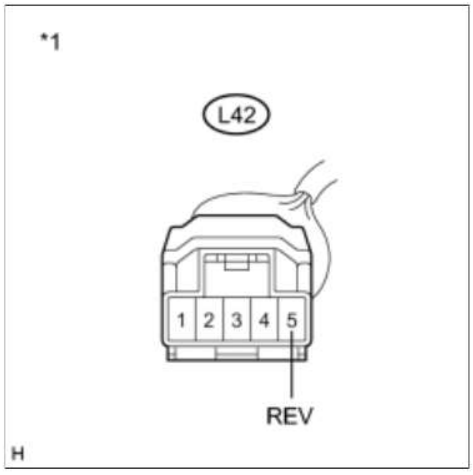
Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)

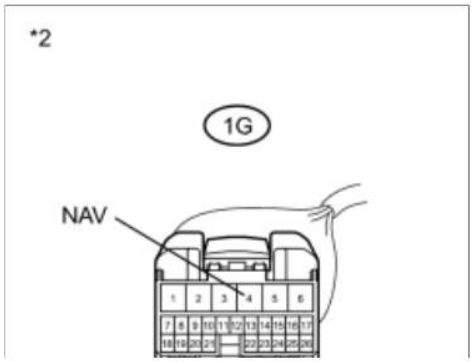
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - INTEGRATION RELAY)**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - INTEGRATION RELAY)**



(a) Disconnect the L42 navigation receiver assembly connector.



(b) Disconnect the 1G integration relay connector.

cardiagn.com



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L42-5 (REV) - 1G-4 (NAV)	Always	Below 1 Ω
L42-5 (REV) - Body ground	Always	10 kΩ or higher

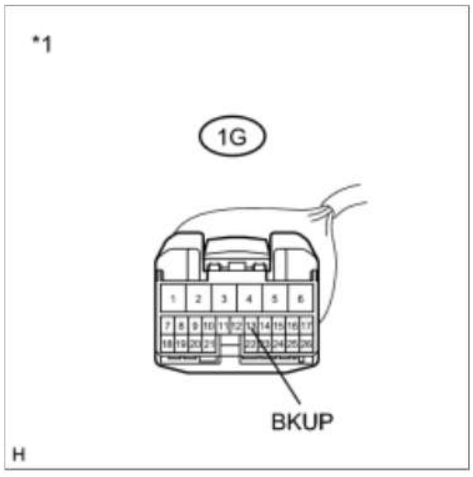
Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Integration Relay)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT INTEGRATION NO.1 RELAY**



(a) Disconnect the 1G integration relay connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1G-13 (BKUP) - Body ground	Power switch on (IG)	11 to 14 V

cardiagn.com

	Shift lever in R	
1G-13 (BKUP) - Body ground	Power switch on (IG) Shift lever in any position except R	Below 1 V

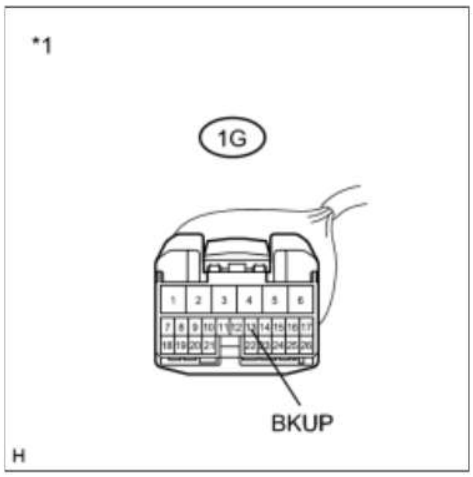
Text in Illustration

*1	Front view of wire harness connector (to Integration Relay)

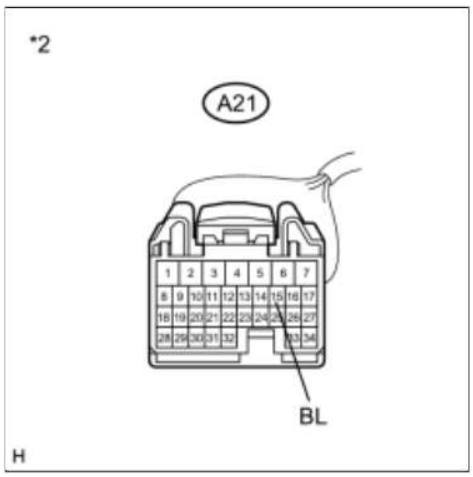
NG ▶ **CHECK HARNESS AND CONNECTOR (INTEGRATION RELAY - POWER MANAGEMENT CONTROL ECU)**

OK ▶ **REPLACE INTEGRATION NO.1 RELAY**

4.	**CHECK HARNESS AND CONNECTOR (INTEGRATION RELAY - POWER MANAGEMENT CONTROL ECU)**



(a) Disconnect the 1G integration relay connector.



(b) Disconnect the A21 power management control ECU connector.

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

Standard Resistance:

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Reverse Signal Circuit (2010 Prius)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1G-13 (BKUP) - A21-15 (BL)	Always	Below 1 Ω
1G-13 (BKUP) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Integration Relay)
*2	Front view of wire harness connector (to Power Management Control ECU)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE POWER MANAGEMENT CONTROL ECU**

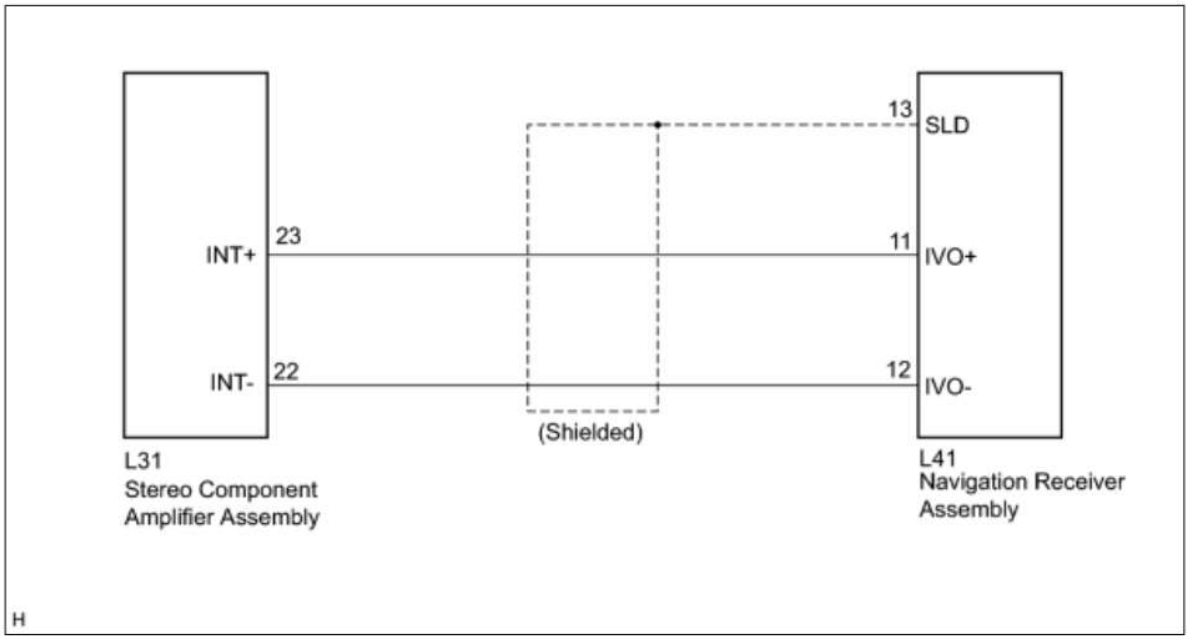
cardiagn.com

Navigation Voice Circuit

DESCRIPTION

This circuit is used when the voice guidance in the navigation system is on.

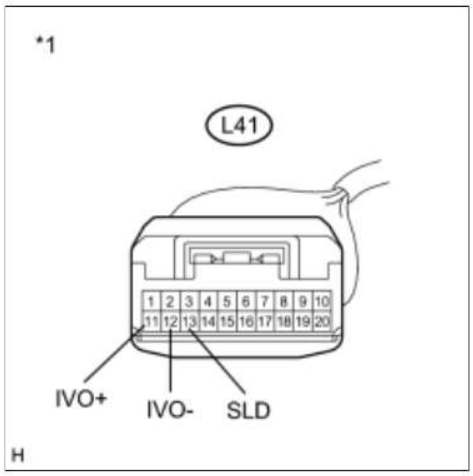
WIRING DIAGRAM



INSPECTION PROCEDURE

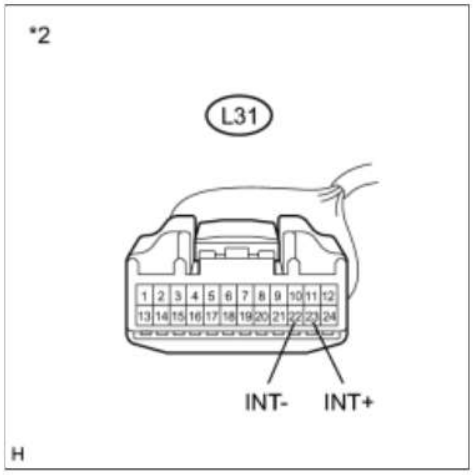
PROCEDURE

1.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - STEREO COMPONENT AMPLIFIER)**



(a) Disconnect the L41 navigation receiver assembly connector.

