AUDIO AND VISUAL SYSTEM DIAGNOSTIC MODE (DISPLAY AUDIO TYPE (9-INCH SCREEN))

Audio and Visual System Diagnostic Mode

Audio and Visual System Diagnostic Mode

NOTE:

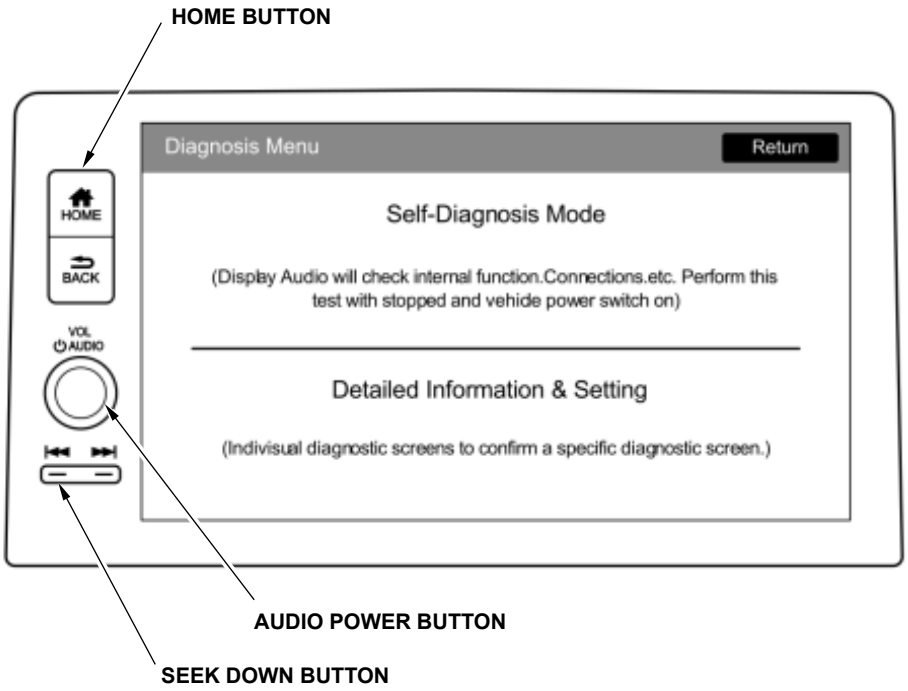
- Check the vehicle 12 volt battery condition first.
- The screens detail indicated may change depending on equipment or specification.

Start-Up Procedure and Diagnostic Menu

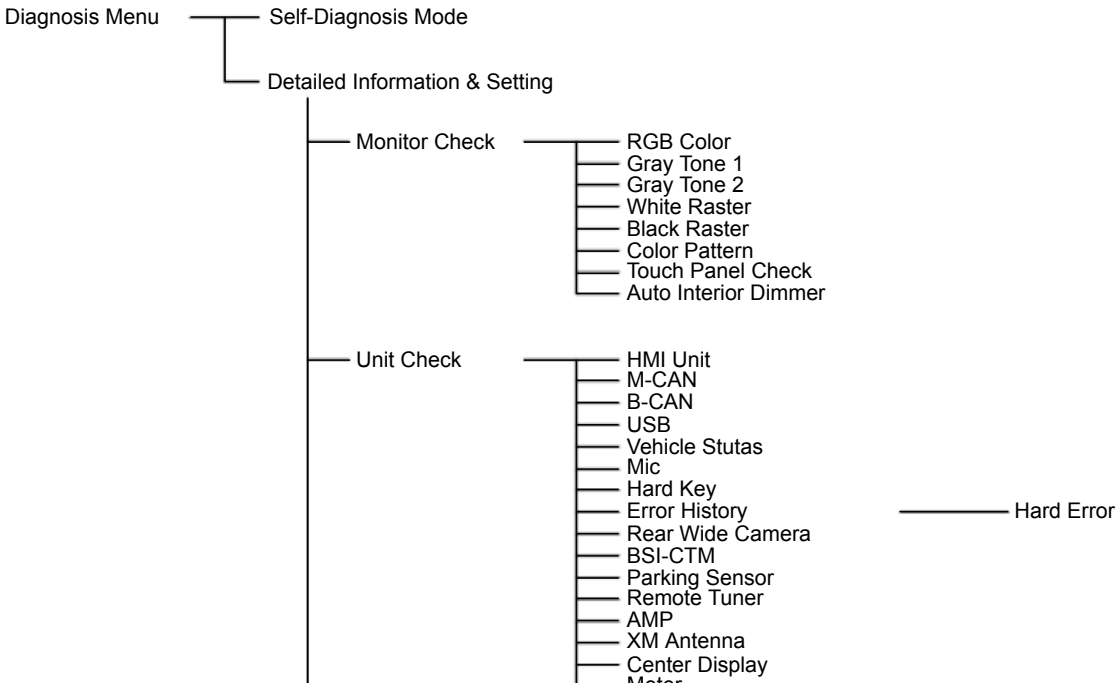
1. Turn the vehicle to the ON mode. If needed, start the engine.

