SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

BOSE AUDIO WITH NAVIGATION

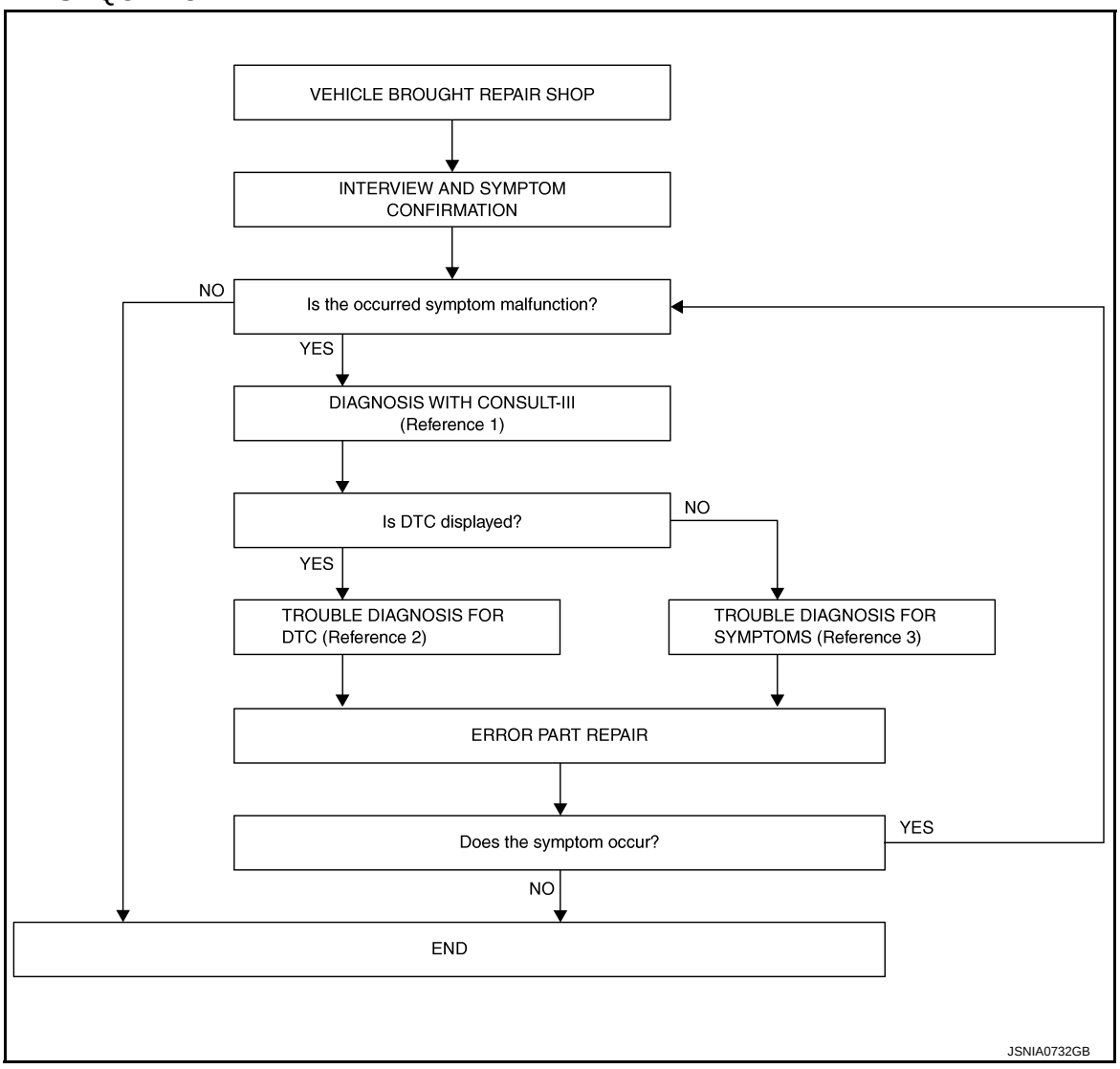
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000006210186

OVERALL SEQUENCE



- Reference 1··· Refer to AV-27, "CONSULT - III Function (MULTI AV)".
- Reference 2··· Refer to AV-65, "DTC Index".
- Reference 3··· Refer to AV-83, "Symptom Table".

DETAILED FLOW

1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.
NO >> INSPECTION END

2. DIAGNOSIS WITH CONSULT-III

1. Connect CONSULT-III and perform a self-diagnosis for “MULTI AV”. Refer to AV-27, "CONSULT - III Function (MULTI AV)".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “MULTI AV” is not displayed.
2. Check if any DTC is displayed in the self-diagnosis results.

Is DTC displayed?

YES >> GO TO 3.
NO >> GO TO 4.

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-65, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-83, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “MULTI AV” with CONSULT-III.
   NOTE:
   Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.
3. Check that the symptom does not occur.

Does the symptom occur?

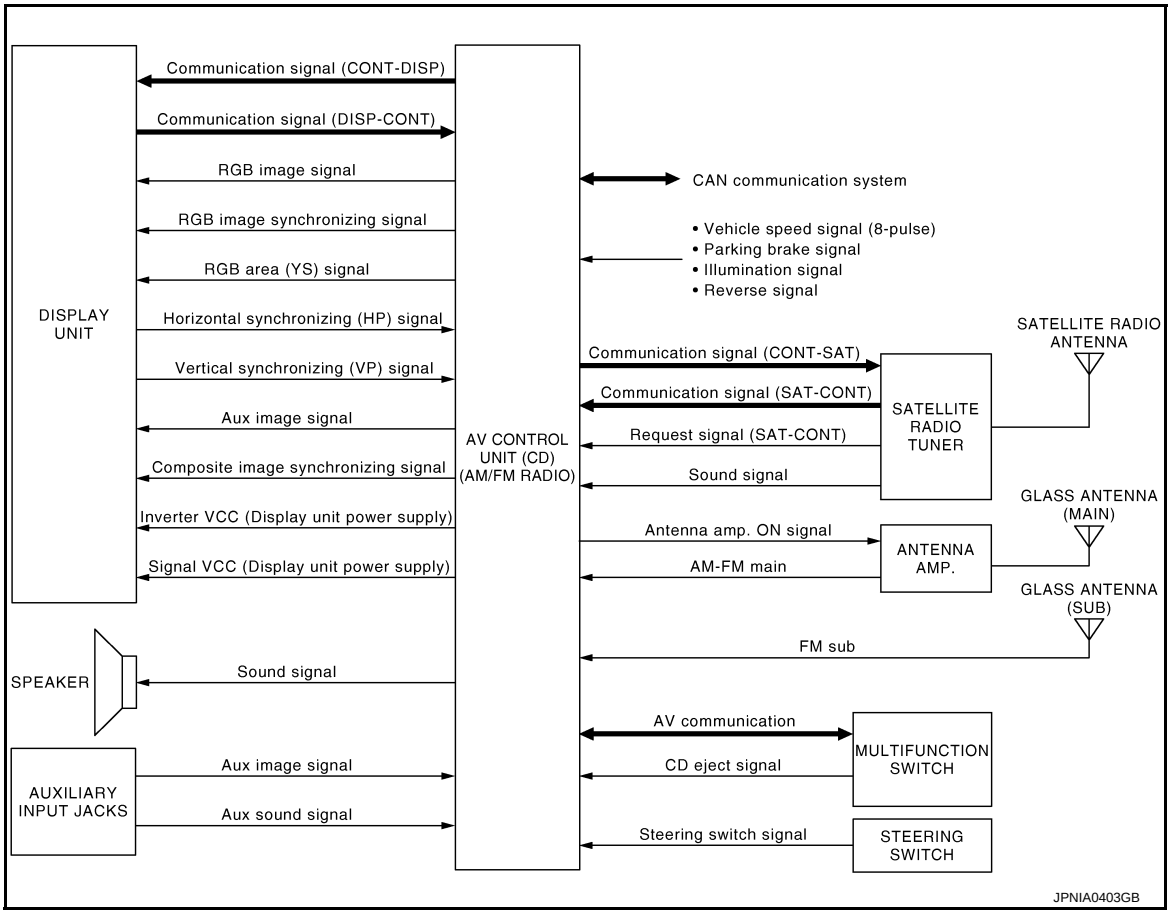
YES >> GO TO 1.
NO >> INSPECTION END

SYSTEM DESCRIPTION

MULTI AV SYSTEM

System Diagram

INFOID:0000000006210187



NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

System Description

INFOID:0000000006210188

Multi AV system means that the following systems are integrated.

System name	System explanation
AUDIO SYSTEM	AV-17, "System Description"
VEHICLE INFORMATION SYSTEM	• Indicates the status of audio, climate control system, fuel economy and maintenance. • AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM, unified meter and A/C amp and BCM.
SATELLITE RADIO SYSTEM	Refer to “SATELLITE RADIO SYSTEM” shown below.
AUXILIARY INPUT SYSTEM	Refer to “AUXILIARY INPUT SYSTEM” shown below.

- AV control unit functions by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected by CAN communication, and it receives data signal from ECM, unified meter and A/C amp. It computes and displays fuel economy information value with the obtained information. Transmitting/receiving of data signal is performed by BCM. Also, it transmits the required signal of vehicle setting and receives the response signal.

- AV control unit is connected with display and serial communication, and it transmits the required signal of display and display control and receives the response signal from front display. Also, it is connected with satellite radio by serial communication, and it transmits the operating signal and receives the display signal.

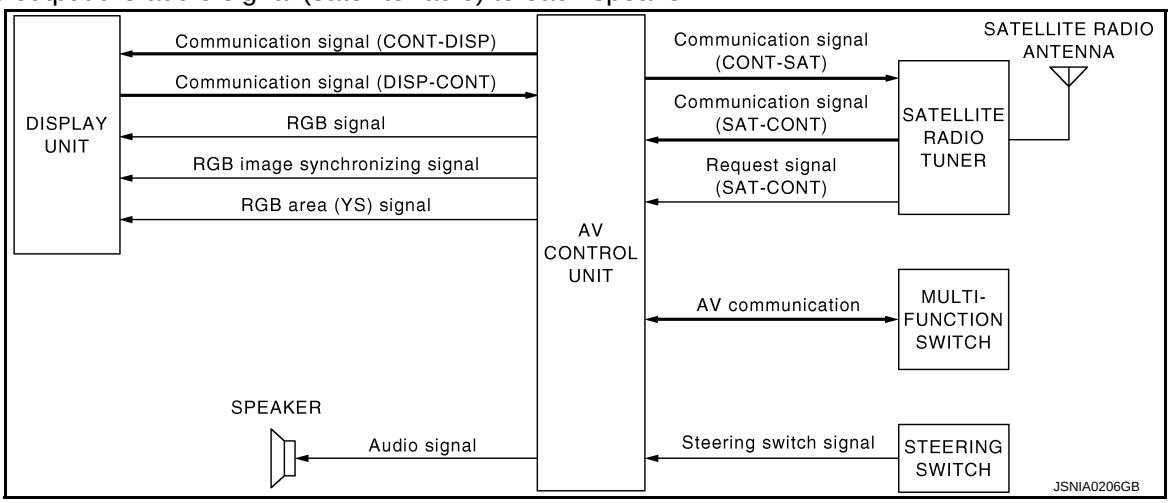
NOTE:

AV control unit can perform CONSULT-III self-operating function and on board self-diagnosis.

- CONSULT-III self-diagnosis: refer to AV-27, "CONSULT - III Function (MULTI AV)".
- On board self-diagnosis: refer to AV-20, "Diagnosis Description".

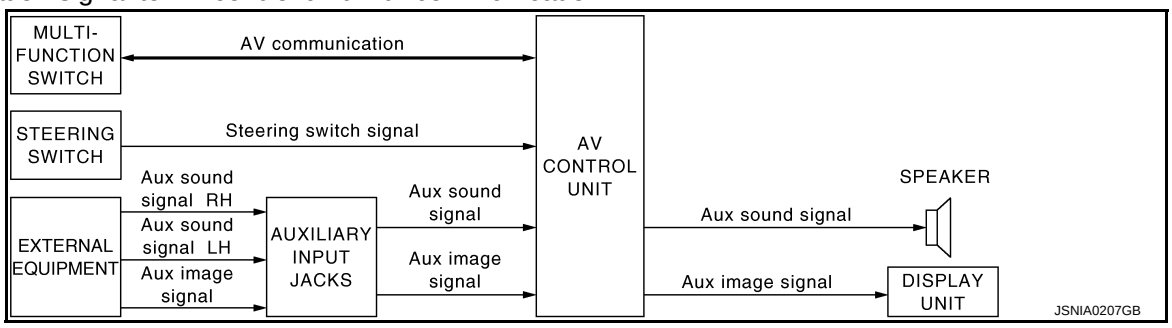
SATELLITE RADIO SYSTEM

- Satellite radio tuner is controlled by communication signal and request signal with AV control unit.
- Audio signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit is output the audio signal (satellite radio) to each speaker.



AUXILIARY INPUT SYSTEM

- Image and sound can be output from an external device by connecting a device with auxiliary input jacks.
- Operation can be performed with multifunction switch and steering switch. Multifunction switch transmits operation signal to AV control unit with communication.