cardiagn.com



(b) Disconnect the L31 stereo component amplifier assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L41-11 (IVO+) - L31-23 (INT+)	Always	Below 1 Ω
L41-12 (IVO-) - L31-22 (INT-)	Always	Below 1 Ω
L41-11 (IVO+) - Body ground	Always	10 kΩ or higher
L41-12 (IVO-) - Body ground	Always	10 kΩ or higher
L41-13 (SLD) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com

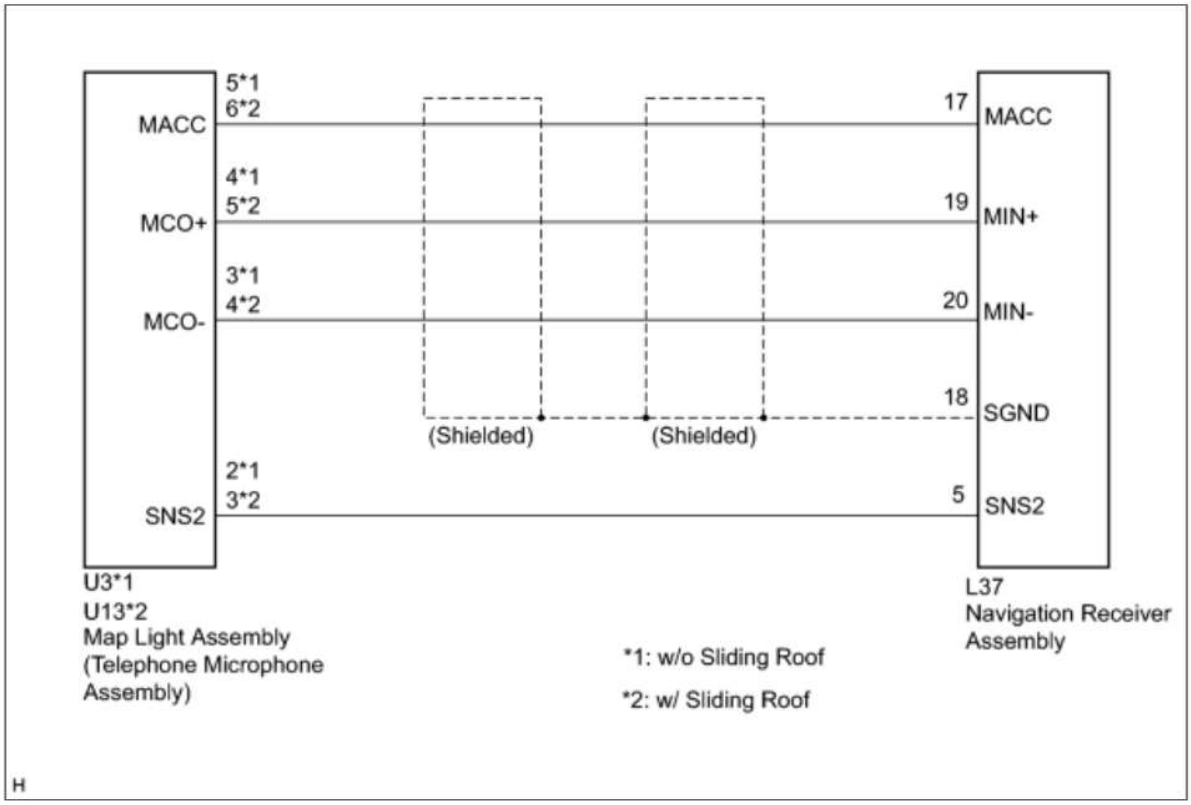
Microphone Circuit between Microphone and Navigation Receiver Assembly

DESCRIPTION

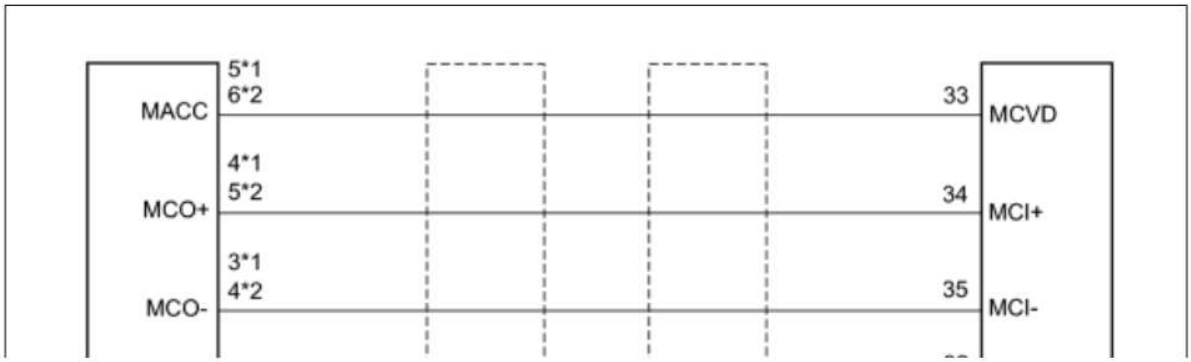
- Using this circuit, the navigation receiver assembly sends power to the map light assembly (telephone microphone assembly), and the map light assembly sends microphone signals to the navigation receiver assembly (w/o manual (SOS) switch).
- Using this circuit, the DCM (telematics transceiver) sends power to the map light assembly (telephone microphone assembly), and the map light assembly (telephone microphone assembly) sends microphone signals to the navigation receiver assembly via the DCM (telematics transceiver). The navigation receiver assembly and map light assembly (telephone microphone assembly) are connected to each other using the microphone connection detection signal lines (w/ manual (SOS) switch).

WIRING DIAGRAM

1. w/o Manual (SOS) Switch

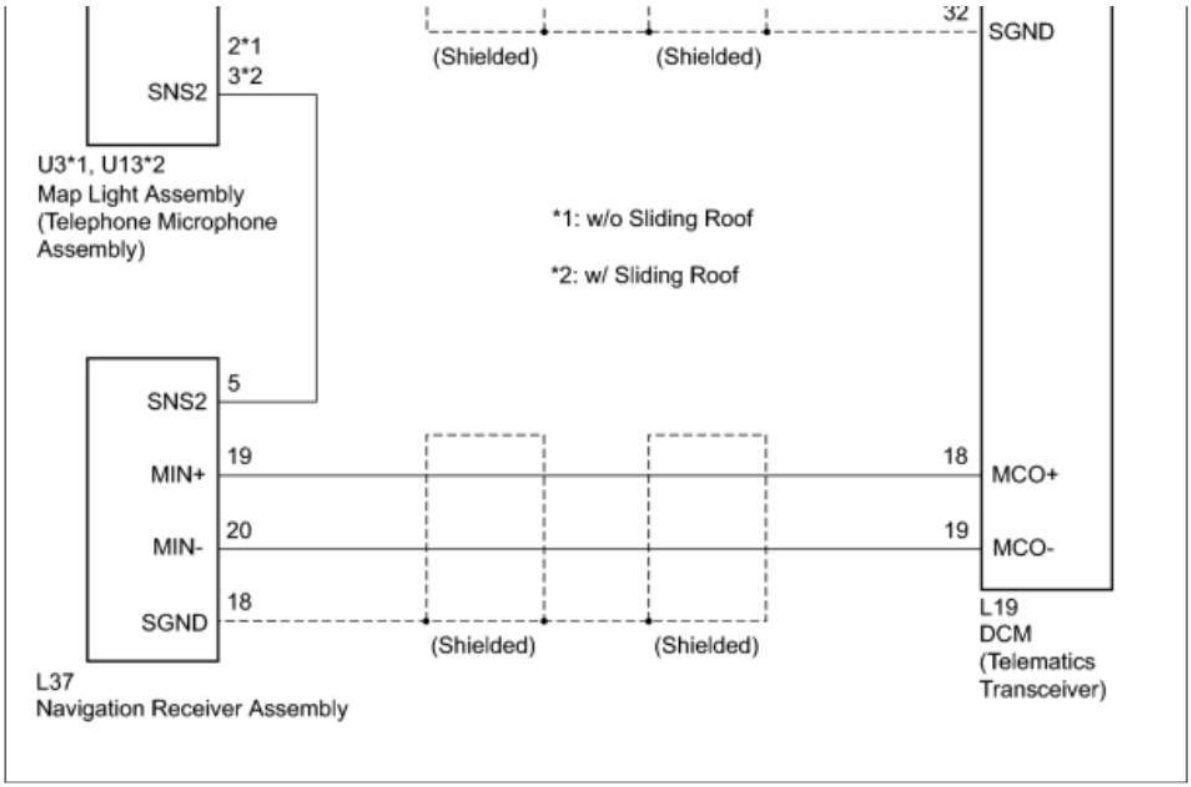


2. w/ Manual (SOS) Switch



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Microphone Circuit between Microphone and Navigation Receiver Assembly (201...



INSPECTION PROCEDURE

NOTICE:

If the DCM (telematics transceiver) has been replaced, perform the Activate DCM procedure using the Techstream INFO .

PROCEDURE

1.	**CONFIRM MODEL**

(a) Choose the model to be inspected.

Result:

MODEL	PROCEED TO
w/o Manual (SOS) Switch	A
w/ Manual (SOS) Switch	B

B ▶ **CONFIRM MODEL**

A ▼

2.	**CONFIRM MODEL**

cardiagn.com

2.	CONFIRM MODEL

(a) Choose the model to be inspected.