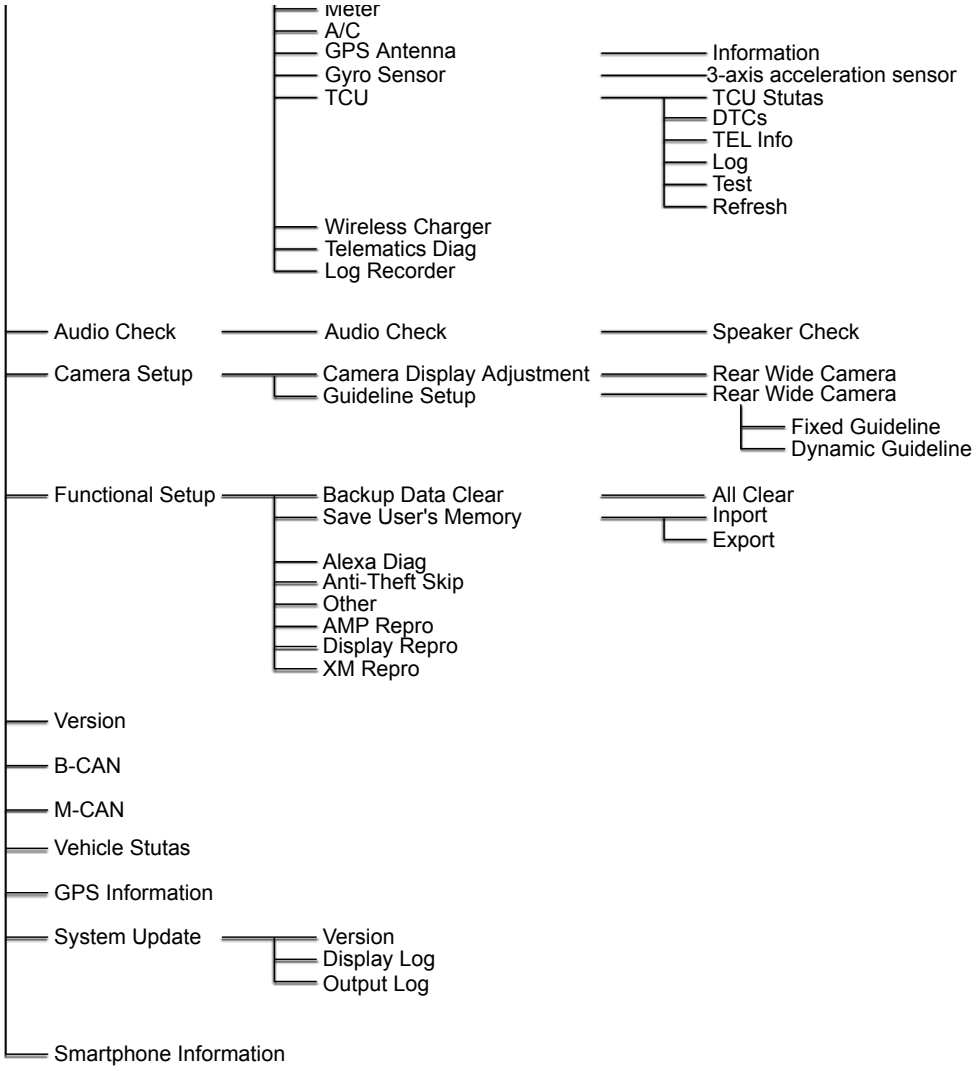
2. Press and hold the HOME button, SEEK DOWN (⏮) button, and the AUDIO POWER (⏻) button until the Select Diagnosis Items menu screen is displayed.
   - Self-Diagnosis Mode (runs the automatic diagnosis of the audio and visual system)
   - Detail Information & Setting (allows you to manually diagnose the audio and visual system)