Component Parts Location

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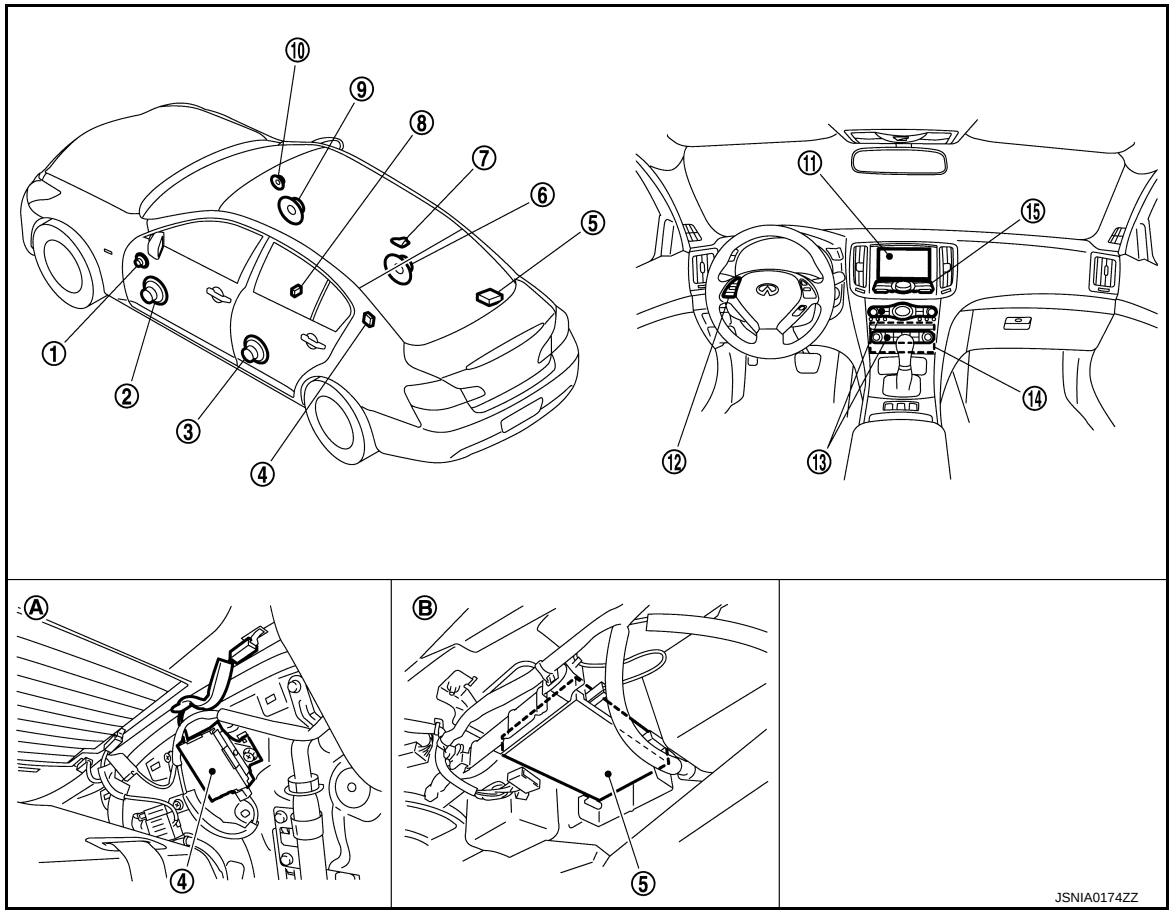


1. Tweeter LH
2. Front door speaker LH
3. Rear door speaker LH
4. Antenna amp.
5. Satellite radio tuner
6. Rear door speaker RH
7. Satellite radio antenna
8. Auxiliary input jacks
9. Front door speaker RH
10. Tweeter RH
11. Display unit
12. Steering switch
13. Preset switch
14. AV control unit
15. Multifunction switch

A. Within rear pillar finisher LH
B. Rear parcel shelf lower part (left side)

Component Description

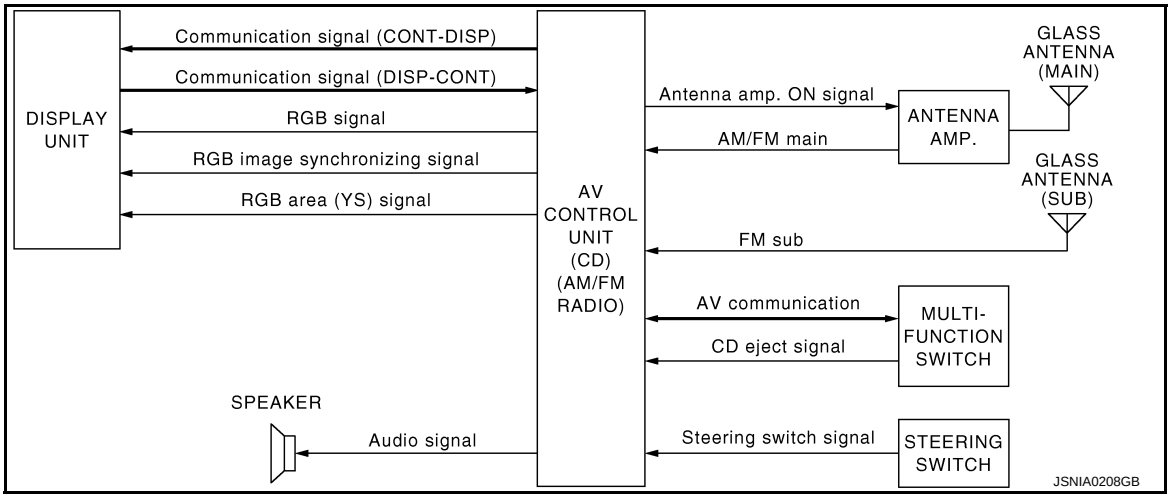
INFOID:0000000006210190

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function. • It is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function. • It inputs the illumination signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake). • Auxiliary image signal is input from the auxiliary input jacks.
DISPLAY UNIT	• Display image is controlled by the serial communication from AV control unit. • RGB image signal is input from AV control unit (RGB, RGB area and RGB synchronizing). • Synchronizing signal (HP, VP) is output to AV control unit. • Auxiliary image signal is input from the AV control unit.
FRONT DOOR SPEAKER	• Outputs sound signal from AV control unit. • Outputs high, mid and low range sounds.
REAR DOOR SPEAKER	• Outputs sound signal from AV control unit. • Outputs high, mid and low range sounds.
TWEETER	• Outputs sound signal from AV control unit. • Outputs high range sound.
MULTIFUNCTION SWITCH	• Operation panel is equipped with the centralized switch where audio and auxiliary input operations are integrated. • Connected with preset switch via cable, and operation signal is transmitted to AV control unit via AV communication.
PRESET SWITCH	• Operation panel is equipped with the centralized switch where audio and air conditioner operations are integrated. • Connected with multifunction switch via cable, and operation signal is transmitted to AV control unit via AV communication. • The CD ejection operating signal is performed by hardwire.
STEERING SWITCH	• The operation of Audio, etc. can be performed. • Steering switch signal (operation signal) is output to AV control unit.
AUXILIARY INPUT JACKS	The image signal of the auxiliary input is output via the AV control unit to the display, and it outputs the sound signal to the AV control unit.
ANTENNA AMP.	• Radio signal received by glass antenna is amplified and transmitted to AV control unit. • Power (antenna amp. ON signal) is supplied from AV control unit.
SATELLITE RADIO TUNER	• Inputs the satellite radio signal from satellite radio antenna and outputs the sound signal to the AV control unit. • It is controlled with the AV control unit and serial communication (communication signal and request signal).
SATELLITE RADIO ANTENNA	Receives the satellite radio signal and outputs it to the satellite radio tuner.

AUDIO SYSTEM

System Diagram

INFOID:0000000006210191



System Description

INFOID:0000000006210192

The audio system is equipped with the following functions. Each function can be operated with the multifunction switch, preset switch or steering switch. It indicates the operation status of AUDIO to the display.

Function
AM/FM radio
CD

FUNCTION DESCRIPTION

Operating Signal

Operation of the audio system can be performed with the multifunction switch, preset switch or steering switch.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch. The CD ejection operating signal is performed by hardwire.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.

Screen Display

- The display switching of the screen is performed with the communication signal between the display and the AV control unit.
- The image signal to display operating condition is performed with RGB signal, RGB area signal and RGB image synchronizing signal.

AM/FM Radio Mode

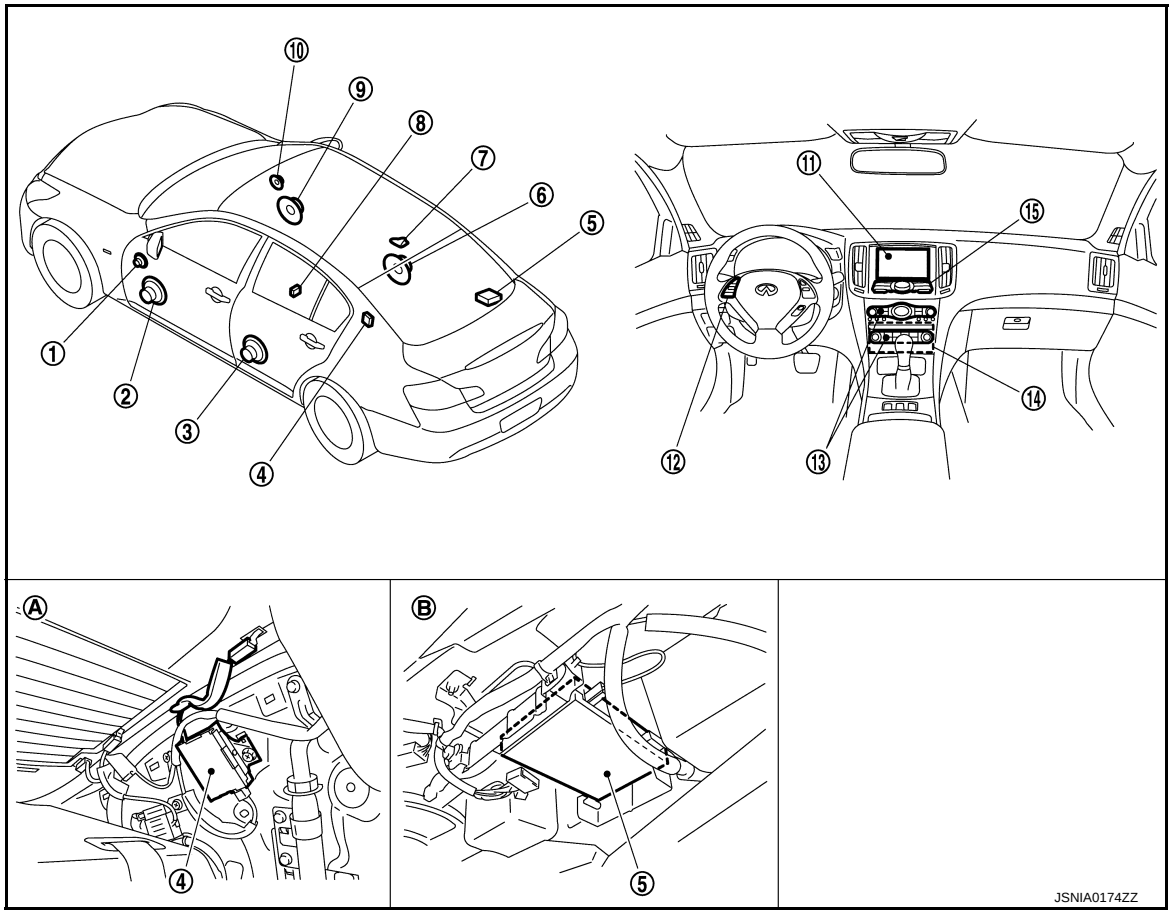
- AM/FM radio tuner is built into AV control unit.
- Audio signal is received by glass antenna, next it is amplified by antenna amp, and finally it is input to AV control unit. AV control unit outputs the audio signal to each speaker.

CD Mode

- CD function is built into AV control unit.
- AV control unit outputs the audio signal to each speaker when inserting the CD to AV control unit.

Component Parts Location

INFOID:0000000006210193



1. Tweeter LH
2. Front door speaker LH
3. Rear door speaker LH
4. Antenna amp.
5. Satellite radio tuner
6. Rear door speaker RH
7. Satellite radio antenna
8. Auxiliary input jacks
9. Front door speaker RH
10. Tweeter RH
11. Display unit
12. Steering switch
13. Preset switch
14. AV control unit
15. Multifunction switch

A. Within rear pillar finisher LH
B. Rear parcel shelf lower part (left side)

Component Description

INFOID:0000000006210194

Part name	Description
AV CONTROL UNIT	• The AM/FM receiving function and the CD playing function are equipped. • Outputs the audio signal from each function to each speaker.
DISPLAY UNIT	• Display image is controlled by the serial communication from AV control unit. • RGB image signal (audio operation condition) is input from AV control unit.
FRONT DOOR SPEAKER	• Outputs sound signal from AV control unit. • Outputs high, mid and low range sounds.
REAR DOOR SPEAKER	• Outputs sound signal from AV control unit. • Outputs high, mid and low range sounds.
TWEETER	• Outputs sound signal from AV control unit. • Outputs high range sound.
MULTIFUNCTION SWITCH	• Each audio operation can be operated. • Connected with preset switch via cable, and operation signal is transmitted to AV control unit via AV communication.

Part name	Description
PRESET SWITCH	• Each audio and air conditioner operation can be operated. • Connected with multifunction switch via cable, and operation signal is transmitted to AV control unit via AV communication. • The CD ejection operating signal is performed by hardwire
STEERING SWITCH	• Each audio operation can be operated. • Steering switch signal (operation signal) is output to AV control unit.
ANTENNA AMP.	• Radio signal received by glass antenna is amplified and transmitted to AV control unit. • Power (antenna amp. ON signal) is supplied from AV control unit.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Diagnosis Description

INFOID:0000000006210195

MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

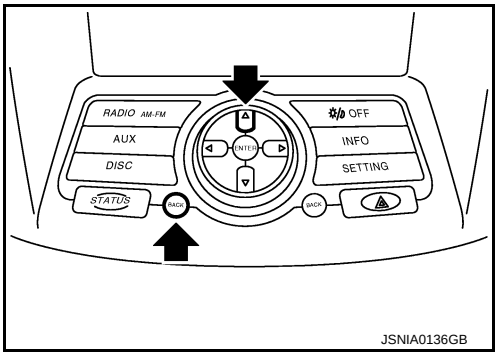
The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 4-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. The buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

CAUTION:

The hazard switch and CD eject switch cannot be checked.



Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning the ignition switch OFF.

MULTI AV SYSTEM ON BOARD DIAGNOSIS FUNCTION

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT-III diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function, etc.

ON BOARD DIAGNOSIS

Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- Self-diagnosis mode performs the AV control unit diagnosis and the connection diagnosis between each of the units that make up the system, and it indicates the results to the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting actions generally require human intervention and judgment (the system cannot make judgment automatically).