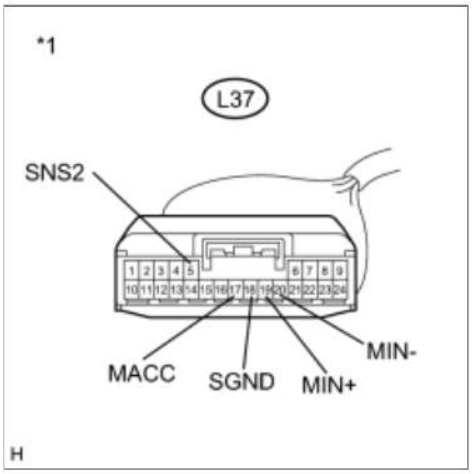
Result:

MODEL	PROCEED TO
w/o Sliding Roof	A
w/ Sliding Roof	B

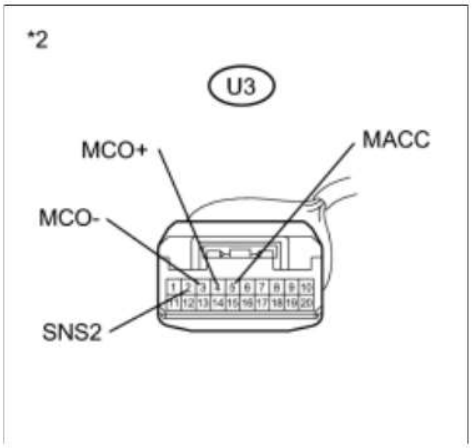
B ▶ CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - MAP LIGHT ASSEMBLY)

A ▼

3.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - MAP LIGHT ASSEMBLY)



(a) Disconnect the L37 navigation receiver assembly connector.



(b) Disconnect the U3 map light assembly connector.

cardiagn.com

H

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-5 (SNS2) - U3-2 (SNS2)	Always	Below 1 Ω
L37-17 (MACC) - U3-5 (MACC)	Always	Below 1 Ω
L37-19 (MIN+) - U3-4 (MCO+)	Always	Below 1 Ω
L37-20 (MIN-) - U3-3 (MCO-)	Always	Below 1 Ω
L37-5 (SNS2) - Body ground	Always	10 kΩ or higher
L37-17 (MACC) - Body ground	Always	10 kΩ or higher
L37-19 (MIN+) - Body ground	Always	10 kΩ or higher
L37-20 (MIN-) - Body ground	Always	10 kΩ or higher
L37-18 (SGND) - Body ground	Always	10 kΩ or higher

Text in Illustration

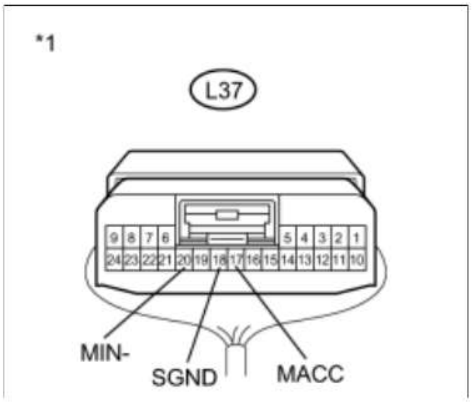
*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Map Light Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK
▼

4.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

(a) Disconnect the U3 map light assembly connector.



(b) Reconnect the L37 navigation receiver assembly connector.

cardiagn.com

H

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-17 (MACC) - Body ground	Power switch on (ACC)	4 to 6 V

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-18 (SGND) - Body ground	Always	Below 1 Ω
L37-20 (MIN-) - Body ground	Always	Below 1 Ω

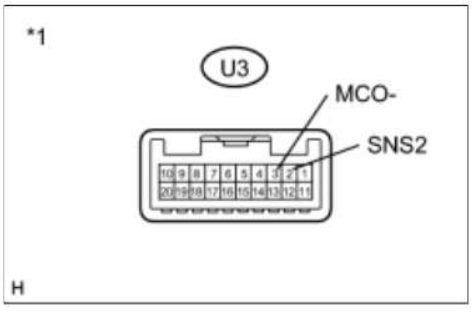
Text in Illustration

*1	Component with harness connected (Navigation Receiver Assembly)

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

5.	**INSPECT MAP LIGHT ASSEMBLY**



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U3-2 (SNS2) - U3-3 (MCO-)	Always	Below 1 Ω

Text in Illustration

*1	Component without harness connected (Map Light Assembly)

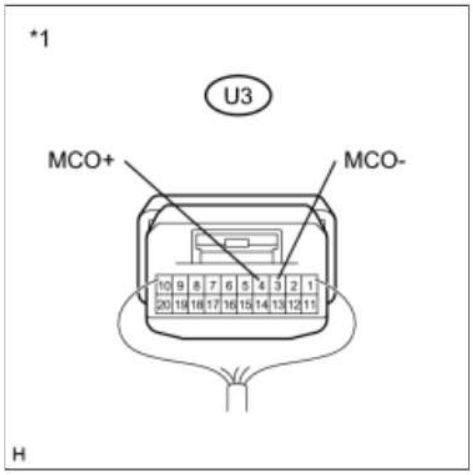
NG ▶ **REPLACE TELEPHONE MICROPHONE ASSEMBLY**

cardiagn.com

OK

6.	**INSPECT MAP LIGHT ASSEMBLY**

(a) Reconnect the L37 navigation receiver assembly connector.



(b) Reconnect the U3 map light assembly connector.

(c) Turn the power switch on (ACC).

(d) Connect an oscilloscope to terminals 4 (MCO+) and 3 (MCO-) of the U3 map light assembly connector.

(e) Check the waveform of the telephone microphone assembly using the oscilloscope.

Result:

RESULT	PROCEED TO
A waveform synchronized with the voice input to the map light assembly is output	A
A waveform synchronized with the voice input to the map light assembly is not output	B

Text in Illustration

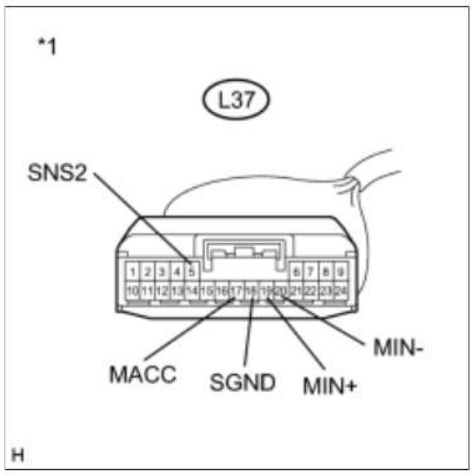
*1	Component with harness connected (Map Light Assembly)

B ▶ **REPLACE TELEPHONE MICROPHONE ASSEMBLY**

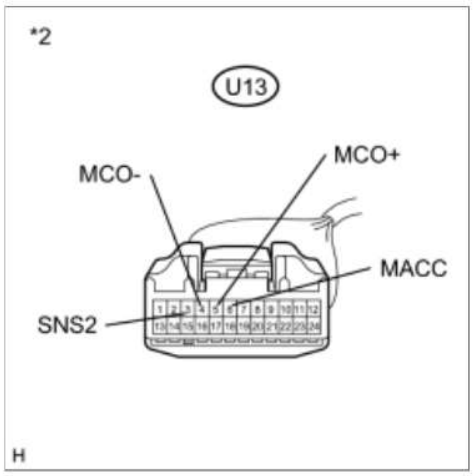
A ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

7.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - MAP LIGHT ASSEMBLY)**

cardiagn.com



(a) Disconnect the L37 navigation receiver assembly connector.



(b) Disconnect the U13 map light assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-5 (SNS2) - U13-3 (SNS2)	Always	Below 1 Ω
L37-17 (MACC) - U13-6 (MACC)	Always	Below 1 Ω
L37-19 (MIN+) - U13-5 (MCO+)	Always	Below 1 Ω
L37-20 (MIN-) - U13-4 (MCO-)	Always	Below 1 Ω
L37-5 (SNS2) - Body ground	Always	10 kΩ or higher
L37-17 (MACC) - Body ground	Always	10 kΩ or higher
L37-19 (MIN+) - Body ground	Always	10 kΩ or higher
L37-20 (MIN-) - Body ground	Always	10 kΩ or higher
L37-18 (SGND) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector

cardiagn.com

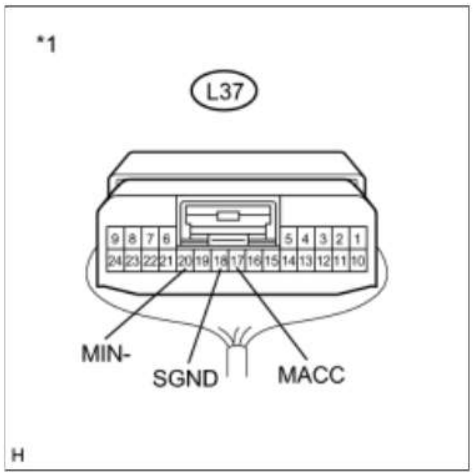
	(to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Map Light Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

8.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

(a) Disconnect the U3 map light assembly connector.