Displaying Select Diagnosis Items Menu Screen



Diagnostic Layer





Self-Diagnosis Mode (System Links)

1.	Select the Self-Diagnosis Mode from the Select Diagnosis Items menu. The message at the bottom of the screen flashes indicating “Diagnosis in progress...” , do not turn the vehicle to the OFF (LOCK) mode.

2.	The diagnosis tests the following:

- Most of the wires connecting the external components shown in the block diagram.
- The diagnostic results from the components shown in the block diagram.

3. When the diagnosis finishes, the icons turn different colors based on their test status.

   NOTE: By selecting the Help icon, you can see a description for each color.

Icon Colors	Description
Green	The system ran a diagnosis and the results are OK.
Red*	Errors that require replacement of hardware or harness. Examples are connection error or memory diagnosis errors. Select the red icon and check each diagnostic screen (refer to the description for diagnostic screens in the Unit Check).
Yellow	• Errors that do not require hardware replacement, or the connection check is in the state which is not done. Such as leaving the vehicle in the ACCESSORY mode or because of a missing accessory. • When the audio unit detects a failure, and stores DTC, the Error History icon turns yellow.
White	The diagnosis is running. The screen functions are locked out while the diagnosis runs.
Gray	• The system cannot automatically check this function. You have to select the diagnosis item and manually do additional testing, like checking the center display unit buttons in the Hard Key test. When you complete the Hard Key test and return to the System Links screen, the gray icon turns green. • The Vehicle Status icon anytime shows gray.

   *: The B-CAN icon shows red when the vehicle is in the ACCESSORY mode. Check the System Links with the engine running, and if the B-CAN icon turns green, the system is OK at this time.

4. Select the icon to see the details of that diagnostic function. The icon colors on the screen may not change until you exit and re-enter the Self-Diagnosis Mode. In some cases, you may have to restart the vehicle for the indication to change. After you repair the affected component or harness, repeat this diagnosis.

Factory Diagnostic Screen In Line Diag and Linking

If the vehicle left the factory in the factory diagnostic mode, you will see this screen every time you turn

the vehicle to the ON mode. Sometimes this screen also appears after you replace the audio unit with a new or remanufactured unit. Normally the factory does the steps necessary to verify proper operation and terminate the factory diagnosis. Until the proper confirmation sequence is done, the screen appears every time you turn the vehicle to the ON mode.

NOTE: The system cannot complete a full diagnosis unless vehicle is in the ON mode.

1.	Select the Start Diag icon to check the connection between the audio unit and related components. When the connection diagnosis is in progress, the icon indicates Detecting... , and each icon turns white. If the connection is OK, the icon turns green. If the connection is NG, the icon turns red. Check for connection between the audio unit and related unit on the failure connection line. NOTE: When the item is a variation equipment, the icon shows yellow, and it is not reflected in diagnosis.

2.	If the connection diagnosis is finished, press the audio remote-HFL switch buttons to check the connection. As each button is pressed, the corresponding icon on the display should turn green.

3.	If all the diagnosis are OK, the icon indicates OK. Select the Exit Diag icon to exit the diagnostic mode. The In Line Diag should not appear again.

Forced Completing of In Line Diag and Linking

Follow these steps to prevent the screen from appearing in the future:

1.	While displaying the In Line Diag screen, press and hold the HOME button, SEEK DOWN (⏮) button, and the AUDIO POWER (⏻) button until the Select Diagnosis Items menu screen is displayed.

2.	While displaying the Select Diagnosis Items menu screen, press and hold the HOME button until the In Line Diag setting screen is displayed.