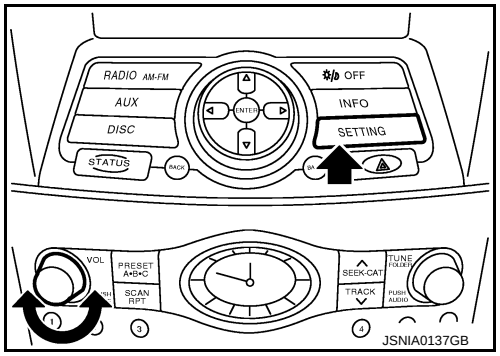
On Board Diagnosis Item

Mode	Description
Self-Diagnosis	• AV control unit diagnosis. • Perform the connection diagnosis between each of the units.

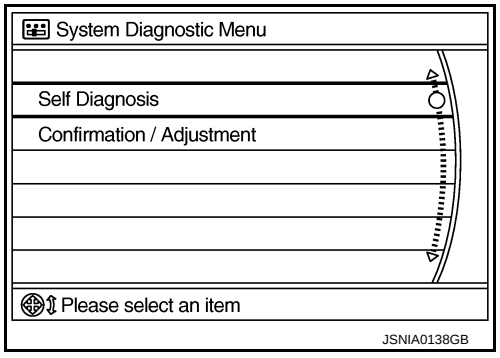
Mode		Description
Confirmation/ Adjustment	Display Diagnosis	The confirmations of the tint with the color spectrum bar display and shading of color with the gradation bar display can be performed.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition switch, and reverse.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Climate Control	Start auto air conditioner system self-diagnosis.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history
	Initialize Settings	Initializes the AV control unit memory.

STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   • Shifting from current screen to previous screen is performed by pressing “BACK” button.



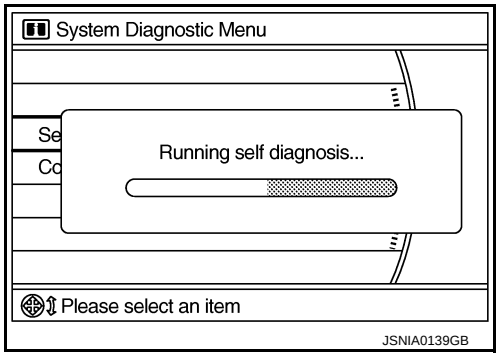
4. The trouble diagnosis initial screen is displayed, and then the items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected.



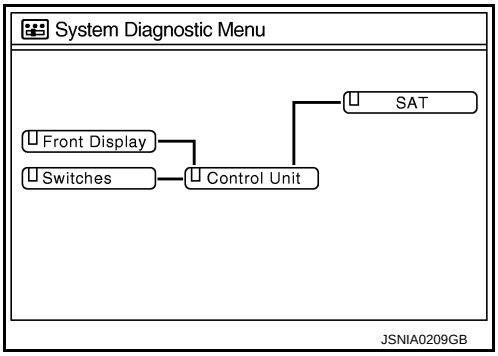
SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select “Self-diagnosis”.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.



2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

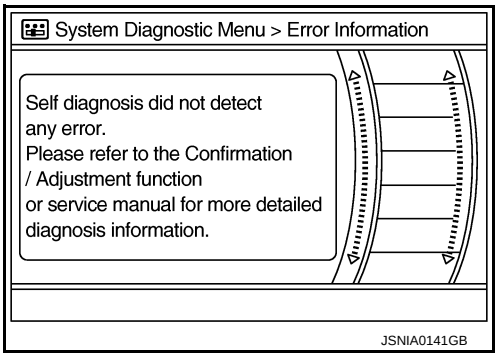


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

NOTE:

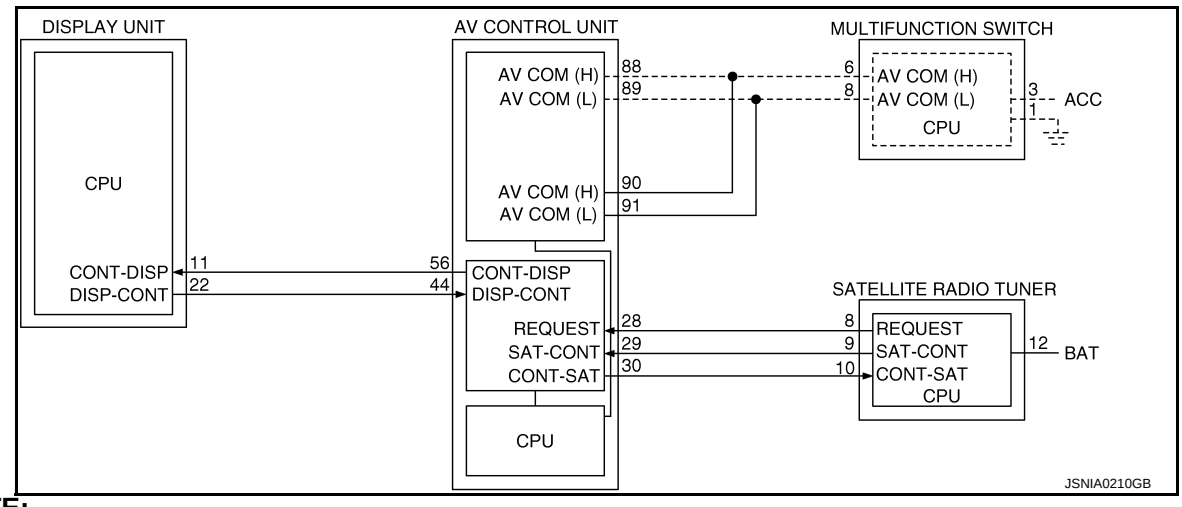
- Only the control unit (AV control unit) is displayed in red.
- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error.

- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.
- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



Detection Range of Self-diagnosis Mode

- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between AV control unit and each unit and the internal operation of the AV control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the communication circuit between AV control unit and multifunction switch.

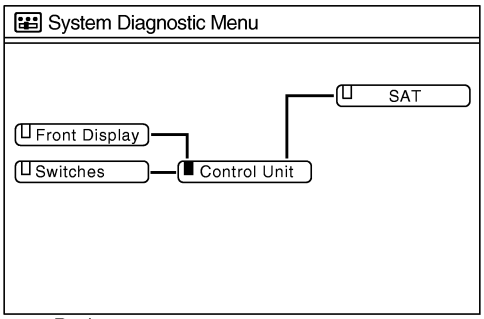
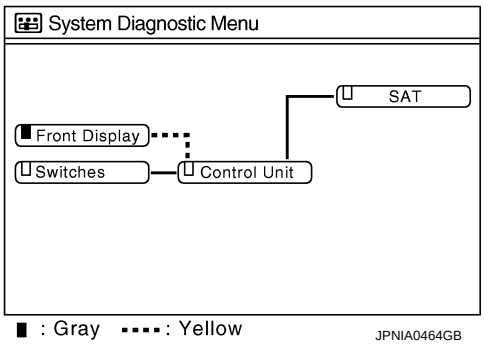
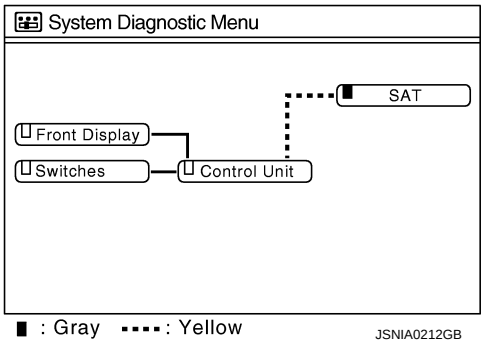


NOTE:
On board self-diagnosis cannot be started when an error occurs on the dotted-line part above.

SELF-DIAGNOSIS RESULTS

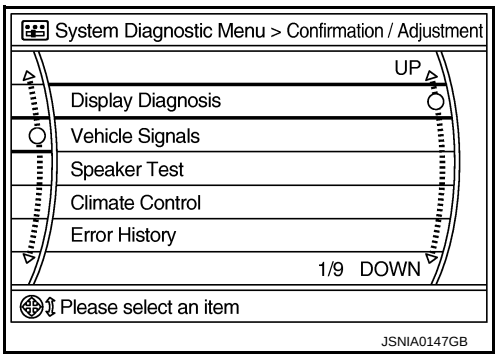
Check the applicable display at the following table, and then repair the malfunctioning parts.

Self-diagnosis Result Chart

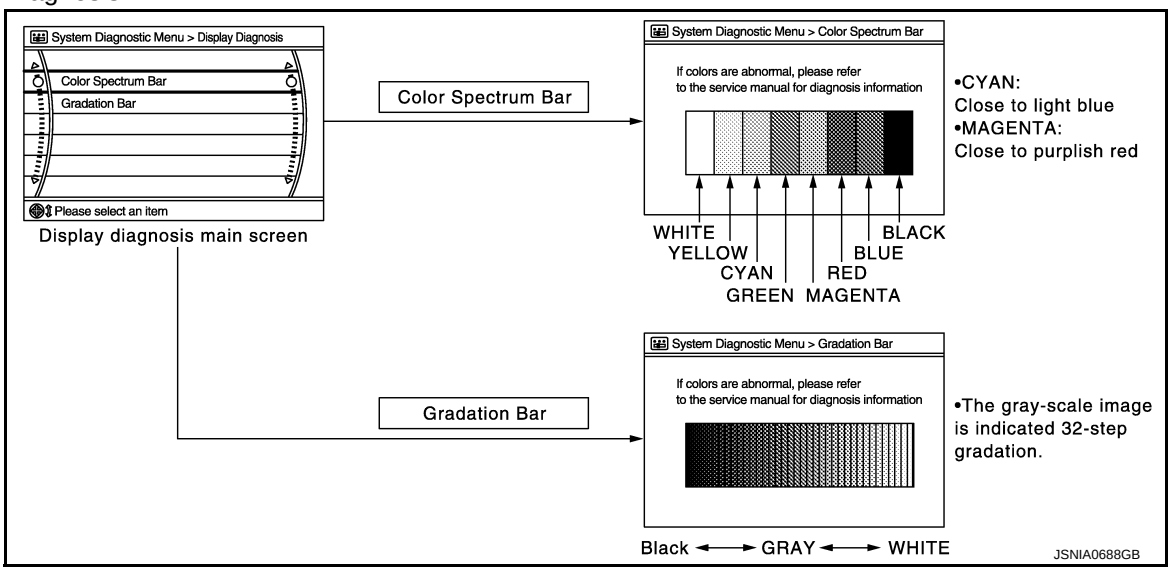
Area with yellow connection lines	Description	Possible malfunction location / Action to take
 “Self-Diagnosis did not run because of a control unit malfunction”	AV control unit malfunction is detected.	Replace the AV control unit.
	• Malfunction is detected in communication circuit between AV control unit and display unit. • Malfunction is detected in communication signal between AV control unit and display unit.	Communication circuit between AV control unit and display unit.
	• Satellite radio tuner power supply and ground circuit malfunction is detected. • Malfunction is detected in communication circuits between AV control unit and satellite radio tuner. • Malfunction is detected in communication signal between AV control unit and satellite radio tuner. • Malfunction is detected in request signal circuit between AV control unit and satellite radio tuner.	• Satellite radio tuner power supply and ground. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the “Inspection & Adjustment Mode” screen to display the relevant trouble diagnosis screen. Press the “RETURN” switch to return to the initial Inspection & Adjustment Mode screen.



Display Diagnosis

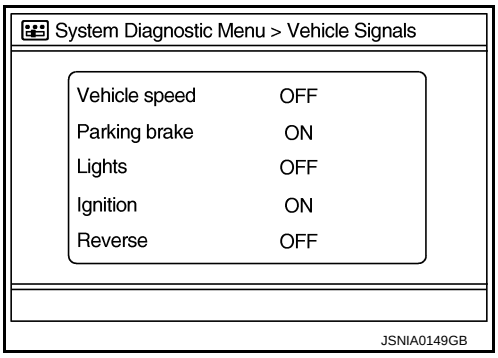


The tint of the color bar indication is as per the following list if RGB signal error is detected.

R (red) signal error : Light blue (Cyan) tint
G (green) signal error : Purple (Magenta) tint
B (blue) signal error : Yellow tint

Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	—
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
Reverse	ON	Shift the selector lever to “R” position	Changes in indication may be delayed. This is normal.
	OFF	Shift the selector lever other than “R” position	

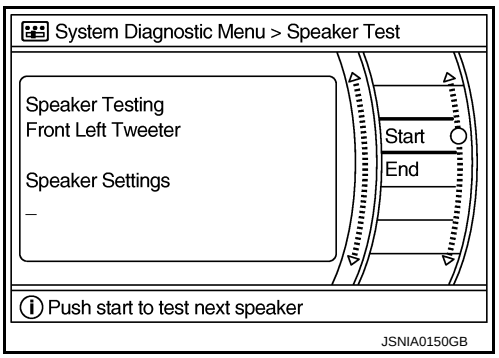
Speaker Test

Select “SPEAKER DIAGNOSIS” to display the Speaker Diagnosis screen. Press “START and NEXT” to generate a test tone in a speaker. Press “Start” to generate a test tone in the next speaker. Press “End” to stop the test tones.

NOTE:

The frequency of test tone emitted from each speaker is as follows.

Tweeter	**: 3 kHz**
Front door speaker	**: 300 Hz**
Rear door speaker	**: 1 kHz**



Climate Control

Refer to “HEATER & AIR CONDITIONING CONTROL SYSTEM” for details.

Error History

The self-diagnosis results are judged depending on whether any error occurs from when “Self-diagnosis” is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition SW is turned ON and then no error has occurred until the self-diagnosis start. Check the “Error Record” to detect any error that may have occurred before the self-diagnosis start because of this situation.