(b) Reconnect the L37 navigation receiver assembly connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-17 (MACC) - Body ground	Power switch on (ACC)	4 to 6 V

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-18 (SGND) - Body ground	Always	Below 1 Ω
L37-20 (MIN-) - Body ground	Always	Below 1 Ω

Text in Illustration

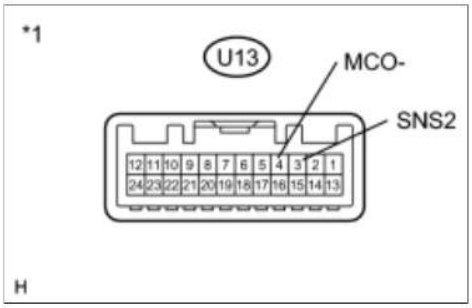
*1	Component with harness connected (Navigation Receiver Assembly)

cardiagn.com

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

9.	**INSPECT MAP LIGHT ASSEMBLY**



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U13-3 (SNS2) - U13-4 (MCO-)	Always	Below 1 Ω

Text in Illustration

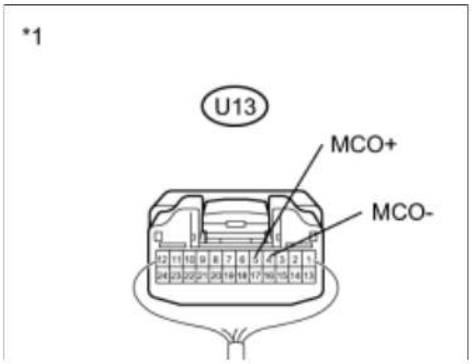
*1	Component without harness connected (Map Light Assembly)

NG ▶ **REPLACE TELEPHONE MICROPHONE ASSEMBLY**

OK ▼

10.	**INSPECT MAP LIGHT ASSEMBLY**

(a) Reconnect the L37 navigation receiver assembly connector.



(b) Reconnect the U13 map light assembly connector.

cardiagn.com



(c) Turn the power switch on (ACC).

(d) Connect an oscilloscope to terminals 5 (MCO+) and 4 (MCO-) of the U13 map light assembly connector.

(e) Check the waveform of the telephone microphone assembly using the oscilloscope.

Result:

RESULT	PROCEED TO
A waveform synchronized with the voice input to the map light assembly is output	A
A waveform synchronized with the voice input to the map light assembly is not output	B

Text in Illustration

*1	Component with harness connected (Map Light Assembly)

B ▶ **REPLACE TELEPHONE MICROPHONE ASSEMBLY**

A ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

11.	**REPLACE TELEPHONE MICROPHONE ASSEMBLY**

(a) Replace the telephone microphone assembly.

HINT:

- w/o Sliding Roof INFO
- w/ Sliding Roof INFO

(b) Check if the same malfunction recurs.

Result:

RESULT	PROCEED TO
Malfunction does not recur (returns to normal)	A
Malfunction recurs	B

B ▶ **REPLACE MAP LIGHT ASSEMBLY**

A ▶ **END**

cardiagn.com

12.	**CONFIRM MODEL**

(a) Choose the model to be inspected.

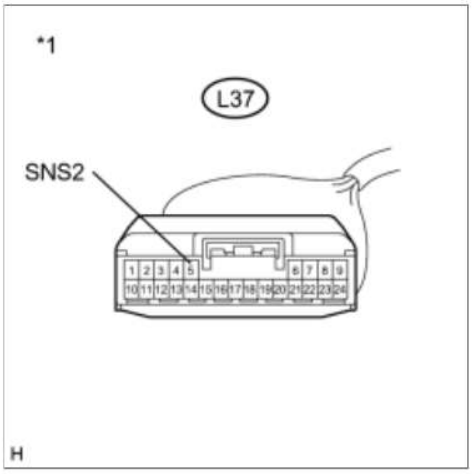
Result:

MODEL	PROCEED TO
w/o Sliding Roof	A
w/ Sliding Roof	B

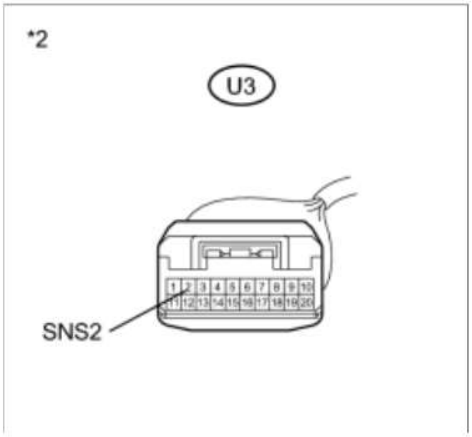
B ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - MAP LIGHT ASSEMBLY)**

A ▼

13.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - MAP LIGHT ASSEMBLY)**



(a) Disconnect the L37 navigation receiver assembly connector.



(b) Disconnect the U3 map light assembly connector.

cardiagn.com

H

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-5 (SNS2) - U3-2 (SNS2)	Always	Below 1 Ω
L37-5 (SNS2) - Body ground	Always	10 kΩ or higher

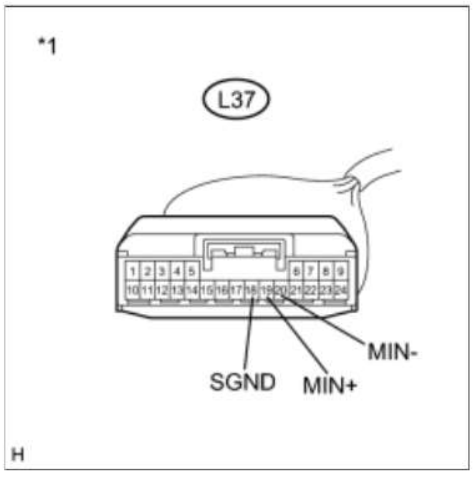
Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Map Light Assembly)

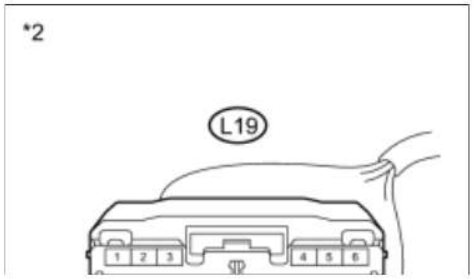
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

14.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - DCM)

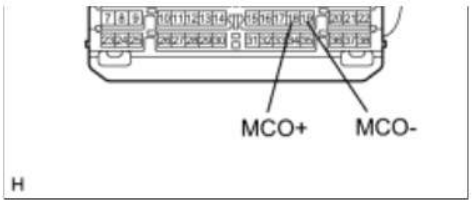


(a) Disconnect the L37 navigation receiver assembly connector.



(b) Disconnect the L19 DCM (telematics transceiver) connector.

cardiagn.com



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-19 (MIN+) - L19-18 (MCO+)	Always	Below 1 Ω
L37-20 (MIN-) - L19-19 (MCO-)	Always	Below 1 Ω
L37-19 (MIN+) - Body ground	Always	10 kΩ or higher
L37-20 (MIN-) - Body ground	Always	10 kΩ or higher
L37-18 (SGND) - Body ground	Always	10 kΩ or higher

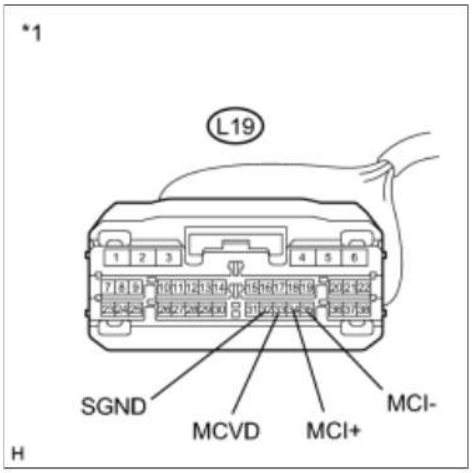
Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to DCM (Telematics Transceiver))

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

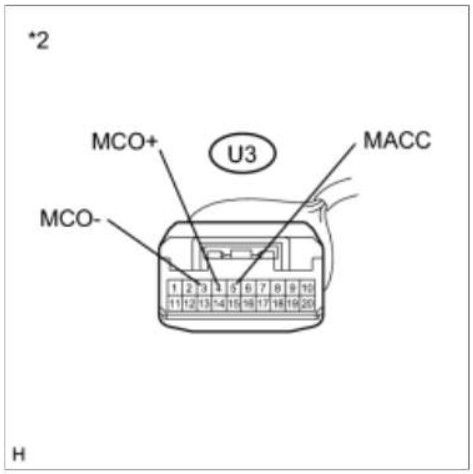
OK ▼

15.	**CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - MAP LIGHT ASSEMBLY)**



(a) Disconnect the L19 DCM (telematics transceiver) connector.

cardiagn.com



(b) Disconnect the U3 map light assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-33 (MCVD) - U3-5 (MACC)	Always	Below 1 Ω
L19-34 (MCI+) - U3-4 (MCO+)	Always	Below 1 Ω
L19-35 (MCI-) - U3-3 (MCO-)	Always	Below 1 Ω
L19-33 (MCVD) - Body ground	Always	10 kΩ or higher
L19-34 (MCI+) - Body ground	Always	10 kΩ or higher
L19-35 (MCI-) - Body ground	Always	10 kΩ or higher
L19-32 (SGND) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))
*2	Front view of wire harness connector (to Map Light Assembly)

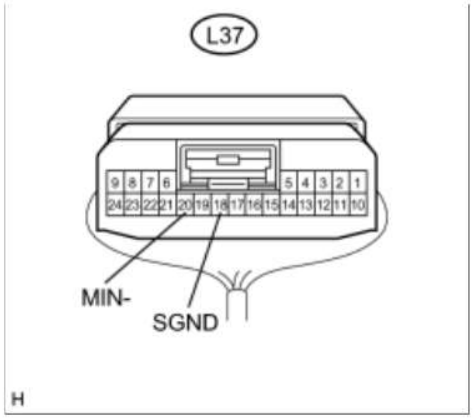
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