3.	Set the Inline Diag Setting to OK (Completion). The system restarts and a normal start-up process occurs. The In Line Diag should not appear again.

Detail Information & Setting

This section allows you to run a specific diagnosis and allows additional setting choices for some screens that are not shown when touching an icon from the System Links screen.

Select the item you want to check, and the test begins. To return to the previous screen, select the Return icon.

•	Monitor Check
•	Unit Check
•	Audio Check
•	Camera Setup
•	Functional Setup
•	Version
•	B-CAN*
•	M-CAN*
•	Vehicle Status*
•	GPS Information
•	System Update
•	Smartphone information

*: Refer to the Unit Check for details.

Monitor Check

These screens allow you to troubleshoot the LCD display on the center display unit. Select the item you want to check, and follow the diagnostic instructions.

•	RGB Color
•	Gray Tone 1
•	Gray Tone 2
•	White Raster
•	Black Raster
•	Color Pattern
•	Touch Panel Check

- Auto Interior Dimmer

RGB Color

NOTE: Displaying an anomaly in this diagnosis screen is not necessarily a failure.

This screen verifies that the display is receiving the video (R, G, B, and Composite sync) signals properly. The three primary colors should all appear without distortion. The combination of all three should produce a central white section. If any of the color circles are missing, replace the center display unit.

The diagnostic screen is displayed in full screen mode while pressing the HOME button.

Gray Tone 1

NOTE: Displaying an anomaly in this diagnosis screen is not necessarily a failure.

This screen checks problems with contrast in 16 gradations. You should be able to see the changes from bar to bar across the scale. It is normal for the two bars on either side to appear the same.

The diagnostic screen is displayed in full screen mode while pressing the HOME button.

Gray Tone 2

NOTE: Displaying an anomaly in this diagnosis screen is not necessarily a failure.

This screen checks problems with contrast in 64 gradations. You should be able to see the changes from bar to bar across the scale.

The diagnostic screen is displayed in full screen mode while pressing the HOME button.

White Raster

NOTE: Displaying an anomaly in this diagnosis screen is not necessarily a failure.

This screen checks for pixels that may be dead (off). The entire display must be white.

The diagnostic screen is displayed in full screen mode while pressing the HOME button.

Black Raster

NOTE: Displaying an anomaly in this diagnosis screen is not necessarily a failure.

This screen checks for pixels that may be stuck on. The entire display must be black.

The diagnostic screen is displayed in full screen mode while pressing the HOME button.

Color Pattern

NOTE: Displaying an anomaly in this diagnosis screen is not necessarily a failure.

The screen shows the colors being used for the map and menu screens. This is for factory use only. To check the color signal, use the RGB Color diagnosis.

The diagnostic screen is displayed in full screen mode while pressing the HOME button.

Touch Panel Check

This check allows you to check the sensitivity of touch panel. If the screen is operated in the state while the telop is displayed, the track changes to black, and the action name (Single Tap, Long tap, Double tap, Pinch in, Pinch out, Slide, and Flick) appears on the caption for 5 seconds. The screen displays the coordinates of where the screen was touched. If the BACK button is pressed, the screen returns to the Monitor Check menu.

Auto Interior Dimmer

This screen allows you to enable or disable the function about auto interior dimmer.

Unit Check (Quick Check)

These screens allow you to diagnose the audio unit and related units. Some of the tests and screens that are displayed under the Unit Check are same as the checks listed under the Detail Information & Setting.

To start the test, select the item you want to check.

NOTE: These items describe in indication order. Swipe the screen to check the next items.

•	HMI Unit

•	M-CAN
•	B-CAN
•	USB
•	Vehicle status
•	Mic
•	Hard Key
•	Error History
•	Rear Wide Camera
•	BSI-CTM
•	Parking Sensor
•	Remote Tuner
•	AMP
•	SXM Antenna (with Sirius XM)
•	Center Display
•	Meter
•	A/C
•	GPS Antenna
•	Gyro Sensor
•	Wireless Charger
•	Telematics Diag
•	Log Recorder (factory use only)

HMI Unit

This diagnosis checks for connection in the audio unit processor. If the test is OK, the screen shows audio unit information.