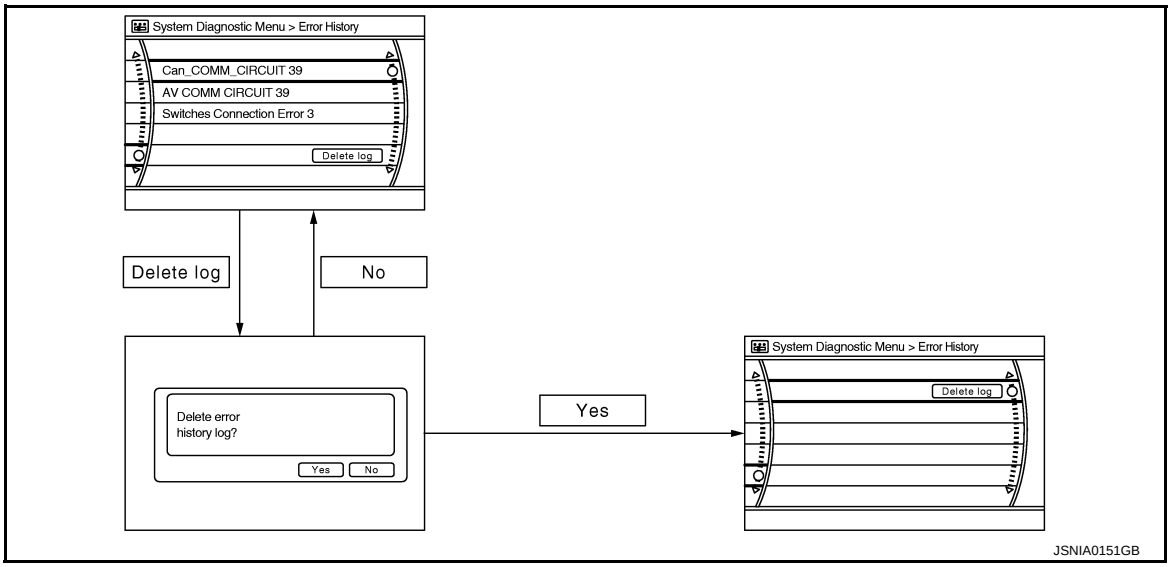
Count up method A

- The counter resets to 0 if an error occurs when IGN switch is turned ON. The counter increases by 1 if the condition is normal at a next IGN ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT-III.

Count up method B

- The counter increases by 1 if an error occurs when IGN switch is ON. The counter will not decrease even if the condition is normal at the next IGN ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the “Delete log” switch or CONSULT-III.

Display type of occurrence frequency	Error history display item
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV communication)
Count up method B	Other than the above



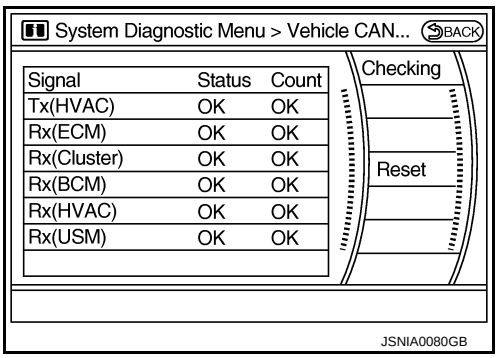
Error item

Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-30, "Diagnosis Procedure".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit.
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
CAN Controller Memory Error		
Front Display Connection Error	• Display unit power supply and ground circuit malfunction is detected. • Malfunction is detected in communication circuit between AV control unit and display unit. • Malfunction is detected in communication signal between AV control unit and display unit.	• Display unit power supply and ground circuit. • Communication circuit between AV control unit and display unit.
SAT Connection Error	• Satellite radio tuner power supply and ground circuit malfunction is detected. • Malfunction is detected in communication circuit between AV control unit and satellite radio tuner. • Malfunction is detected in communication signal between AV control unit and satellite radio tuner. • Malfunction is detected in request signal circuit between AV control unit and satellite radio tuner.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT • Switches Connection Error	• Multifunction switch power supply and ground circuit malfunction is detected. • Malfunction is detected in AV communication circuit between AV control unit and multifunction switch. • Malfunction is detected in AV communication signal between AV control unit and multifunction switch.	• Multifunction switch power supply and ground circuits. • AV communication circuit between AV control unit and multifunction switch.

Vehicle CAN Diagnosis

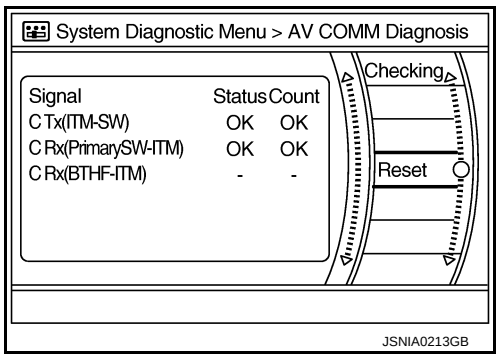
- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if reset.



Items	Display (Current)	Malfunction counter (Past)
Tx (HVAC)	OK / UNKWN	OK / 0 – 39
Rx (ECM)	OK / UNKWN	OK / 0 – 39
Rx (Cluster)	OK / UNKWN	OK / 0 – 39
Rx (BCM)	OK / UNKWN	OK / 0 – 39
Rx (HVAC)	OK / UNKWN	OK / 0 – 39
Rx (USM)	OK / UNKWN	OK / 0 – 39

AV COMM Diagnosis

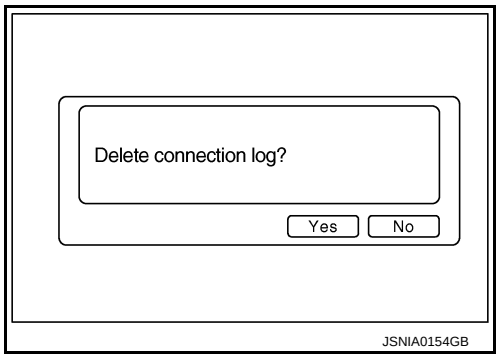
- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- If it resets, the error counter is erased.



Items	Status (Current)	Counter (Past)
C Tx (ITM–SW)	OK / UNKWN	OK / 0 - 39
C Rx (PrimarySW–ITM)	OK / UNKWN	OK / 0 - 39
C Rx (XM–ITM)	—	—

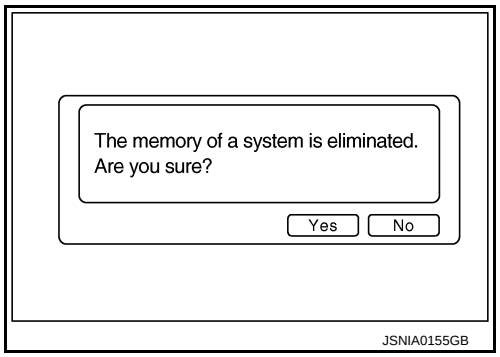
Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed)



Initialize Settings

Initializes the AV control unit memory.



CONSULT - III Function (MULTI AV)

INFOID:0000000006210196

CONSULT-III FUNCTIONS

CONSULT-III performs the following functions via the communication with the AV control unit.

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.

AV COMMUNICATION

When “AV communication” of “CAN Diag Support Monitor” is selected, the following function will be performed.

AV communication	AV&NAVI C/U	Displays the communication status from AV control unit to each unit as well as the error counter.
	AUDIO	Displays the AV control unit communication status and the error counter.

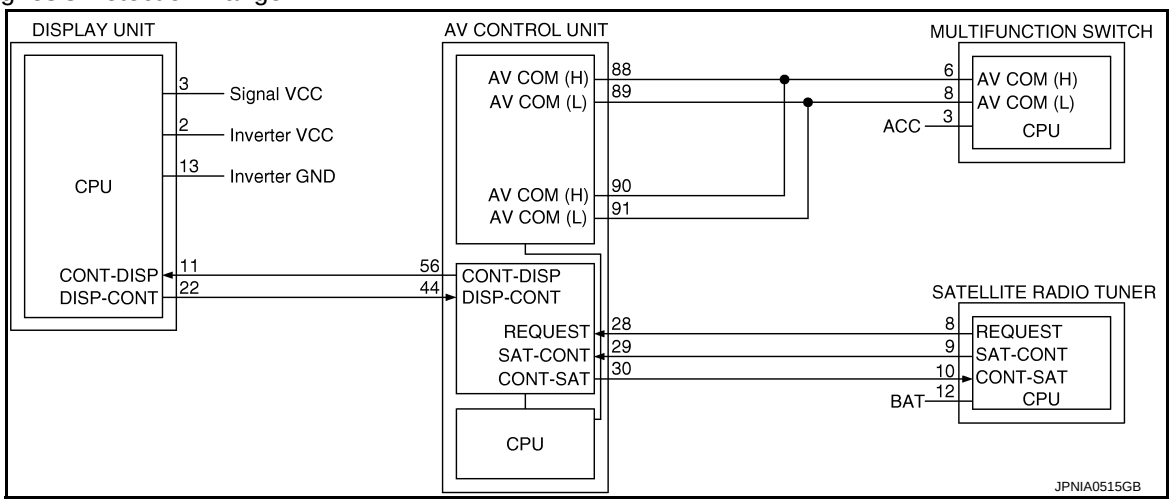
ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSIS RESULT

- In CONSULT-III self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- The timing is displayed as “0” if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis Detection Range



Self-diagnosis Results Display Item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-30, "Diagnosis Procedure".
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit.
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit FLASH-ROM [U1200]	AV control unit malfunction is detected.	
CAN CONT [U1216]		
FRONT DISP CONN [U1243]	• Display unit power supply and ground circuit malfunction is detected. • Malfunction is detected in communication circuit between AV control unit and display unit. • Malfunction is detected in communication signal between AV control unit and display unit.	• Display unit power supply and ground circuit. • Communication circuit between AV control unit and display unit.

Error item	Description	Possible malfunction factor/Action to take
SAT CONN [U1255]	• Satellite radio tuner power supply and ground circuit malfunction is detected. • Malfunction is detected in communication circuit between AV control unit and satellite radio tuner. • Malfunction is detected in communication signal between AV control unit and satellite radio tuner. • Malfunction is detected in request signal circuit between AV control unit and satellite radio tuner.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	• Multifunction switch power supply and ground circuit malfunction is detected. • Malfunction is detected in AV communication circuit between AV control unit and multifunction switch. • Malfunction is detected in AV communication signal between AV control unit and multifunction switch.	• Multifunction switch power supply and ground circuits. • AV communication circuit between AV control unit and multifunction switch.

DATA MONITOR

ALL SIGNALS
- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	
ILLUM SIG	On	Light switch ON	—
	Off	Light switch OFF	
IGN SIG	On	Ignition switch ON	
	Off	Ignition switch in ACC position	
REV SIG	On	Shift the selector lever to “R” position	Changes in indication may be delayed. This is normal.
	Off	Shift the selector lever other than “R” position	

SELECTION FROM MENU
Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

Item to be selected	Description
VHCL SPD SIG	The same as when “ALL SIGNALS” is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000006210197

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-26, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000006210198

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Diagnostic item is detected when ...	Probable malfunction location
U1000	CAN COMM CIRCUIT	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000006210199

1. PERFORM SELF-DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “MULTI AV”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to “LAN system”. Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI section. Refer to GI-43, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000006210200

Initial diagnosis of AV control unit.

DTC Logic

INFOID:0000000006210201

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Diagnostic item is detected when ...	Probable malfunction location
U1010	CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	AV control unit.

Diagnosis Procedure

INFOID:0000000006210202

1.REPLACE AV CONTROL UNIT

When DTC U1010 is detected, replace AV control unit.

>> INSPECTION END

U1310 AV CONTROL UNIT

Description

INFOID:0000000006210203

Replace the AV control unit if this DTC is displayed. Refer to AV-90, "Exploded View".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function. • It is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function. • It inputs the illumination signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake). • Auxiliary image signal is input from the auxiliary input jacks.

DTC Logic

INFOID:0000000006210204

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit.

U1200 AV CONTROL UNIT

Description

INFOID:0000000006210205

Replace the AV control unit if this DTC is displayed. Refer to AV-90, "Exploded View".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function. • It is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function. • It inputs the illumination signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake). • Auxiliary image signal is input from the auxiliary input jacks.

DTC Logic

INFOID:0000000006210206

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1200	Cont Unit FLASH- ROM [U1200]	An internal malfunction is detected in AV control unit (FLASH-ROM).	Replace AV control unit.

U1216 AV CONTROL UNIT

Description

INFOID:0000000006210207

Replace the AV control unit if this DTC is displayed. Refer to AV-90, "Exploded View".

Part name	Description
AV CONTROL UNIT	• It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit. • AV control unit includes audio function and vehicle information function. • It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function. • It is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function. • It inputs the illumination signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake). • Auxiliary image signal is input from the auxiliary input jacks.

DTC Logic

INFOID:0000000006210208

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1216	CAN CONT [U1216]	Internal malfunction of AV control unit (CAN controller) is detected.	Replace AV control unit.

U1243 DISPLAY UNIT

Description

INFOID:0000000006210209

Part name	Description
DISPLAY UNIT	• Display image is controlled by the serial communication from AV control unit. • Inputs the RGB image signal (RGB, RGB area and RGB synchronizing) from AV control unit and the auxiliary image signal from the auxiliary input jacks. • Outputs the synchronizing signals (HP and VP) to the AV control unit.

DTC Logic

INFOID:0000000006210210

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1243	FRONT DISP CONN [U1243]	• Display unit power supply and ground circuit malfunction is detected. • Malfunction is detected in communication circuit between AV control unit and display unit. • Malfunction is detected in communication signal between AV control unit and display unit.	• Display unit power supply and ground circuit. • Communication circuit between AV control unit and display unit.

Diagnosis Procedure

INFOID:0000000006210211

1.CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to AV-40, "DISPLAY UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M71	11	M83	56	Existed
	22		44	

4. Check continuity between display unit harness connector and ground.

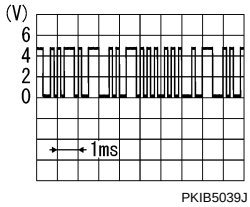
Display unit		Ground	Continuity
Connector	Terminals		
M71	11		Not existed
	22		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK COMMUNICATION SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

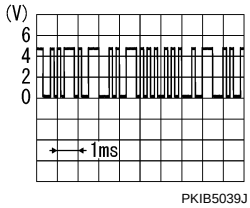
(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M71	11	Ground	When adjusting display brightness.	 PKIB5039J

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit.

4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector and ground.

(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M71	22	Ground	When adjusting display brightness.	 PKIB5039J

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace display unit.

U1255 SATELLITE RADIO TUNER

Description

INFOID:0000000006210212

Part name	Description
SATELLITE RADIO TUNER	• Inputs the satellite radio signal from satellite radio antenna and outputs it to the AV control unit. • It is controlled with the communication (communication signal, request signal) from AV control unit.