16.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

*1

cardiagn.com



(a) Reconnect the L37 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-18 (SGND) - Body ground	Always	Below 1 Ω
L37-20 (MIN-) - Body ground	Always	Below 1 Ω

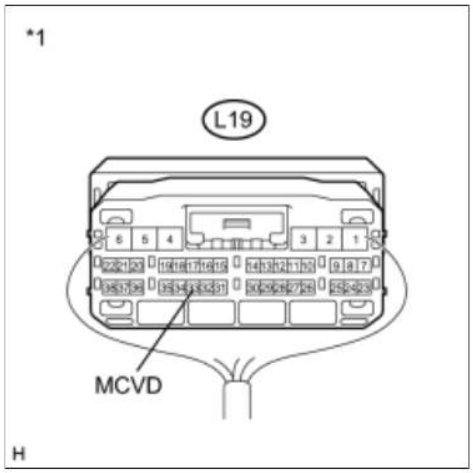
Text in Illustration

*1	Component with harness connected (Navigation Receiver Assembly)

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

17.	**INSPECT DCM (TELEMATICS TRANSCEIVER)**



(a) Reconnect the L19 DCM (telematics transceiver) connector.

cardiagn.com

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-33 (MCVD) - Body ground	Power switch on (ACC)	5 V

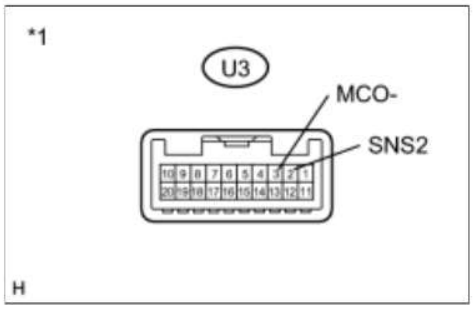
Text in Illustration

*1	Component with harness connected (DCM (Telematics Transceiver))

NG ▶ **REPLACE DCM (TELEMATICS TRANSCEIVER)**

OK ▼

18.	**INSPECT MAP LIGHT ASSEMBLY**



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U3-2 (SNS2) - U3-3 (MCO-)	Always	Below 1 Ω

Text in Illustration

*1	Component without harness connected (Map Light Assembly)

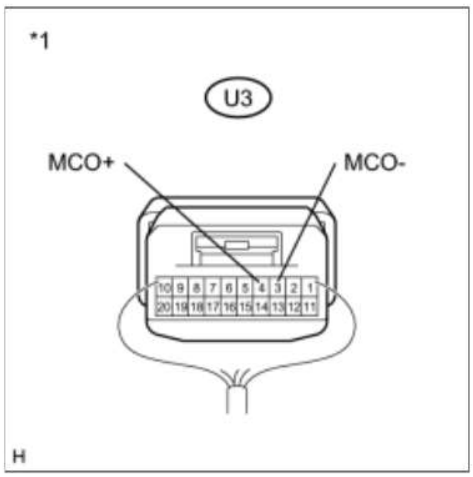
NG ▶ **REPLACE TELEPHONE MICROPHONE ASSEMBLY**

OK ▼

19.	**INSPECT MAP LIGHT ASSEMBLY**

(a) Reconnect the L37 navigation receiver assembly connector.

cardiagn.com



(b) Reconnect the U3 map light assembly connector.

(c) Turn the power switch on (ACC).

(d) Connect an oscilloscope to terminals 4 (MCO+) and 3 (MCO-) of the U3 map light assembly connector.

(e) Check the waveform of the telephone microphone assembly using the oscilloscope.

Result:

RESULT	PROCEED TO
A waveform synchronized with the voice input to the map light assembly is output	A
A waveform synchronized with the voice input to the map light assembly is not output	B

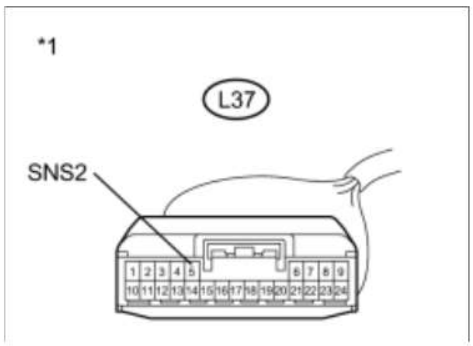
Text in Illustration

*1	Component with harness connected (Map Light Assembly)

B ▶ **REPLACE TELEPHONE MICROPHONE ASSEMBLY**

A ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

20.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - MAP LIGHT ASSEMBLY)**



(a) Disconnect the L37 navigation receiver assembly connector.

cardiagn.com





(b) Disconnect the U13 map light assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-5 (SNS2) - U13-3 (SNS2)	Always	Below 1 Ω
L37-5 (SNS2) - Body ground	Always	10 kΩ or higher

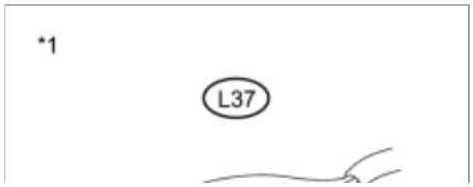
Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Map Light Assembly)

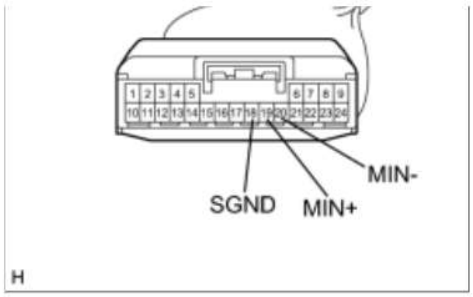
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

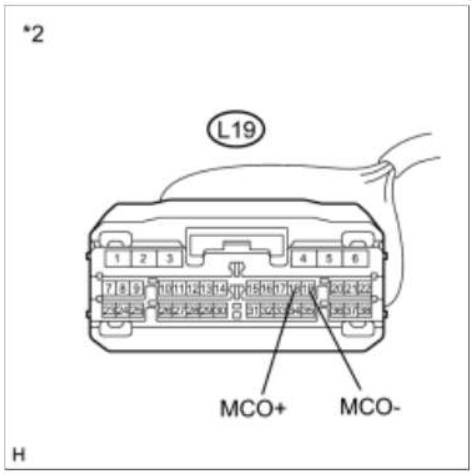
21.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - DCM)**



cardiagn.com



(a) Disconnect the L37 navigation receiver assembly connector.



(b) Disconnect the L19 DCM (telematics transceiver) connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-19 (MIN+) - L19-18 (MCO+)	Always	Below 1 Ω
L37-20 (MIN-) - L19-19 (MCO-)	Always	Below 1 Ω
L37-19 (MIN+) - Body ground	Always	10 kΩ or higher
L37-20 (MIN-) - Body ground	Always	10 kΩ or higher
L37-18 (SGND) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to DCM (Telematics Transceiver))

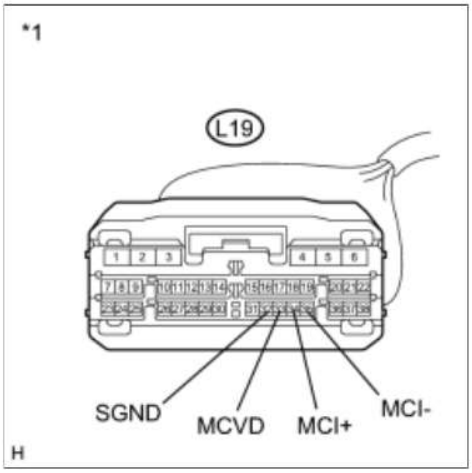
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

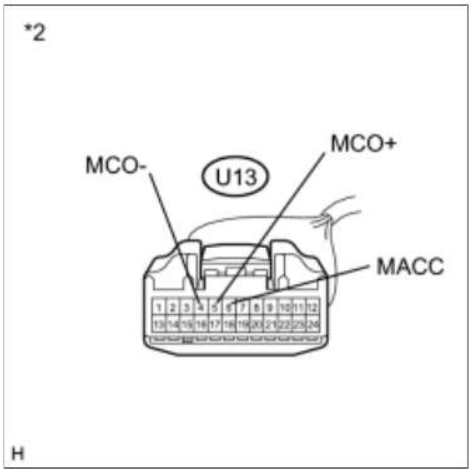
	CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - MAP LIGHT

cardiagn.com

22.	**CHECK HARNESS AND CONNECTOR (DCM (TELEMATICS TRANSCEIVER) - MAP LIGHT ASSEMBLY)**



(a) Disconnect the L19 DCM (telematics transceiver) connector.