•	Model Name: Displays the audio unit manufacture's model number.
•	Serial Number: Displays the audio unit serial number. That should be the same as the serial number found on the upper side of the audio unit.

M-CAN

This diagnosis checks whether the audio unit has received specific M-CAN data.

If Connection shows NG, check for hard error codes.

B-CAN

NOTE:

• This diagnosis must have the engine running.
• Swipe the screen to check the next items.

This diagnosis checks whether the audio unit has received specific B-CAN data. If B-CAN shows NO ERROR, an error is not detected between the B-CAN bus and the audio unit.

• If B-CAN shows RX ERROR, replace the audio unit.
• If B-CAN shows TIME OUT, There is a possibility that some items are NG (red icon). When all the items from each transmitting unit is NG, check for B-CAN DTCs with the HDS. If DTCs not detected, check for hard error codes.

Item	Transmitting Unit
VSPNE, AT, ILLUMI, VINNO, ACSTATE, STEERING_ANGLE, ODO_TRIP, TRICOM1 - 4, REPLY_GUIDE_INFO_MET	Gauge control module

USB

This diagnosis displays the USB device status that is connected to the audio unit.

If the USB memory device is connected to USB port A, the screen displays the USB controller status, the Bus power status, and the device status.

NOTE: USB port B is not available in this diagnosis.

When you connect a USB mass storage device, you can see the capacity used and the amount of free space available.

Vehicle Status

Use this screen to confirm that the audio unit is properly receiving input signals. The displayed value changes each time according to the state of input signal.

NOTE: These items describe in indication order. Swipe the screen to check the next items.

Item	Input	Description
VSP	VSP line	• 1: When the vehicle speed pulse is received from the PCM • 0: When the vehicle speed pulse is not received from the PCM
Speed	VSP line	This item indicates the vehicle speed (km/h).
PARK	YB-CAN A lines	• 1: When the parking brake is applied • 0: When the parking brake is not applied
Current received VIN	YB-CAN A lines	This item indicates the VIN that received from the PCM.
Initial registered VIN	YB-CAN A lines	This item indicates the initial registration VIN (10 is added to the beginning of indicated VIN) that is saved in the audio unit.
Last registered VIN	YB-CAN A lines	This item indicates the additional registration VIN (11 is added to the beginning of indicated VIN) when the audio unit is substituted into another vehicle, or when a PCM is substituted or replaced into this vehicle.

Item	Input	Description
BACK (CAN)	YB-CAN A lines	• 1: When the transmission is shifted to R position/mode • 0: When the transmission is shifted to any position/mode other than R position/mode
BACK (BACKLT wire)	BACK_LT line	
IG	YB-CAN A lines	• 1: When the vehicle is in the ON mode • 0: When vehicle is in the ACCESSORY mode
C_METER_ILL_STATUS	YB-CAN A lines	• 1: When parking lights, or headlights are on • 0: When parking lights, or headlights are off
C_METER_ILL_CANCEL	YB-CAN A lines	• 1: When the dashlights brightness control is

		more than 90 % brightness with the parking lights turned on • 0: When the dashlights brightness control is less than 90 % brightness with the parking lights turned on
C_METER_ILL_STEP	YB-CAN A lines	With the parking lights on, use the dashlights brightness control button to dim and brighten the gauge control module. The value changes from 1 (max low) to 22 (max high).

Mic

This diagnosis allows you to test the HFL microphone. To properly check the HFL microphone, make sure you are sitting in the driver's seat.

NOTE: Before this diagnosis, check the response of the TALK button on the audio remote-HFL switch by the Hard Key diagnosis.

Press the TALK button, and within 5 seconds in a normal voice say “testing” toward the HFL microphone in the roof module. The Mic Level indicator on the screen should momentarily turn green. The test is set to OK by indicating green more than 6 steps. If there is no indicator movement when you speak, check for hard error codes.

Hard Key

This diagnosis checks the center display unit hard keys (HOME, BACK, AUDIO POWER, VOL+, VOL-, SEEK UP, SEEK DOWN) and the audio remote-HFL switch buttons (VOL+, VOL-, TRACK UP, TRACK DOWN, TALK). For this model, the audio remote-HFL switch buttons use the data bus via the gauge control module for communications.