DTC Logic

INFOID:0000000006210213

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	• Satellite radio tuner power supply and ground circuit malfunction is detected. • Malfunction is detected in communication circuit between AV control unit and satellite radio tuner. • Malfunction is detected in communication signal between AV control unit and satellite radio tuner. • Malfunction is detected in request signal circuit between AV control unit and satellite radio tuner.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.

Diagnosis Procedure

INFOID:0000000006210214

1.CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to AV-42, "SATELLITE RADIO TUNER : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT AND REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and satellite radio tuner connector.
3. Check continuity between AV control unit harness connector and satellite radio tuner harness connector.

AV control unit		Satellite radio tuner		Continuity
Connector	Terminals	Connector	Terminals	
M82	28	B236	8	Existed
	29		9	
	30		10	

4. Check continuity between AV control unit harness connector and ground.

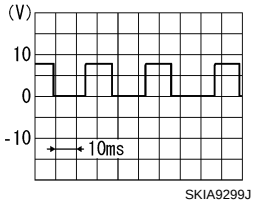
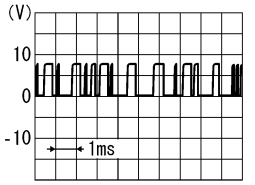
AV control unit			Continuity
Connector	Terminals		
M82	28	Ground	Not existed
	29		
	30		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

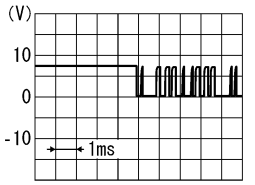
(+)		(–)	Reference value (Approx.)
AV control unit			
Connector	Terminals		
M82	28	Ground	 SKIA9299J
	29	Ground	 SKIA9300J

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit.

4.CHECK SATELLITE RADIO TUNER

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector.
3. Connect satellite radio tuner.
4. Turn ignition switch ON.
5. Check signal between satellite radio tuner harness connector and ground.

(+)		(–)	Reference value (Approx.)
Satellite radio tuner			
Connector	Terminal		
B236	10	Ground	 SKIA9301J

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace satellite radio tuner.

U1300 AV COMM CIRCUIT

Description

INFOID:0000000006210215

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	• Multifunction switch power supply and ground circuit malfunction is detected. • Malfunction is detected in AV communication circuit between AV control unit and multifunction switch. • Malfunction is detected in AV communication signal between AV control unit and multifunction switch.	• Multifunction switch power supply and ground circuits. • AV communication circuit between AV control unit and multifunction switch.

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000006210216

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19
Ignition switch ON or START	3

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M81	19	OFF	Battery voltage
ACC power supply	M81	7	ACC	Battery voltage
Ignition signal	M85	104	ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between AV control unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors.
3. Check continuity between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M81	20	OFF	Existed
	M85	85		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000006210217

1.CHECK POWER SUPPLY CIRCUIT (DISPLAY SIDE)

Check voltage between display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Inverter VCC	M71	2	ACC	9 V
Signal VCC		3		

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect the harness connector between display unit and AV control unit.
3. Check continuity between display unit harness connector M71 and AV control unit harness connector.

Signal name	Display unit (M71)	AV control unit (M83)	Continuity
Inverter VCC	2	59	Existed
Signal VCC	3	47	Existed

4. Check continuity between display unit harness connector M71 and ground.

Signal name	Display unit (M71)	—	Continuity
Inverter VCC	2	Ground	Not existed
Signal VCC	3	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK POWER SUPPLY CIRCUIT (AV CONTROL UNIT SIDE)

1. Connect the AV control unit harness connector.
2. Turn ignition switch ACC.
3. Check voltage between AV control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Inverter VCC	M83	59	ACC	9 V
Signal VCC		47		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replacement of AV control unit.

4.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M71	1	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

MULTIFUNCTION SWITCH

MULTIFUNCTION SWITCH : Diagnosis Procedure

INFOID:0000000006210218

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between multifunction switch harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
ACC power supply	M72	3	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between multifunction switch and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect multifunction switch connector.
3. Check continuity between multifunction switch harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M72	1	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000006210219

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between satellite radio tuner harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B236	12	OFF	Battery voltage
ACC power supply	B236	16	ACC	Battery voltage

Is the inspection result normal?

YES >> INSPECTION END
NO >> Check harness between satellite radio tuner and fuse.

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:0000000006210220

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210221

1.CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	17	M83	40	Existed

4. Check continuity between display unit harness connector and ground.

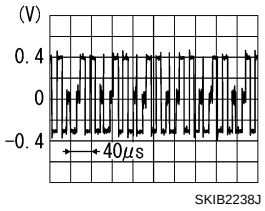
Display unit		Ground	Continuity
Connector	Terminal		
M71	17		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	17	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	

SKIB2238J

Is the inspection result normal?

YES >> Replace display unit.
NO >> Replace AV control unit.

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:0000000006210222

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210223

1.CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	6	M83	39	Existed

4. Check continuity between display unit harness connector and ground.

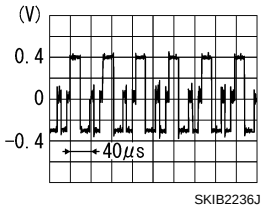
Display unit		Ground	Continuity
Connector	Terminal		
M71	6		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M71	6	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	

SKIB2236J

Is the inspection result normal?

YES >> Replace display unit.
NO >> Replace AV control unit.

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:0000000006210224

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210225

1.CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	18	M83	38	Existed

4. Check continuity between display unit harness connector and ground.

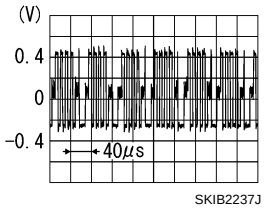
Display unit		Ground	Continuity
Connector	Terminal		
M71	18		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	18	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	

SKIB2237J

Is the inspection result normal?

YES >> Replace display unit.
NO >> Replace AV control unit.

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:0000000006210226

Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with AV control unit.

Diagnosis Procedure

INFOID:0000000006210227

1.CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	19	M83	41	Existed

4. Check continuity between display unit harness connector and ground.

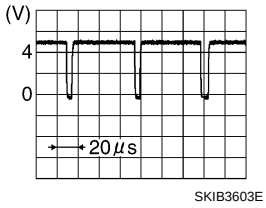
Display unit		Ground	Continuity
Connector	Terminal		
M71	19		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	19	Ground	

SKIB3603E

Is the inspection result normal?

YES >> Replace display unit.
NO >> Replace AV control unit.

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:0000000006210228

Transmits the display area of RGB image displayed by AV control unit with RGB area (YS) signal to display unit.

Diagnosis Procedure

INFOID:0000000006210229

1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	9	M83	43	Existed

4. Check continuity between display unit harness connector and ground.

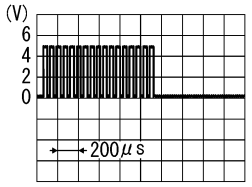
Display unit		Ground	Continuity
Connector	Terminal		
M71	9		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB AREA (YS) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Condition	Reference value (Approx.)
Display unit				
Connector	Terminal			
M71	9	Ground	At RGB image displayed	5 V
			At AUX image is displayed.	

PKIB4948J

Is the inspection result normal?

YES >> Replace display unit.
NO >> Replace AV control unit.

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:0000000006210230

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:0000000006210231

1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	8	M83	45	Existed

4. Check continuity between display unit harness connector and ground.

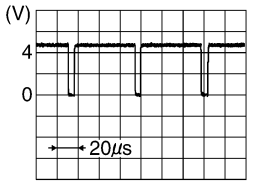
Display unit		Ground	Continuity
Connector	Terminal		
M71	8		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	8	Ground	

SKIB3601E

Is the inspection result normal?

YES >> Replace AV control unit.
NO >> Replace display unit.

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:0000000006210232

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:0000000006210233

1.CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	20	M83	57	Existed

4. Check continuity between display unit harness connector and ground.

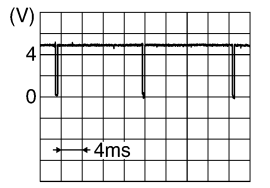
Display unit		Ground	Continuity
Connector	Terminal		
M71	20		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	20	Ground	

SKIB3598E

Is the inspection result normal?

YES >> Replace AV control unit.
NO >> Replace display unit.

AUX IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006210234

- Transmits the image signal of AUX device from auxiliary input jacks to AV control unit.
- AV control unit transmits the image signal that is inputted to the display unit.

Diagnosis Procedure

INFOID:0000000006210235

1.CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect auxiliary input jacks connector and AV control unit connector.
3. Check continuity between auxiliary input jacks harness connector and AV control unit harness connector.

Auxiliary input jacks		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M154	7	M84	66	Existed

4. Check continuity between auxiliary input jacks harness connector and ground.

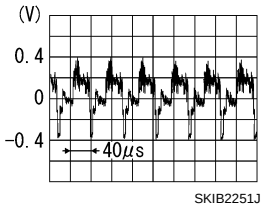
Auxiliary input jacks		Ground	Continuity
Connector	Terminal		
M154	7		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK AUX IMAGE SIGNAL

1. Connect auxiliary input jacks connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between auxiliary input jacks harness connector and ground.

(+)		(–)	Condition	Reference value
Auxiliary input jacks				
Connector	Terminal			
M154	7	Ground	At AUX image displayed.	

SKIB2251J

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check that there is no malfunction in the external device.

3.CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT AND DISPLAY UNIT)

1. Turn ignition switch OFF.
2. Disconnect auxiliary input jacks connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	15	M83	36	Existed

4. Check continuity between display unit harness connector and ground.

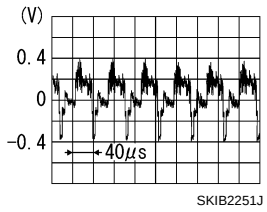
Display unit		Ground	Continuity
Connector	Terminal		
M71	15		Not existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK AUX IMAGE SIGNAL

1. Connect AV control unit connector and display unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	15	Ground	At AUX image displayed.	

SKIB2251J

Is the inspection result normal?

YES >> Replace display unit.
NO >> Replace AV control unit.

CD EJECT SIGNAL CIRCUIT

Description

INFOID:0000000006210236

The eject signal is output to AV control unit when the eject switch of multifunction switch is pressed.

Diagnosis Procedure

INFOID:0000000006210237

1.CHECK CONTINUITY CD EJECT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect multifunction switch connector and AV control unit connector.
3. Check continuity between multifunction switch harness connector and AV control unit harness connector.

Multifunction switch		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M72	14	M85	103	Existed

4. Check continuity between multifunction switch harness connector and ground.

Multifunction switch		Ground	Continuity
Connector	Terminal		
M72	14		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect multifunction switch connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M85	103	Ground	Pressing the eject switch	0 V
			Except for above	3.3 V

Is the inspection result normal?

YES >> Replace preset switch.
NO >> Replace AV control unit.

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000006210238

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210239

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M81	6	M36	24	Existed

3. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M81	6		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable.

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M81	6	M81	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit.

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-53, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch.

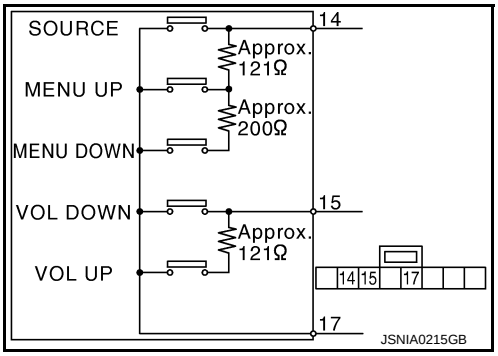
Component Inspection

INFOID:0000000006210240

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

Standard

Between terminals 14 and 17	
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω
Between terminals 15 and 17	
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000006210241

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210242

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M81	16	M36	31	Existed

3. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M81	16		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable.

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M81	16	M81	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit.

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-55, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch.

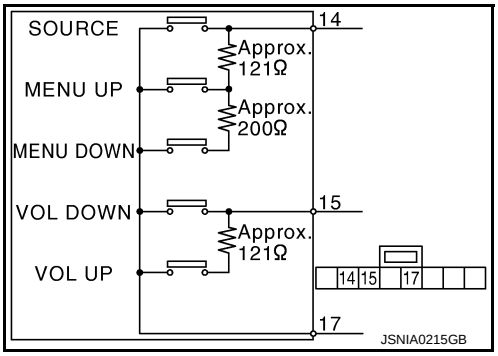
Component Inspection

INFOID:0000000006210243

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

Standard

Between terminals 14 and 17	
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω
Between terminals 15 and 17	
VOL UP switch ON	: 120 – 122Ω
VOL DOWN switch ON	: 0 Ω



STEERING SWITCH SIGNAL GND CIRCUIT

Description

INFOID:0000000006210244

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210245

1.CHECK STEERING SWITCH SIGNAL GND CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M81	15	M36	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable.

3.CHECK GROUND CIRCUIT

1. Connect AV control unit connector.
2. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M81	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit.

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-57, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch.