(b) Disconnect the U13 map light assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-33 (MCVD) - U13-6 (MACC)	Always	Below 1 Ω
L19-34 (MCI+) - U13-5 (MCO+)	Always	Below 1 Ω
L19-35 (MCI-) - U13-4 (MCO-)	Always	Below 1 Ω
L19-33 (MCVD) - Body ground	Always	10 kΩ or higher
L19-34 (MCI+) - Body ground	Always	10 kΩ or higher
L19-35 (MCI-) - Body ground	Always	10 kΩ or higher
L19-32 (SGND) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to DCM (Telematics Transceiver))

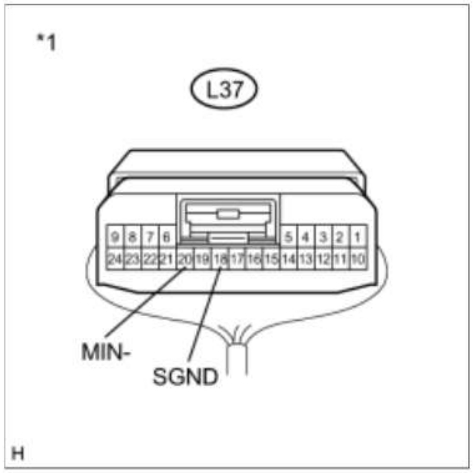
cardiagn.com

*2	Front view of wire harness connector (to Map Light Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

23.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**



(a) Reconnect the L37 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L37-18 (SGND) - Body ground	Always	Below 1 Ω
L37-20 (MIN-) - Body ground	Always	Below 1 Ω

Text in Illustration

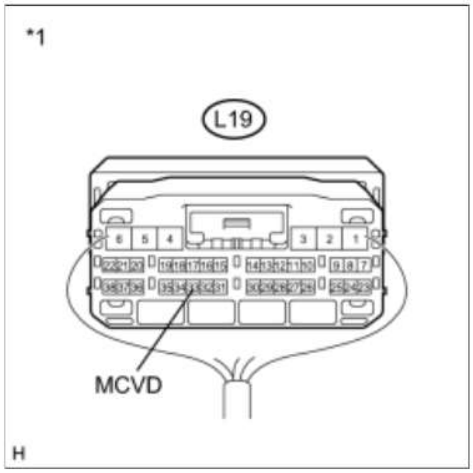
*1	Component with harness connected (Navigation Receiver Assembly)

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

24.	**INSPECT DCM (TELEMATICS TRANSCEIVER)**

cardiagn.com



(a) Reconnect the L19 DCM (telematics transceiver) connector.

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

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L19-33 (MCVD) - Body ground	Power switch on (ACC)	5 V

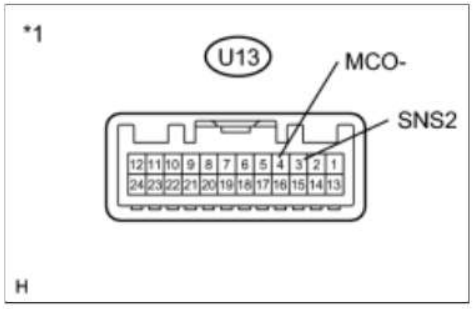
Text in Illustration

*1	Component with harness connected (DCM (Telematics Transceiver))

NG ▶ **REPLACE DCM (TELEMATICS TRANSCEIVER)**

OK ▼

25.	**INSPECT MAP LIGHT ASSEMBLY**



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U13-3 (SNS2) - U13-4 (MCO-)	Always	Below 1 Ω

Text in Illustration

cardiagn.com

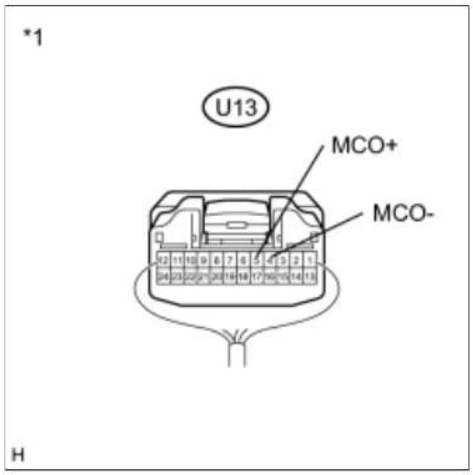
*1	Component without harness connected (Map Light Assembly)

NG ▶ **REPLACE TELEPHONE MICROPHONE ASSEMBLY**

OK ▼

26.	**INSPECT MAP LIGHT ASSEMBLY**

(a) Reconnect the L37 navigation receiver assembly connector.



(b) Reconnect the U13 map light assembly connector.

(c) Turn the power switch on (ACC).

(d) Connect an oscilloscope to terminals 5 (MCO+) and 4 (MCO-) of the U13 map light assembly connector.

(e) Check the waveform of the telephone microphone assembly using the oscilloscope.

Result:

RESULT	PROCEED TO
A waveform synchronized with the voice input to the map light assembly is output	A
A waveform synchronized with the voice input to the map light assembly is not output	B

Text in Illustration

*1	Component with harness connected (Map Light Assembly)

B ▶ **REPLACE TELEPHONE MICROPHONE ASSEMBLY**

A ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM**

cardiagn.com

SYMPTOMS TABLE

27.	**REPLACE TELEPHONE MICROPHONE ASSEMBLY**

(a) Replace the telephone microphone assembly.

HINT:

- w/o Sliding Roof INFO
- w/ Sliding Roof INFO

(b) Check if the same malfunction recurs.

Result:

RESULT	PROCEED TO
Malfunction does not recur (returns to normal)	A
Malfunction recurs	B

B **REPLACE MAP LIGHT ASSEMBLY**

A **END**

cardiagn.com

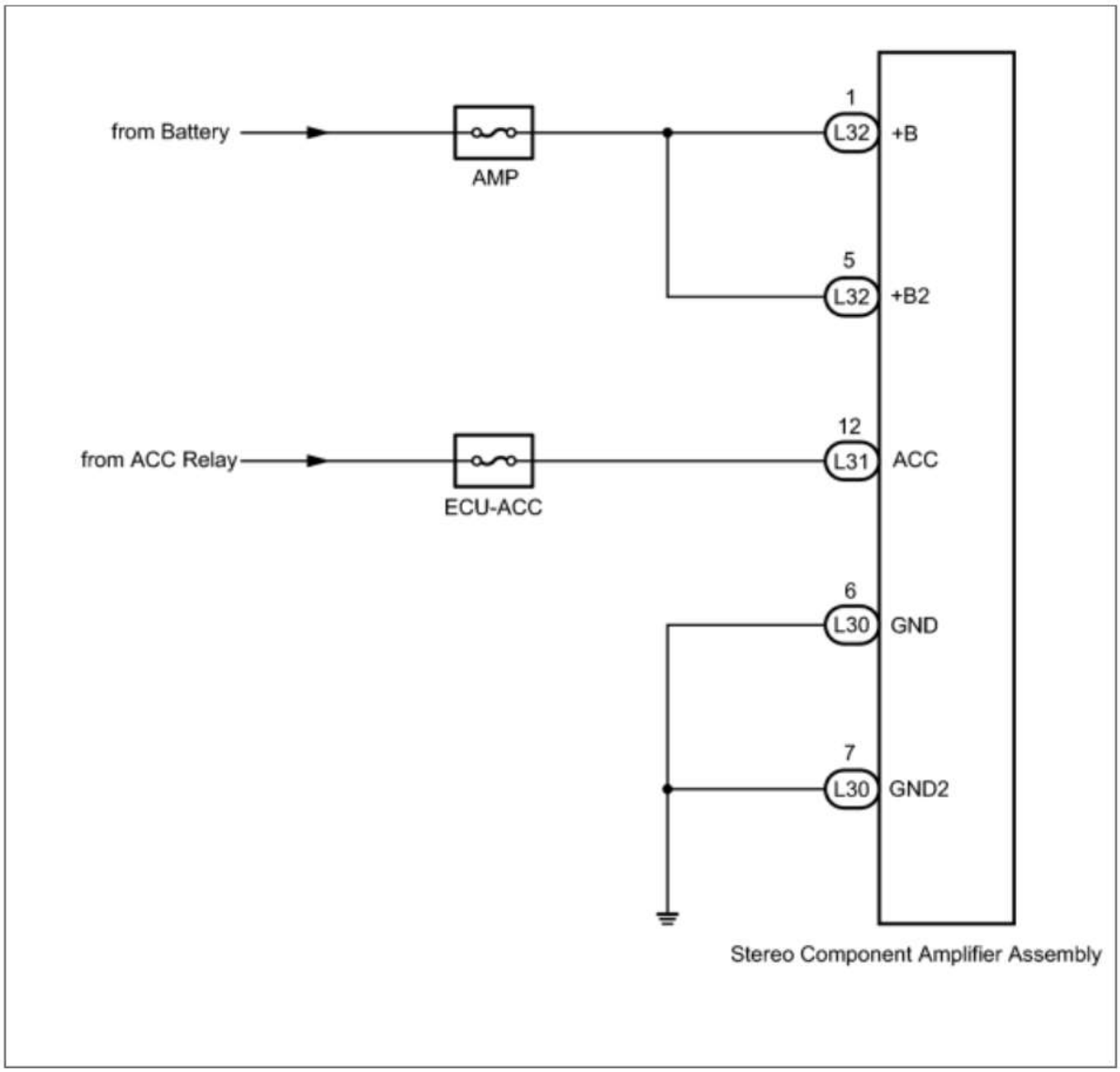
Stereo Component Amplifier Power Source Circuit

DESCRIPTION

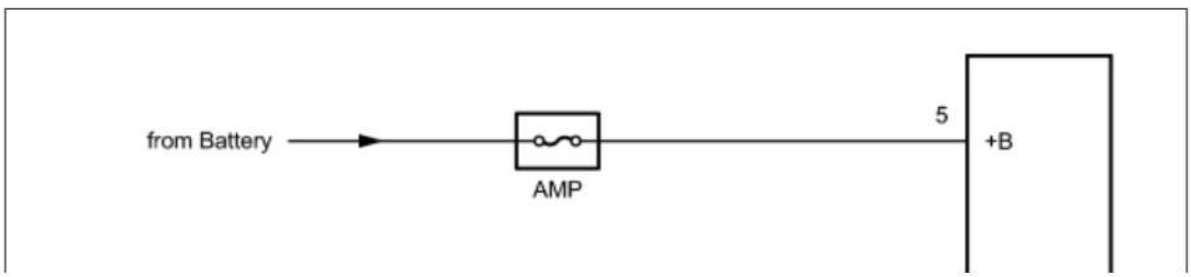
This is the power source circuit to operate the stereo component amplifier assembly.