To complete the test, press each buttons. As each function is tested, the corresponding button on the display should highlight. If the test cannot be completed, the corresponding icon on the Hard Key menu screen shows red.

•	If any button of the center display unit does not respond, replace the center display unit.
•	If any button of the audio remote-HFL switch does not respond, replace the audio remote-HFL switch.
•	If all buttons of the audio remote-HFL switch do not respond, go to Audio remote-HFL switch does

	not work properly (audio unit buttons work) troubleshooting.

Error History

If you select Hard Error, you can see the error information. Refer to How to Check for Error History to use this diagnosis.

Rear Wide Camera

This diagnosis checks the rearview camera connection.

•	If Connection shows NG, check for hard error codes.
•	If Connection shows OK, press the HOME button to display the rearview camera image. To return to the previous screen, press the HOME button again.

BSI-CTM

This diagnosis checks connection and status for the BSI radar unit.

If Connection shows NG, check for hard error codes. If no hard error code is detected, check for blind spot information (BSI) system DTCs.

Parking Sensor

This diagnosis checks connection and status for the parking and back-up sensor control unit.

If Connection (A) shows NG, check for hard error codes. If no hard error code is detected, check for parking and back-up sensor system DTCs.

Remote tuner

NOTE:

•	For factory use only. Do not alter any settings unless directed.
•	These items describe in indication order. Swipe the screen to check the next items.

If the connection diagnosis is OK in the System Links, this diagnosis displays the external AM/FM radio tuner (tuner unit) status.

•	System µCom version display: Displays the tuner unit processor version.

•	Serial number display: Displays the tuner unit serial number. That should be the same as the serial number found on the upper side of the tuner unit.
•	Frequency: Displays frequency of the radio station which is being received. Frequency can be changed by selecting each icon (A).
•	Source can be changed in this order: AM→FM→AM by selecting the Band Change icon.
•	Radio reception level display: Displays radio reception level (dB). The AM/FM antenna power status can be changed to on or off by selecting the Ant +B OFF icon.
•	Target Area: Displays the destination of the tuner unit at 2 digits.
•	Operating status display*: If the vehicle has diversity antenna, you can select the radio antenna function from M (Main), S (Sub), or P (Diversity).
•	RDS BER display: Displays the RDS bit error ratio.
•	SNR display: Displays the Sound/Noise ratio about the AM or FM.
•	Total preset number: Displays number of radio station preset about the AM or FM.
•	HD function ON/OFF: Displays the HD function is available (YES) or not available (NO).
•	VOL: Displays the current volume level.
•	Split Mode: Displays the split mode on or off. That can be changed by selecting the Split Mode icon.
•	Blend Mode: Displays the blend mode which is being received. The blend mode can be changed to AUTO/ANALOG/DIGITAL by selecting the Blend Mode icon.
•	HD Mode: Displays the HD mode status (ON: HD, OFF: analog) at frequency of the radio station which is being received. That can be changed by selecting the HD Mode icon.

*: Not available

AMP

This diagnosis checks the digital bus (RS485) connection between the audio unit and the stereo amplifier.

If Connection shows NG, go to No sound is heard from all of the speakers (display is normal) troubleshooting.

SXM Antenna (With Sirius XM)

This diagnosis checks connection for the roof antenna (XM).

If Connection shows NG, check for hard error codes.

Center display

These items describe in indication order. Swipe the screen to check the next items.

This diagnosis checks connection and status for the center display unit.

•	Connection: Checks the digital bus (LVDS) between the audio unit and the center display unit. This item should indicate OK.
•	Unit Status Information: Indicates the center display unit processor status. If any of the status indicates NG, turn the vehicle to the OFF (LOCK) mode then the ON mode, and recheck the status. If the status still indicates NG, replace the center display unit.
•	Unit Version Information: Displays the center display unit various version number.

Meter

This diagnosis checks connection and status for the gauge control module.

If Connection shows NG, check for hard error codes. If no hard error code is detected, check for gauge control module DTCs.

A/C

This diagnosis detects if the vehicle is in the ON mode using information provided over the B-CAN bus, then it tests the climate control signal between the audio unit and the climate control unit. Make sure the engine is running for this test.