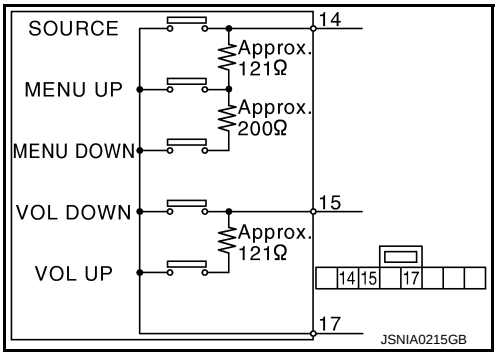
Component Inspection

INFOID:0000000006210246

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

Standard

Between terminals 14 and 17	
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω
Between terminals 15 and 17	
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

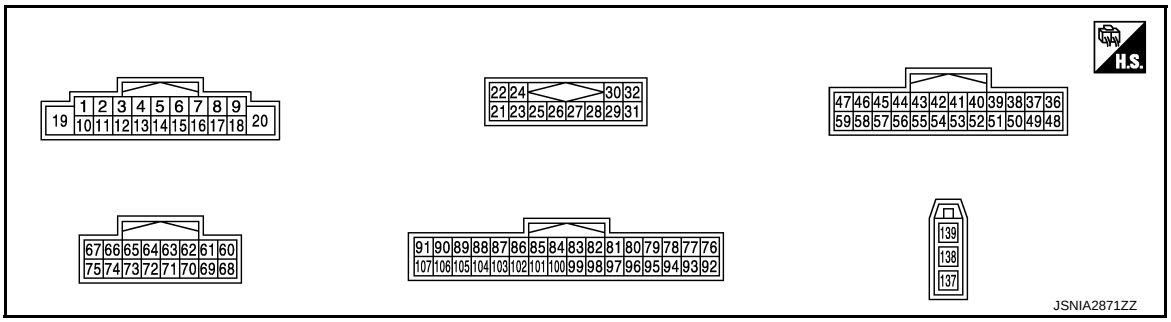
INFOID:0000000006210247

VALUES ON THE DIAGNOSIS TOOL

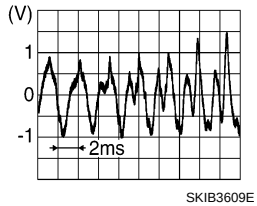
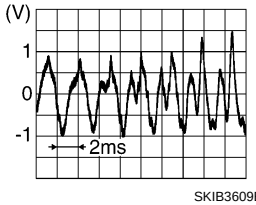
CONSULT-III MONITOR ITEM

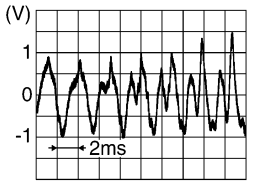
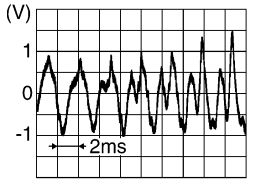
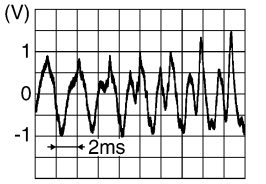
Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Light switch ON	On
		Light switch OFF	Off
IGN SIG	Ignition switch ON	—	On
	Ignition switch ACC	—	Off
REV SIG	Ignition switch ON	Selector lever in R position	On
		Selector lever in any position other than R	Off

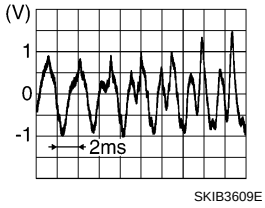
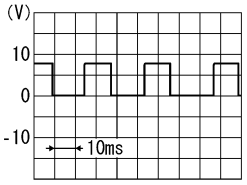
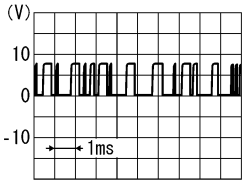
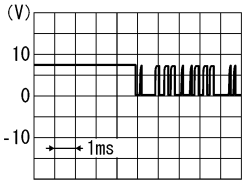
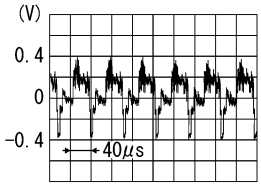
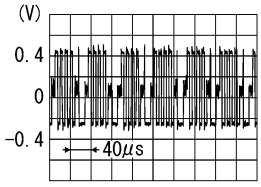
TERMINAL LAYOUT

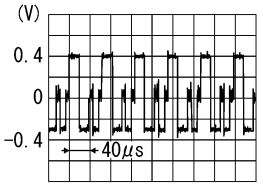
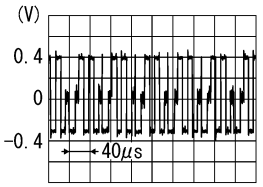
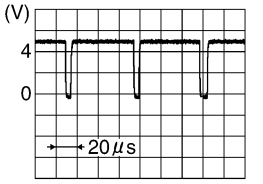
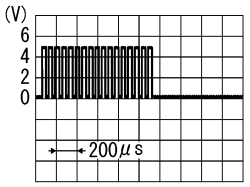
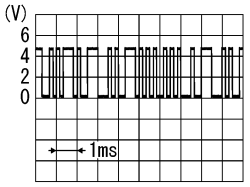
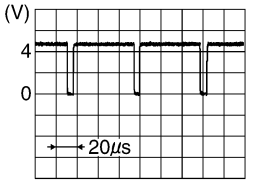


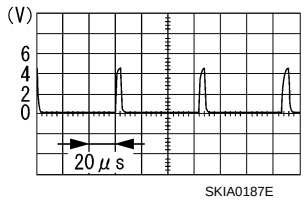
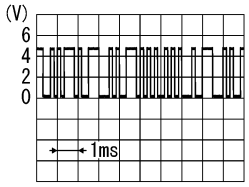
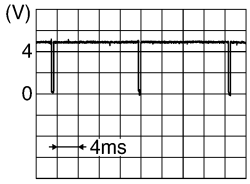
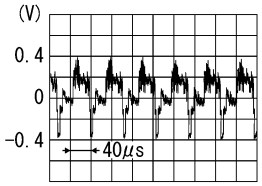
PHYSICAL VALUES

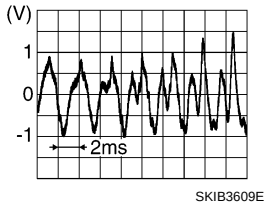
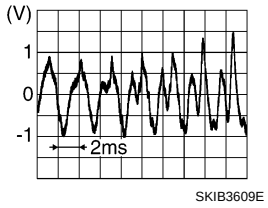
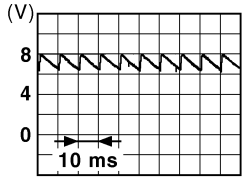
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (L)	3 (W)	Sound signal front LH	Output	Ignition switch ON	Sound output	 SKIB3609E
4 (LG)	5 (SB)	Sound signal rear LH	Output	Ignition switch ON	Sound output	 SKIB3609E

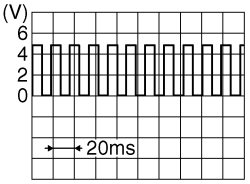
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing △ switch.	0.7 V
					Keep pressing ▽ switch.	1.3 V
					Except for above.	3.3 V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
9 (L)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12 V
11 (BR)	12 (R)	Sound signal front RH	Output	Ignition switch ON	Sound output	 SKIB3609E
13 (L)	14 (P)	Sound signal rear speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
15 (B)	Ground	Steering switch signal GND	—	Ignition switch ON	—	0 V
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	0.7 V
					Except for above.	3.3 V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
22 (B)	21 (W)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
24 (G)	23 (R)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (P)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J
29 (G)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J
30 (L)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9301J
36 (BR)	Ground	Composite image signal	Output	Ignition switch ON	At AUX image is displayed	 SKIB2251J
37 (Y)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
38 (P)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
39 (L)	Ground	RGB signal (G: green)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
40 (G)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
41 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—	 SKIB3603E
42	—	Shield	—	—	—	—
43 (B)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At RGB image is displayed	5 V
					At AUX image is displayed	 PKIB4948J
44 (L)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
45 (R)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	 SKIB3601E
46 (LG)	Ground	Signal ground	—	Ignition switch ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
47 (BG)	Ground	Signal VCC	Output	Ignition switch ACC	—	9 V
48 (BR)	Ground	Composite synchronizing signal	Output	Ignition switch ON	—	 SKIA0187E
49 (Y)	—	Shield	—	—	—	—
50	—	Shield	—	—	—	—
55 (B)	—	Shield	—	—	—	—
56 (LG)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
57 (G)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	 SKIB3598E
58 (BR)	Ground	Inverter ground	—	Ignition switch ON	—	0 V
59 (Y)	Ground	Inverter VCC	Output	Ignition switch ACC	—	9 V
66 (G)	Ground	AUX image signal	Input	Ignition switch ON	When AUX mode is selected	 SKIB2251J
73	—	Shield	—	—	—	—
74 (R)	Ground	AUX image signal ground	—	Ignition switch ON	—	0 V
85 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
86 (L)	—	CAN–H	Input/ Output	—	—	—
87 (P)	—	CAN–L	Input/ Output	—	—	—
88 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
89 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
90 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
91 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
95 (R)	Ground	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is selected	 SKIB3609E
96 (W)	Ground	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is selected	 SKIB3609E
97 (B)	Ground	AUX sound signal ground	—	Ignition switch ON	—	0 V
101 (BR)	Ground	SW ground	—	Ignition switch ON	—	0 V
103 (V)	Ground	Eject signal	Input	—	Pressing the eject switch	0 V
					Except for above	3.3 V
104 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
105 (BG)	Ground	Reverse signal	Input	Ignition switch ON	R position	12 V
					Other than R position	0 V
106 (SB)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake ON	0 V
					Parking brake OFF	 JSNIA0007GB

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
107 (R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** Maximum voltage may be 12 V due to specifications (connected units).  SKIA6649J
137	—	FM sub	Input	—	—	—
138	—	AM–FM main	Input	—	—	—
139	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	12 V

DTC Index

INFOID:0000000006210248

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

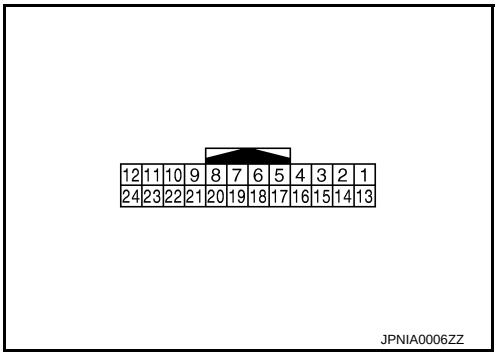
DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-30, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [U1010]	AV-31, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-32, "DTC Logic"
U1200	Cont Unit FLASH-ROM [U1200]	AV-33, "DTC Logic"
U1216	CAN CONT [U1216]	AV-34, "DTC Logic"
U1243	FRONT DISP CONN [U1243]	AV-35, "Diagnosis Procedure"
U1255	SAT CONN [U1255]	AV-37, "Diagnosis Procedure"
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	AV-39, "Description"

DISPLAY UNIT

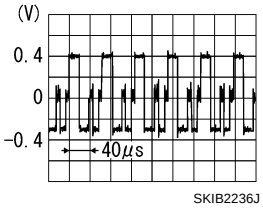
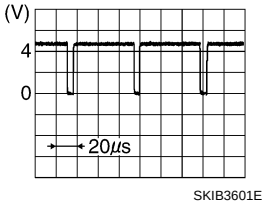
Reference Value

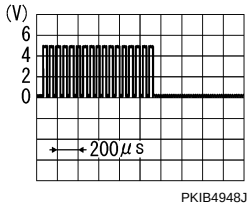
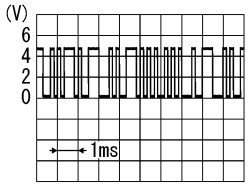
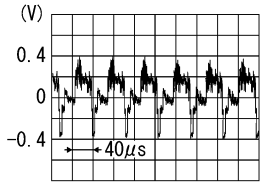
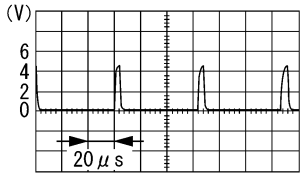
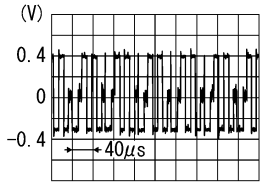
INFOID:0000000006210249

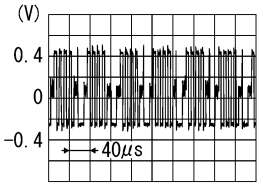
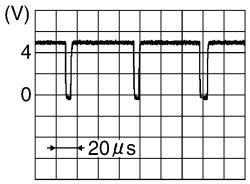
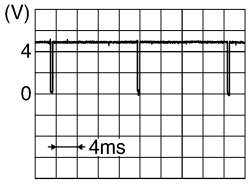
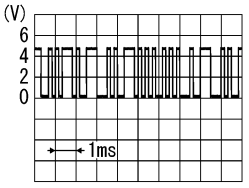
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (Y)	Ground	Inverter VCC	Input	Ignition switch ACC	—	9 V
3 (BG)	Ground	Signal VCC	Input	Ignition switch ACC	—	9 V
4 (Y)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
5 (Y)	—	Shield	—	—	—	—
6 (L)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
7	—	Shield	—	—	—	—
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	 SKIB3601E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
9 (B)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed	5 V
					At AUX image is displayed	 PKIB4948J
11 (LG)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
13 (BR)	Ground	Inverter ground	—	Ignition switch ON	—	0 V
14 (LG)	Ground	Signal ground	—	Ignition switch ON	—	0 V
15 (BR)	Ground	Composite image signal	Input	Ignition switch ON	At AUX image is displayed	 SKIB2251J
16 (BR)	Ground	Composite synchronizing signal	Input	Ignition switch ON	—	 SKIA0187E
17 (G)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J

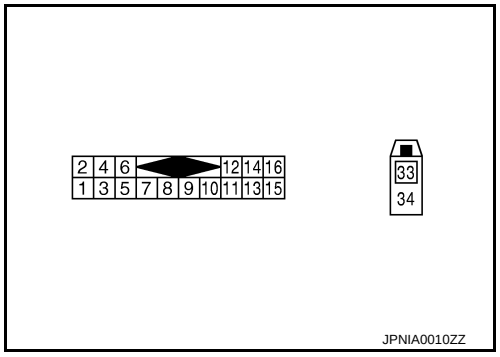
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
18 (P)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON	—	 SKIB3603E
20 (G)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch ON	—	 SKIB3598E
21	—	Shield	—	—	—	—
22 (L)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
23 (B)	—	Shield	—	—	—	—

SATELLITE RADIO TUNER

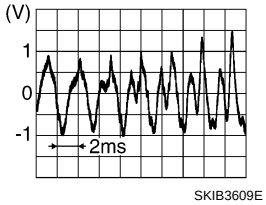
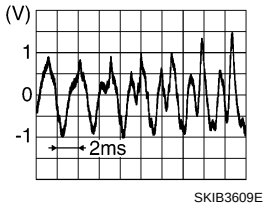
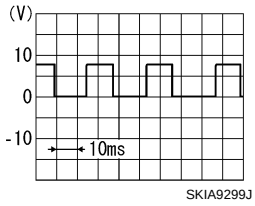
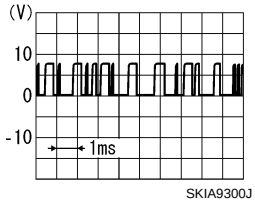
Reference Value