WIRING DIAGRAM

1. w/ "Bluetooth" Audio System

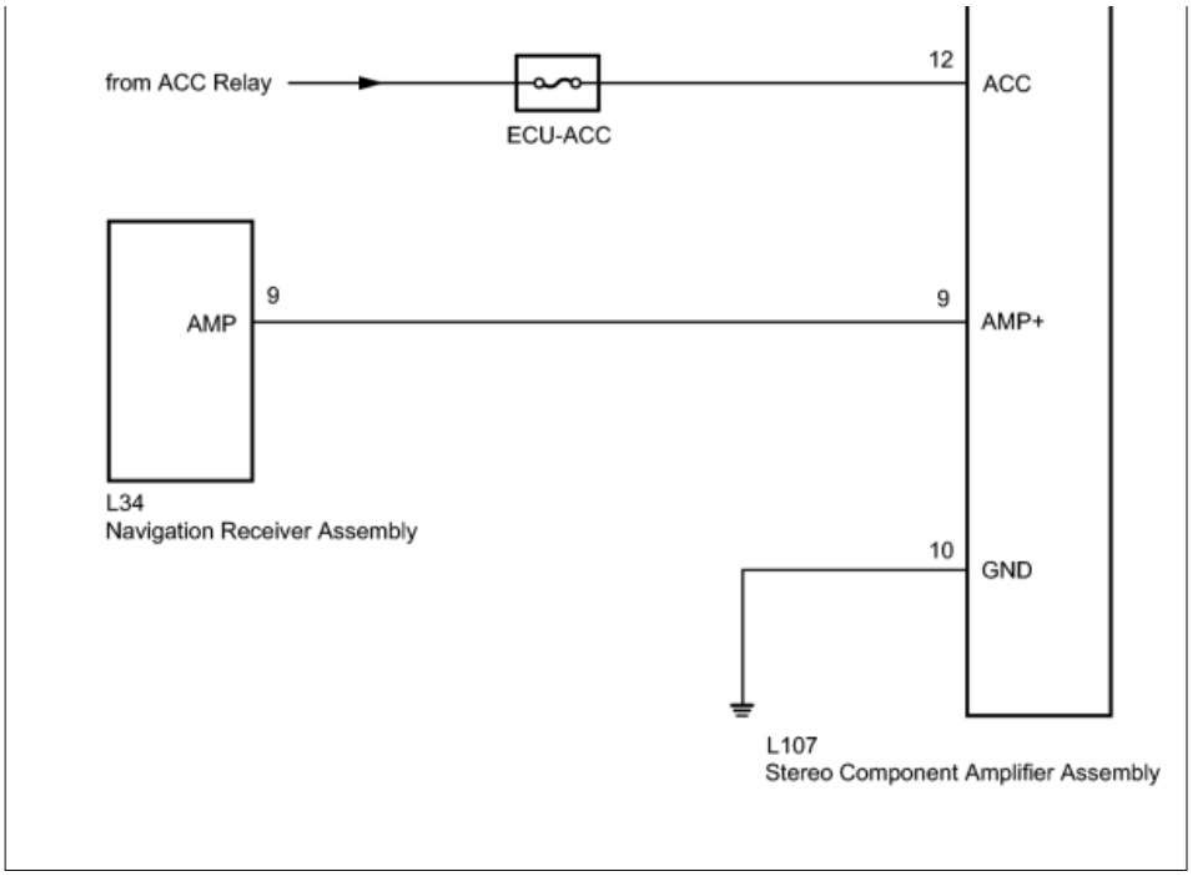


2. w/o "Bluetooth" Audio System



cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Stereo Component Amplifier Power Source Circuit (2010 Prius)



INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.	**CONFIRM MODEL**

(a) Choose the model to be inspected.

Result:

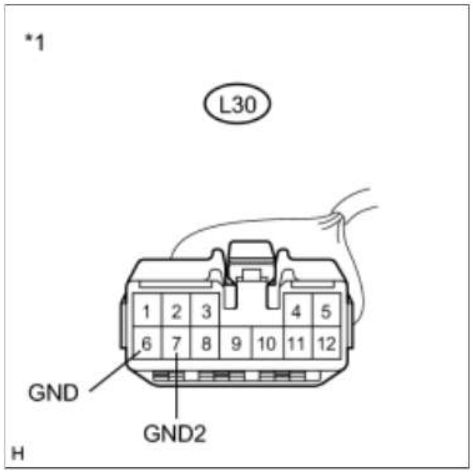
RESULT	PROCEED TO
w/ "Bluetooth" Audio System	A
w/o "Bluetooth" Audio System	B

B ▶ **INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY**

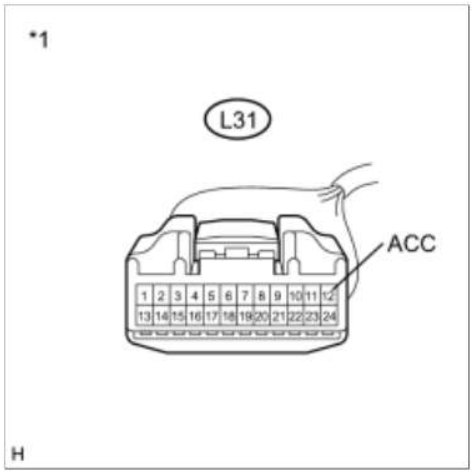
A ▼

cardiagn.com

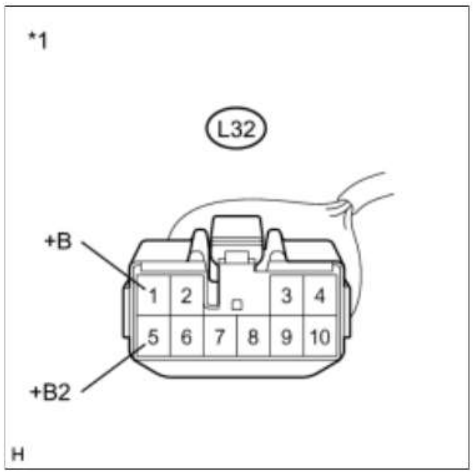
2.	INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY



(a) Disconnect the L30 stereo component amplifier assembly connector.



(b) Disconnect the L31 stereo component amplifier assembly connector.



(c) Disconnect the L32 stereo component amplifier assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION

cardiagn.com

L30-6 (GND) - Body ground	Always	Below 1 Ω
L30-7 (GND2) - Body ground	Always	Below 1 Ω

(e) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L32-1 (+B) - L30-6 (GND)	Power switch off	11 to 14 V
L32-5 (+B2) - L30-6 (GND)	Power switch off	11 to 14 V
L31-12 (ACC) - L30-6 (GND)	Power switch on (ACC)	11 to 14 V

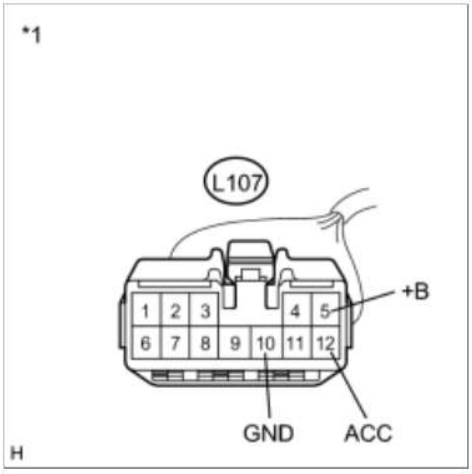
Text in Illustration

*1	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

3.	**INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY**



(a) Disconnect the L107 stereo component amplifier assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L107-10 (GND) - Body ground	Always	Below 1 Ω

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

Standard Voltage:

cardiagn.com

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L107-5 (+B) - L107-10 (GND)	Power switch off	11 to 14 V
L107-12 (ACC) - L107-10 (GND)	Power switch on (ACC)	11 to 14 V

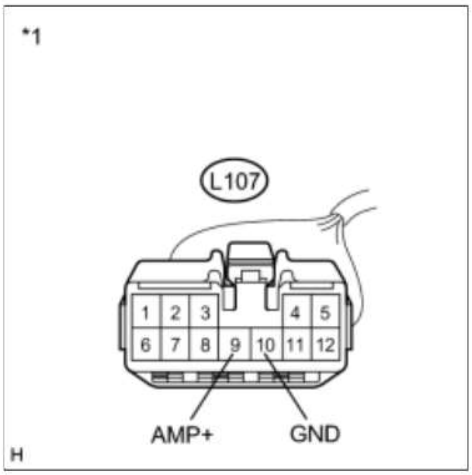
Text in Illustration

*1	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

4.	**INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY**



(a) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L107-9 (AMP+) - L107-10 (GND)	Power switch on (IG)	11 to 14 V