If Connection shows NG, check for hard error codes.

GPS Antenna

This diagnosis checks the GNSS antenna connection.

If Antenna shows NG, the GNSS antenna may be faulty. Check for hard error codes.

Select Information to see the GNSS satellite details (refer to the GPS Information).

Gyro Sensor

This diagnosis checks the gyro/accelerometer in the audio unit. This device detect how the vehicle moves, and repositions the vehicle position icon on the map screen. Select the 3-axis gyro sensor.

•	X/Y/Z AXIS ANGLE: Indicates the angular speed of the gyro/accelerometer.
•	Temperature: Indicates the temperature of the gyro/accelerometer.

Wireless Charger

This diagnosis checks connection and status for the wireless charger.

If Connection shows NG, check for hard error codes.

TCU

This diagnosis shows the telematics control unit information via the USB between the audio unit and the telematics control unit.

These diagnosis checks the telematics control unit status.

•	TCU Status: Displays telematics control unit information.
•	DTCs: Checks the telematics system DTCs. Go to AcuraLink General Troubleshooting Information.
•	TEL Info: Displays the phone module information.
•	Log: Displays the event log data of the telematics control unit.
•	Test: Checks the HTTP connection. Go to AcuraLink Self-Diagnostic Function.
•	Reflash: Update the telematics control unit by selecting the Reflash after inserting the USB device with update software into USB port A.

Audio Check

These screens allow you to troubleshoot the audio function. Select the Speaker Check icon.

Speaker Check

NOTE:

•	Make sure the audio system is off before this diagnosis.
•	While doing the diagnosis, the fader and the balance positions are set to the center.

This diagnosis checks the audio speakers individually.

Select the UP icon or the Down icon to check speakers. A tone should sound from the speaker.

When you select the Up icon, the system checks the speakers in this order: ①→②→③→④→⑤→⑥→⑦→⑧→⑨→⑩→⑪→⑫→⑬→⑭→⑮→⑯→⑰→①
When you select the Down icon, the system checks the speakers in this order: ①→⑰→⑯→⑮→⑭→⑬→⑫→⑪→⑩→⑨→⑧→⑦→⑥→⑤→④→③→②→①

Display Message		Vehicle Test Condition
①	Front Left	You should hear a tone from the driver's door speaker (17 cm).
②	Front Right	You should hear a tone from the front passenger's door speaker (17 cm).
③	Satellite Left	You should hear a tone from the left satellite speaker.
④	Satellite Right	You should hear a tone from the right satellite speaker.
⑤	Center	You should hear a tone from the front center speaker.
⑥	Subwoofer	You should hear a tone from the subwoofer.
⑦	Rear Left	You should hear a tone from the left rear door speaker.
⑧	Rear Right	You should hear a tone from the right rear door speaker.
⑨	Roof Left	You should hear a tone from the left roof speaker.
⑩	Roof Right	You should hear a tone from the right roof speaker.
⑪	Front Tweeter Left	You should hear a tone from the left front tweeter.
⑫	Front Tweeter Right	You should hear a tone from the right front tweeter.
⑬	Rear Tweeter Left	You should hear a tone from the left rear door tweeter.
⑭	Rear Tweeter Right	You should hear a tone from the right rear door tweeter.
⑮	Front MID Left	You should hear a tone from the driver's door speaker (9 cm).
⑯	Front MID Right	You should hear a tone from the front passenger's door speaker (9 cm).
⑰	ALL Channel	You should hear a tone from all speakers.

Camera Setup

This screen adjusts image quality and guidelines for the rearview camera. Select the item you want to adjust.

Camera Display Adjustment

These items adjust screen settings (Brightness, Contrast, Black level, Color, and Tint) about the rearview camera image. Select the Rear Wide Camera you want to adjust.

Guideline Setup

This screen adjusts the rearview camera image guidelines. Select the item you want to adjust.

Select the view mode icons (Wide View, Normal View, Top Down View) you want to adjust.

NOTE: The Top Down View cannot be selected when the dynamic guideline is selected.

Press the HOME button to display the submenu.

•	Default: All guidelines can be reset to the factory specification.
•	Save: Reflects the result of the guideline adjustment.
•	Guideline Setup: Adjust the guideline.