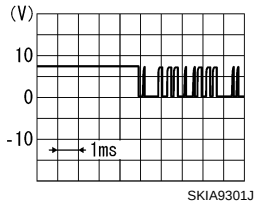
INFOID:0000000006210250

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (R)	1 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected.	
4 (B)	3 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected.	
5	—	Shield	—	—	—	—
6	—	Shield	—	—	—	—
8 (G)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	
9 (L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	

Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
10 (P)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIA9301J
12 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
16 (BG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
33	—	Satellite antenna	Input	—	—	—
34	—	Shield	—	—	—	—

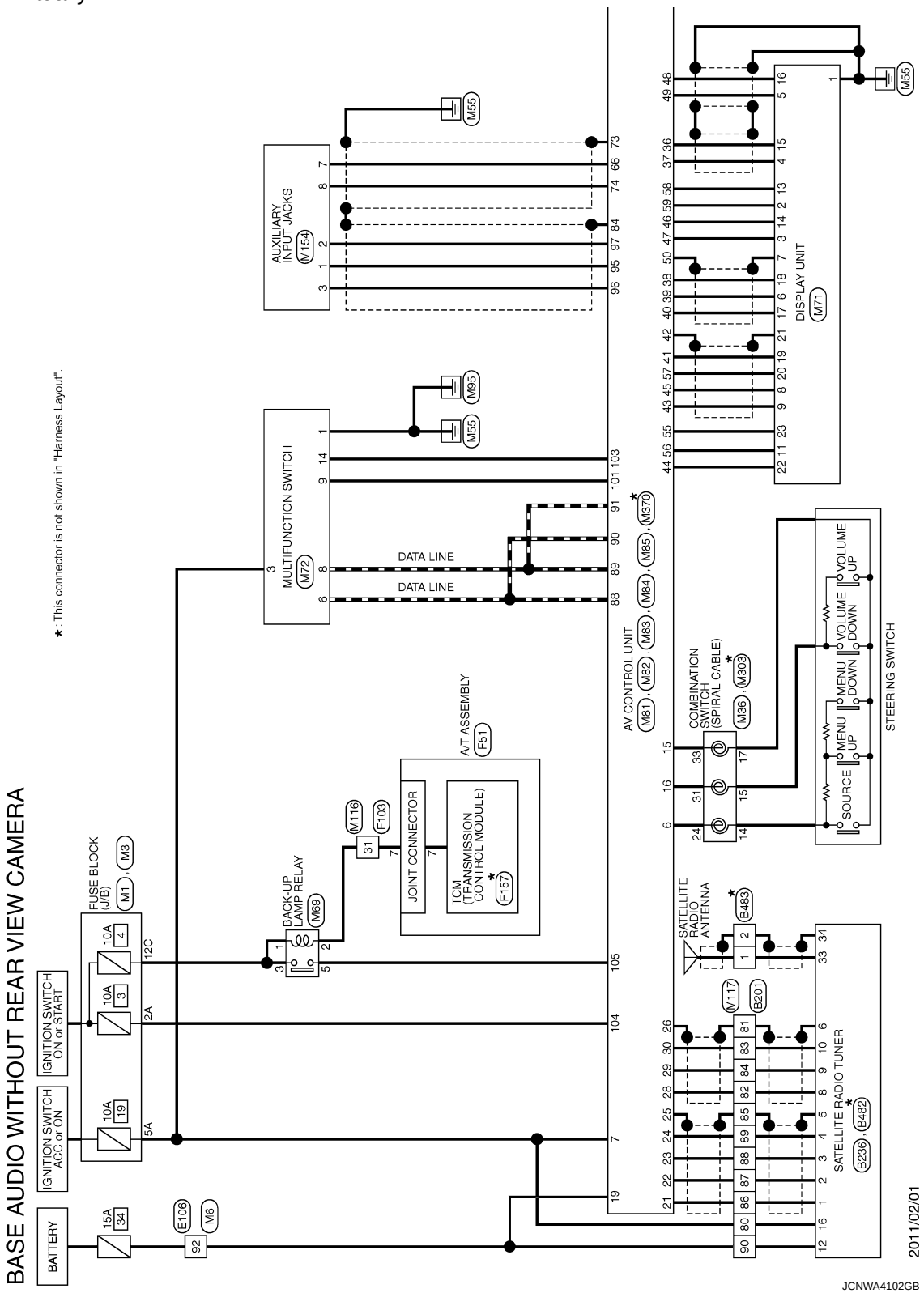
WIRING DIAGRAM

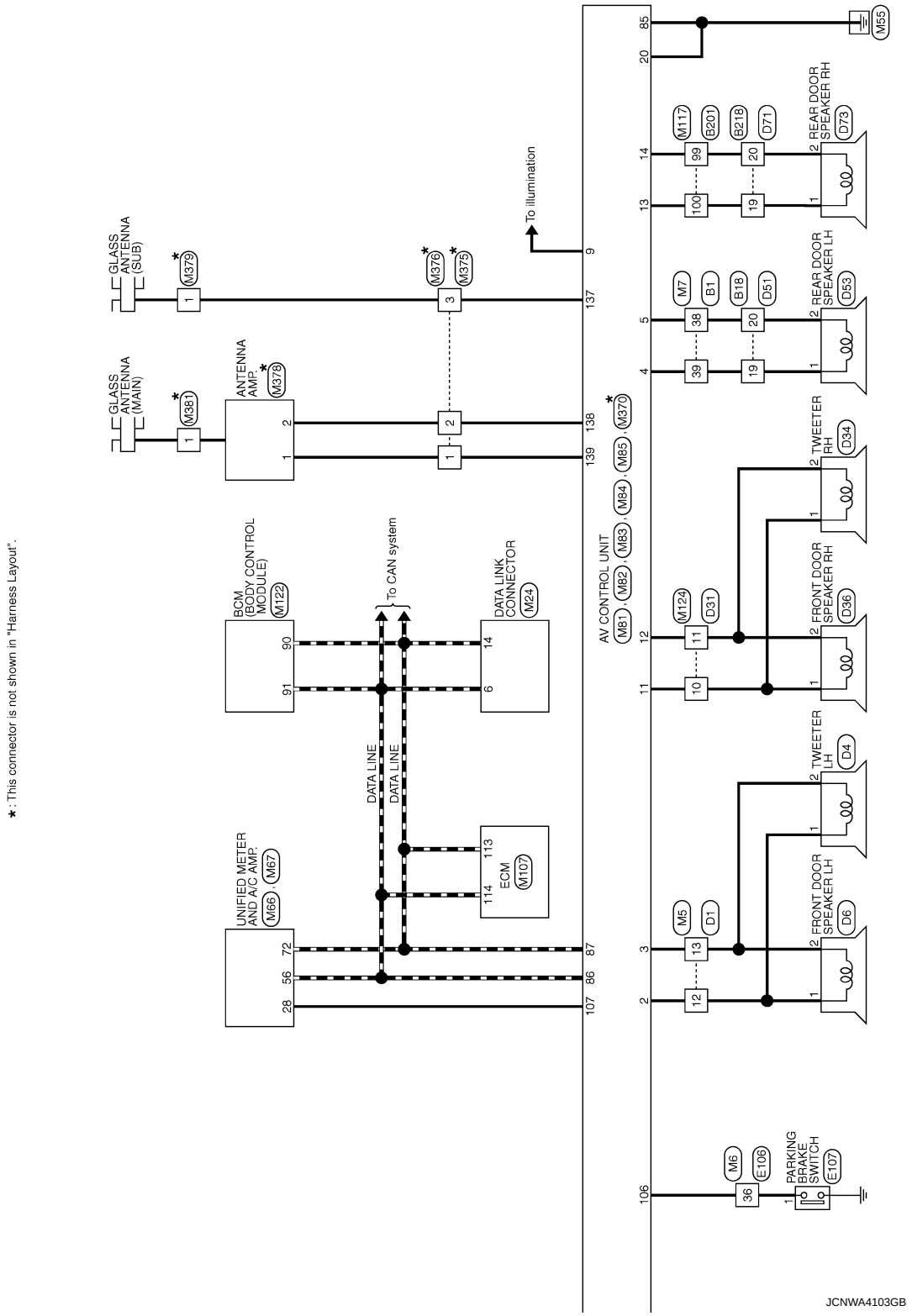
BASE AUDIO WITHOUT REAR VIEW CAMERA

Wiring Diagram

INFOID:0000000006210251

NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.





*: This connector is not shown in "Harness Layout".

BASE AUDIO WITHOUT REAR VIEW CAMERA

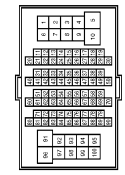
Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
2	BG	–
3	L	–
4	Y	–
6	R	–
7	P	–
8	W	–
9	LG	– [With rear anti-pinch system]
9	GR	– [Without rear anti-pinch system]
15	Y	–
16	BR	–
17	LG	–
18	BG	–
20	L	–
21	P	–
22	L	–
23	P	–
24	V	–
25	SB	–
26	G	–
27	W	–
28	R	–
31	V	–
32	SB	–
33	SHIELD	–
34	W	–
35	BR	–
36	Y	–
37	SHIELD	–
38	Y	–
39	SB	–
40	P	–
41	L	–
42	SHIELD	–
43	R	–
44	G	–
45	SHIELD	–
46	SB	–
55	BR	–
56	R	–
58	V	–
59	SB	–
60	BR	–
61	W	–
62	R	–
63	L	–
64	Y	–
65	SHIELD	–
71	BG	–
72	GR	–
73	P	–
74	L	–
81	V	–
82	B	–
84	Y	–
85	G	–
86	W	–
87	R	–
88	BR	–
89	Y	–
90	SB	–
91	BG	–
92	BR	–
93	P	–
95	BG	–
96	Y	–
100	GR	–

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10

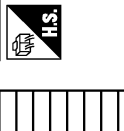
Terminal No.	Color of Wire	Signal Name [Specification]
1	P	–
2	LG	– [With rear anti-pinch system]
2	GR	– [Without rear anti-pinch system]
3	W	–
5	G	–
6	V	–
7	B	–
19	L	–
19	SB	– [With BOSE system]
20	P	– [Without BOSE system]
20	Y	–

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	–
3	W	–
5	P	–
6	L	–
7	V	–
9	LG	–
10	L	–
31	L	–
32	P	–
33	G	–
34	R	–
40	GR	–
41	LG	–
42	BG	–
43	R	–
45	G	–
46	SHIELD	–
47	G	–
48	Y	–
49	SHIELD	–
50	W	–
71	R	–
72	V	–
80	BG	–
81	SHIELD	–
82	G	–
83	P	–
84	L	–
85	SHIELD	–
86	G	–
87	R	–
88	W	–
89	B	–
90	Y	–
91	V	–
92	W	– [With rear anti-pinch system]
92	R	– [Without rear anti-pinch system]
93	BG	– [With rear anti-pinch system]
93	BR	– [Without rear anti-pinch system]
94	R	–
95	SB	–
96	G	–
97	GR	–
98	BR	–
99	P	–
100	L	–

Connector No.	B218
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10

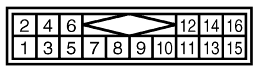


Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	W	– [With rear anti-pinch system]
2	R	– [Without rear anti-pinch system]
3	BG	– [With rear anti-pinch system]
3	BR	– [Without rear anti-pinch system]
5	P	–
6	LG	–
7	B	–
19	L	–
20	P	–

JCNWM5221GB

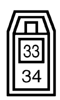
BASE AUDIO WITHOUT REAR VIEW CAMERA

Connector No.	B236
Connector Name	SATELLITE RADIO TUNER
Connector Type	A16FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	SATELLITE RADIO SOUND SIGNAL LH (-)
2	R	SATELLITE RADIO SOUND SIGNAL LH (+)
3	W	SATELLITE RADIO SOUND SIGNAL RH (-)
4	B	SATELLITE RADIO SOUND SIGNAL RH (+)
5	SHIELD	SHIELD
6	SHIELD	SHIELD
8	G	REQUEST (SAT->CONT)
9	L	COMM (SAT->CONT)
10	P	COMM (CONT->SAT)
12	Y	BATTERY
16	BG	ACC

Connector No.	B482
Connector Name	SATELLITE RADIO TUNER
Connector Type	FAKRA CONNECTOR

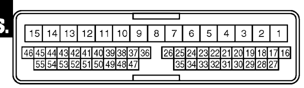


Terminal No.	Color of Wire	Signal Name [Specification]
33	-	SATELLITE ANTENNA
34	SHIELD	SHIELD

Connector No.	B483
Connector Name	SATELLITE RADIO ANTENNA
Connector Type	GT16C-1PP-HU

Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	SHIELD	-

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15

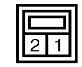


Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
2	B	-
3	SB	-
4	V	-
5	GR	-
6	W	-
7	BG	-
8	L	-
9	P	-
10	LG	-
11	BR	-
12	L	-
13	W	-
14	G	-
15	R	-
16	GR	-
17	L	-
18	BR	-
19	BG	-
20	P	-
21	R	-
25	V	-
26	R	-
27	BR	-
28	W	-
29	Y	-
30	G	-
31	LG	-
32	GR	-
33	B	-
36	W	-
37	P	-
38	V	-
39	BR	-
42	G	-
43	GR	-
44	BG	-
47	V	-
48	R	-
49	SB	-
50	W	-
51	P	-
52	V	-