Text in Illustration

*1	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

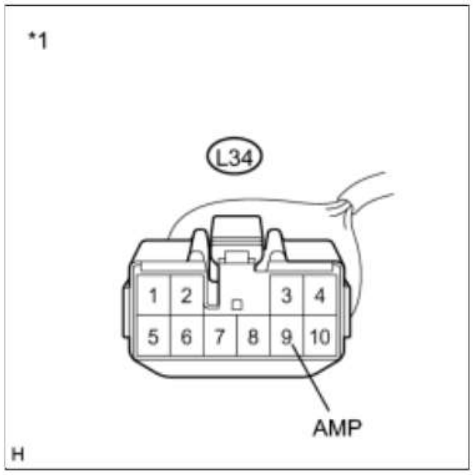
NG ▶ **CHECK HARNESS AND CONNECTOR**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

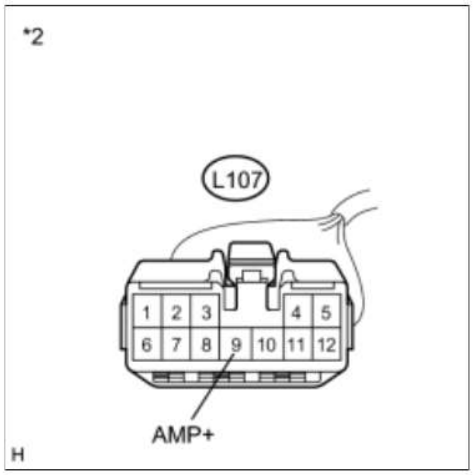
5.	**CHECK HARNESS AND CONNECTOR**

cardiagn.com

NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Stereo Component Amplifier Power Source Circuit (2010 Prius)



(a) Disconnect the L34 navigation receiver assembly connector.



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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L34-9 (AMP) - L107-9 (AMP+)	Always	Below 1 Ω
L34-9 (AMP) - Body ground	Always	10 kΩ or higher

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)
*2	Front view of wire harness connector (to Stereo Component Amplifier Assembly)

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

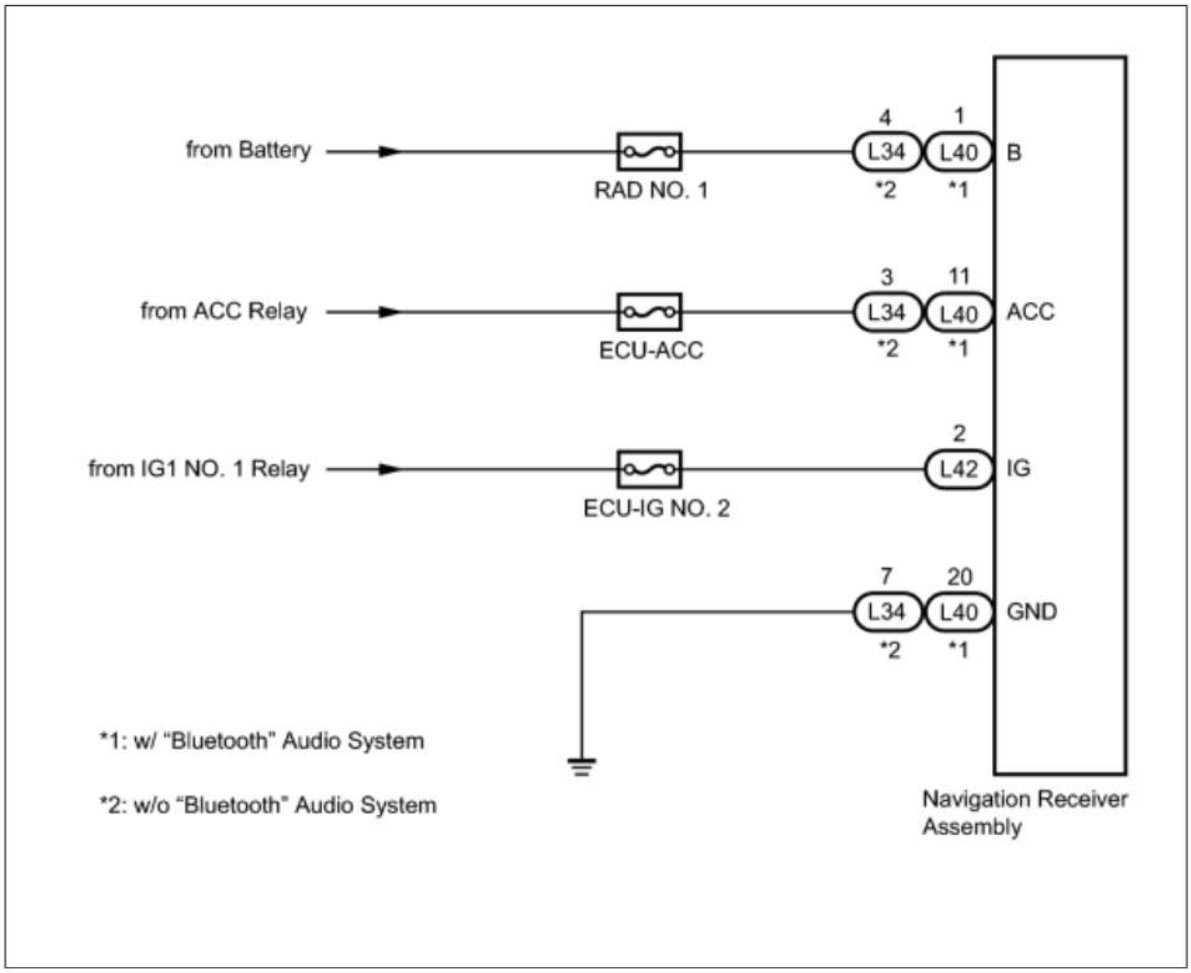
cardiagn.com

Navigation Receiver Assembly Power Source Circuit

DESCRIPTION

This is the power source circuit to operate the navigation receiver assembly.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

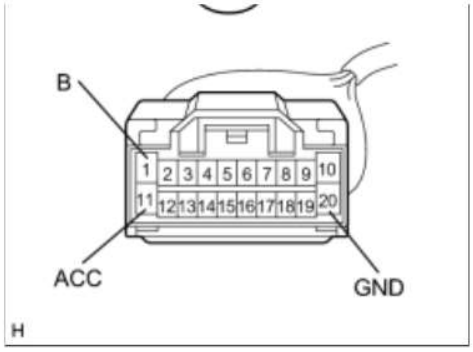
PROCEDURE

1.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

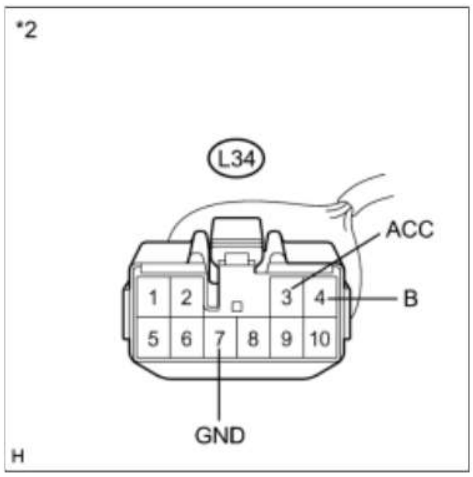


cardiagn.com

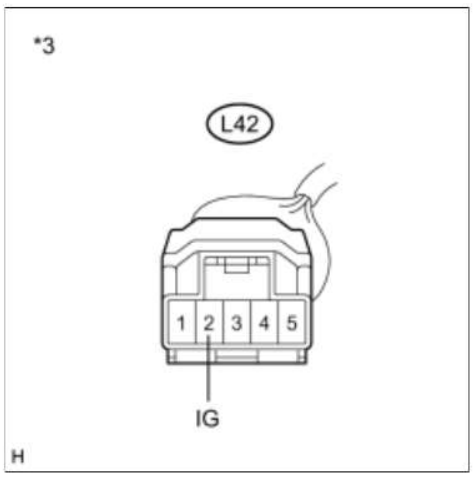
NAVIGATION / MULTI INFO DISPLAY: NAVIGATION SYSTEM: Navigation Receiver Assembly Power Source Circuit (2010 Prius)



(a) Disconnect the L40 navigation receiver assembly connector (w/ "Bluetooth" Audio System).



(b) Disconnect the L34 navigation receiver assembly connector (w/o "Bluetooth" Audio System).



(c) Disconnect the L42 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
L40-20 (GND) - Body ground*4	Always	Below 1 Ω
L34-7 (GND) - Body ground*5	Always	Below 1 Ω

(e) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION

cardiagn.com

L40-1 (B) - L40-20 (GND)*4	Power switch off	11 to 14 V
L40-11 (ACC) - L40-20 (GND)*4	Power switch on (ACC)	11 to 14 V
L42-2 (IG) - L40-20 (GND)*4	Power switch on (IG)	11 to 14 V
L34-4 (B) - L34-7 (GND)*5	Power switch off	11 to 14 V
L34-3 (ACC) - L34-7 (GND)*5	Power switch on (ACC)	11 to 14 V
L42-2 (IG) - L34-7 (GND)*5	Power switch on (IG)	11 to 14 V

Text in Illustration

*1	Front view of wire harness connector (to Navigation Receiver Assembly)*4
*2	Front view of wire harness connector (to Navigation Receiver Assembly)*5
*3	Front view of wire harness connector (to Navigation Receiver Assembly)

*4: w/ "Bluetooth" Audio System
*5: w/o "Bluetooth" Audio System

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

cardiagn.com