Guideline Setup

Touch each arrow icon to move the guidelines up/down or left/right. The screen displays the information about the adjusted distance and its direction.

If you want to keep the setting, press the HOME button to display the settings submenu. The audio unit saves the setting by selecting the SAVE icon on the settings submenu.

Rudder Angle

Select different steering angles (90° - Lock end) from the submenu, After selecting, do the Guideline Adjustment. The adjustment method for the guideline locations is the same as the Fixed Guideline.

Functional Setup

Select the item you want to check.

•	Backup Data Clear

•	Save User's Memory
•	Alexa Diag
•	Anti-Theft Skip
•	Other
•	AMP Repro (factory use only)
•	Display Repro (factory use only)
•	XM Repro (factory use only)

Backup Data Clear

This screen initializes the back-up data in the audio unit. Select the All Clear icon.

The all clear function deletes the data in the audio unit, and restores it to the factory defaults. This function is equivalent to Factory Data Reset in the System Settings Menu.

When selecting the All Clear icon, the confirmation screen appears.

When selecting the Yes icon, the system restarts after performing the All Clear process. After the restart, a normal start-up process occurs.

Save User's Memory

When replacing the audio unit, this function allows the technician to transfer the client's personal data to the new audio unit. The transferred information includes their setup settings and personal addresses. The dealer inserts a USB device into USB port A, and then selects the Save Users Memory function. The two functions in this diagnostic screen are Export and Import. Export saves the client's data to the USB device, and Import moves the USB device files to the new audio unit.

This function does not start until you connect a USB device to the USB port.

1.	Select the Export icon to move the client's data from the original audio unit to the USB device. Select the Yes icon on the Export User Data Confirmation screen. The process takes only a couple of seconds. NOTE: If the Export icon is grayed out, check the USB port.

2.	After replacing the new audio unit, allow the system to boot up. Insert the USB device into USB port A and enter the Save Users Memory in the System Diagnostic Mode.

3.	Select the Import icon to move the two files stored by the Export process from the USB device to the new audio unit. Select the Yes icon on the Import User Data Confirmation screen. When the transfer is finished (a few seconds) the system automatically reboots. After the system reboots, remove the USB device from the USB port.

Alexa Diag

This diagnosis displays the communication volume setting.

•	Displays the communication volume window.
•	It is possible to set how many seconds to refresh the display. The amount of communication displayed will be the average over this set period.
•	The displayed communication volume is output to USB memory with time stamp and display card information.

Anti-Theft Skip

This selection can cancel the anti-theft mode temporarily (for 150 seconds).

The Anti-Theft Skip icon is grayed out when the anti-theft mode is already canceled.

Other

Select the item you want to check.

TCU Status (refer to the TCU Status)

Version

This screen displays the current version information about each module in the audio unit.

GPS Information

This screen shows the current status of GNSS reception. The circular diagram shows the current location of the GNSS satellites (yellow numbers) as they would appear in the sky. The outer circle represents the horizon (0 degrees elevation). The middle and inner circles represents 30 and 60 degrees respectively. The very center of the diagram (90 degrees elevation) is directly overhead. Nearby obstructions, like tall buildings will block satellites in that direction. That is why it is necessary to be in an open area to effectively troubleshoot GNSS reception issues. The satellite numbers shown on the diagram while pressing the HOME button that correspond to the PRN (satellite ID number).

NOTE: When you use this screen for troubleshooting, park the vehicle outside, away from buildings, tall trees, and hightension wires for at least 10 minutes with the engine running.

•	The Number of Satellites box shows the number of acquired satellites (maximum of 12). It should contain three or more icons.
•	The Current Position shows latitude, longitude, and elevation (in feet). If there are less than four satellites, the elevation can be grossly inaccurate.
•	The date/time field shows the current date and time that is received from the GNSS satellite.

System Update

This screen displays the current version information about each module in the audio unit.

Display Log

This screen shows error code(s) and simple description about the OTA (Over the Air) update function. Refer to the OTA Error Codes for troubleshooting.

Smartphone Information

This screen allows you to enable or disable the function about smartphone connection.