Connector No.	D4
Connector Name	TWEETER LH
Connector Type	TK02FBR

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	W	-

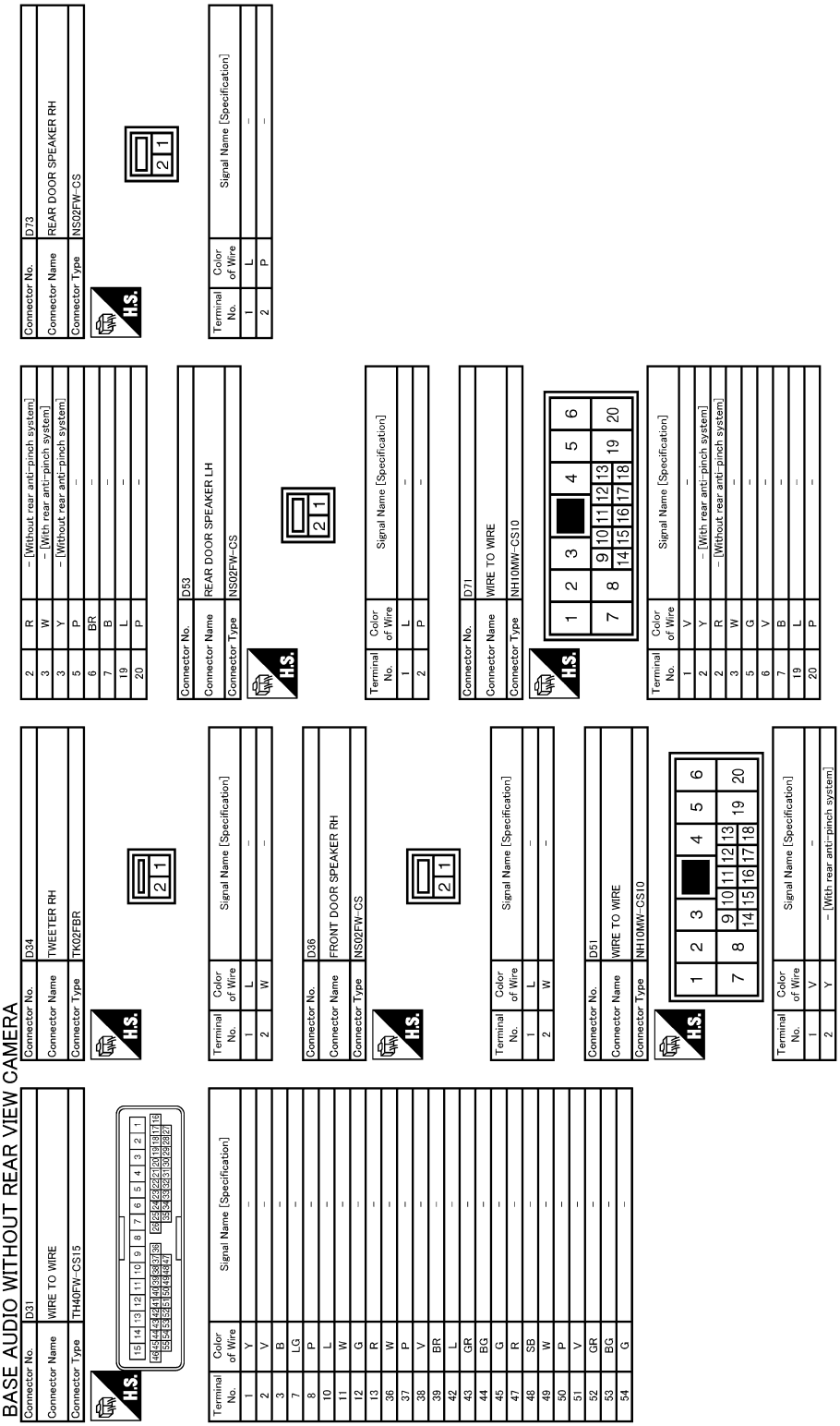
Connector No.	D6
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	W	-

JCNWM5222GB

BASE AUDIO WITHOUT REAR VIEW CAMERA



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BASE AUDIO WITHOUT REAR VIEW CAMERA

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
3	BG	–
5	G	–
6	Y	–
7	V	–
9	R	–
10	W	–
11	V	–
12	R	–
13	L	–
14	GR	–
15	P	–
16	W	–
17	SB	–
18	BG	–
19	SB	–
20	LG	–
30	BR	–
31	L	–
32	BG	–
33	P	–
34	V	–
35	W	–
36	SB	–
37	Y	–
38	R	–
39	B	–
40	G	–
41	R	–
42	LG	–
43	G	–
44	GR	–
45	BR	–
46	LG	–
47	V	–
48	P	–
49	L	–
59	B	–
66	GR	–
67	LG	–
68	SB	–
69	P	–
70	G	–
80	R	–
81	P	–
82	G	–
83	V	–
84	L	–
85	W	–
86	L	–
87	BR	–
88	GR	–
89	V	–
91	W	–
93	GR	–
95	LG	–
97	SB	–
98	SHIELD	–
99	L	–
100	P	–

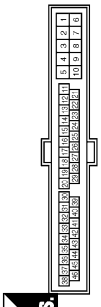
Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TB01FW

Terminal No.	Color of Wire	Signal Name [Specification]
1	BG	–

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY

Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	BR	– [With VQ25HR engine]
2	R	– [With VQ37VHR engine]
3	L	–
4	V	–
5	B	–
6	Y	– [With VQ25HR engine]
6	G	– [With VQ37VHR engine]
7	R	–
8	P	–
9	GR	–
10	B	–

Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK36FW-NS10



Terminal No.	Color of Wire	Signal Name [Specification]
2	G	–
3	W	–
4	R	–
5	B	–
9	G	– [With VQ25HR engine]
9	Y	– [With VQ37VHR engine]
10	L	– [With VQ25HR engine]
10	GR	– [With VQ37VHR engine]
19	BG	* [VQ25HR engine with left and right ventilation temperature separately control system]
19	O	** [Except for VQ25HR engine with left and right ventilation temperature separately control system]

20	Y	–
28	B	–
29	LG	–
30	R	–
31	R	–
33	B	–
34	B	–
35	L	–
36	P	–
37	Y	–
38	G	–
41	O	–
42	BR	–
43	P	–
44	L	–
45	Y	– [With VQ25HR engine]
45	G	– [With VQ37VHR engine]
46	V	–

Connector No.	F157
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SP10FG

Terminal No.	Color of Wire	Signal Name [Specification]
1	–	VIGN
2	–	BATT
3	–	CAN-H
4	–	K-LINE
5	–	GND
6	–	VIGN
7	–	REV LAMP RLY
8	–	CAN-L
9	–	STARTER RLY
10	–	GND

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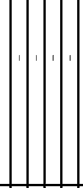
BASE AUDIO WITHOUT REAR VIEW CAMERA

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2

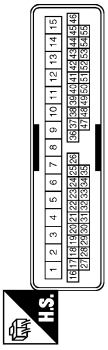
Terminal No.	Color of Wire	Signal Name [Specification]
1A	V	–
2A	G	–
3A	L	–
4A	P	–
5A	L	–
6A	Y	–
7A	R	–
8A	L	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FW-CS



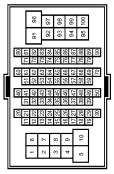
Terminal No.	Color of Wire	Signal Name [Specification]
6C	SB	–
7C	B	–
8C	W	–
9C	BG	–
10C	L	–
11C	LG	–
12C	G	–

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	B	–
3	BG	–
4	V	–
5	G	–
6	W	–
7	LG	–
8	SB	–
9	G	–
10	V	–
11	SB	–
12	L	–
13	W	–
14	B	–
15	W	–
16	R	–
17	BR	–
18	V	–
19	BG	–
20	P	–
21	W	–
25	Y	–
26	G	–
27	L	–
28	Y	–
29	G	–
30	SB	–
31	LG	–
32	W	–
33	B	–
36	W	–
37	GR	–
38	Y	–
39	B	–
42	Y	–
43	L	–
44	G	– [With automatic drive positioner]
44	L	– [Without automatic drive positioner]

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	BG	–
3	R	–
5	G	–
6	LG	–
7	W	–
9	G	–
10	W	–
11	V	–
12	R	–
13	L	–
14	GR	–
15	P	–
16	W	–
17	BR	–
18	P	–
19	L	–
20	L	–
30	BR	–
31	L	–
32	Y	–
33	BG	–
34	W	–
35	BR	–
36	R	–
37	Y	–
38	R	–
39	SB	–
40	G	–
41	V	–
42	LG	–
43	L	–
44	GR	–
45	L	–
46	SB	–
47	L	–
48	GR	–
49	SB	–
50	P	–
51	LG	–
52	V	–

43	P	–
44	B	– [With A/T]
44	R	– [With M/T]
45	BG	–
46	G	–
47	L	–
48	P	–
49	L	–
59	B	–
66	Y	–
67	G	–
68	R	–
69	W	–
70	G	–
80	SB	–
81	B	–
82	V	–
83	W	–
84	L	–
85	GR	–
86	G	–
87	R	–
88	B	–
89	LG	–
91	W	–
93	Y	–
95	Y	–
97	GR	–
98	SHIELD	–
99	V	–
100	SB	–

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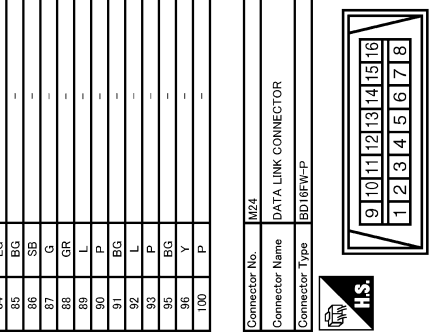
BASE AUDIO WITHOUT REAR VIEW CAMERA

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

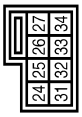
Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
2	P	–
3	SB	– [With automatic drive positioner]
3	P	– [Without automatic drive positioner]
4	Y	–
6	L	–
7	W	–
8	G	– [With rear anti-pinch system]
8	Y	– [Without rear anti-pinch system]
9	Y	– [With rear anti-pinch system]
9	G	– [Without rear anti-pinch system]
15	R	–
16	BR	–
17	P	–
18	V	–
20	L	–
21	P	–
22	L	–
23	P	–
24	V	–
25	LG	–
26	BR	–
27	BG	–
28	LG	–
31	V	–
32	LG	–
33	SHIELD	–
34	GR	–
35	BR	–
36	Y	–
37	SHIELD	–
38	SB	–
39	LG	–
40	O	–
41	W	–
42	SHIELD	–
43	R	–
44	G	–
45	SHIELD	–
46	SB	–
55	W	–
56	B	–
58	V	–
59	Y	–
60	Y	–
61	W	–
62	R	–
63	G	–
64	B	–
65	SHIELD	–
71	V	–
72	P	–
73	SB	–
74	V	–
81	W	–
82	BR	–
84	LG	–
85	BG	–
86	SB	–
87	G	–
88	GR	–
89	L	–
90	P	–
91	BG	–
92	L	–
93	P	–
95	BG	–
96	Y	–
100	P	–

Connector No.	M24
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW-P



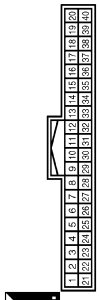
Terminal No.	Color of Wire	Signal Name [Specification]
3	LG	–
4	B	–
5	B	–
6	L	–
7	V	–
8	G	–
11	SB	–
14	P	–
16	R	–

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V



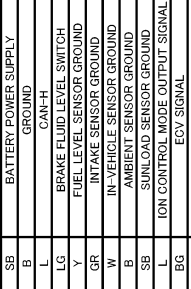
Terminal No.	Color of Wire	Signal Name [Specification]
24	P	–
25	SB	–
26	B	–
31	L	–
32	Y	–
33	B	–
34	LG	–

Connector No.	M66
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH40FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
4	G	STOP LAMP SWITCH SIGNAL
5	L	MANUAL MODE SHIFT UP SIGNAL
6	BG	PADDLE SHIFTER UP SIGNAL
7	GR	COMMUNICATION SIGNAL (AMP.->METER)
8	L	VEHICLE SPEED SIGNAL (2-PULSE)
9	SB	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
10	W	MANUAL MODE SIGNAL
11	G	NON-MANUAL MODE SIGNAL
14	BR	COMMUNICATION SIGNAL (LCD->AMP.)
20	BR	ION ON / OFF SIGNAL
23	Y	AT SNOW SWITCH SIGNAL
25	V	MANUAL MODE SHIFT DOWN SIGNAL
26	G	PADDLE SHIFTER DOWN SIGNAL
27	LG	COMMUNICATION SIGNAL (METER->AMP.)
28	R	VEHICLE SPEED SIGNAL (8-PULSE)
30	V	PARKING BRAKE SWITCH SIGNAL
34	Y	COMMUNICATION SIGNAL (AMP->LCD)
38	P	BLOWER MOTOR CONTROL SIGNAL

Connector No.	M67
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH32FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
41	L	ACC POWER SUPPLY
42	BR	FUEL LEVEL SENSOR SIGNAL
43	BR	INTAKE SENSOR SIGNAL
44	LG	IN-VEHICLE SENSOR SIGNAL
45	V	AMBIENT SENSOR SIGNAL
46	Y	SUNLOAD SENSOR SIGNAL
47	G	EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL
53	W	IGNITION POWER SUPPLY
54	SB	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CAN-H
57	LG	BRAKE FLUID LEVEL SWITCH
58	Y	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	W	IN-VEHICLE SENSOR GROUND
61	B	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	L	ION CONTROL MODE OUTPUT SIGNAL
65	BG	ECV SIGNAL
69	P	A/C LAN SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	GR	GROUND
72	P	CAN-L

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BASE AUDIO WITHOUT REAR VIEW CAMERA

Connector No.	M69
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS02FL-M2-LC

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	–
2	W	–
3	LG	–
5	BG	–

Connector No.	M71
Connector Name	DISPLAY UNIT
Connector Type	TH24FW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
2	Y	INVERTER VCC
3	BG	SIGNAL VCC
4	Y	COMPOSITE IMAGE GND
5	SHIELD	SHIELD [With rear view monitor]
5	Y	SHIELD [Without rear view monitor]
6	L	RGB (G/GREEN) SIGNAL
7	SHIELD	SHIELD
8	R	HP
9	B	RGB AREA (YS) SIGNAL
11	P	COMM (CONT->DISP) [With rear view monitor]
11	LG	COMM (CONT->DISP) [Without rear view monitor]
13	BR	INVERTER GND
14	LG	SIGNAL GND
15	BR	COMPOSITE IMAGE SIGNAL
16	BR	COMP SYNC
17	G	RGB (R/RED) SIGNAL
18	P	RGB (B/BLUE) SIGNAL

19	W	RGB SYNC
20	G	VP
21	SHIELD	SHIELD
22	L	COMM (DISP->CONT)
23	SHIELD	SHIELD [With rear view monitor]
23	B	SHIELD [Without rear view monitor]

Connector No.	M72
Connector Name	MULTIFUNCTION SWITCH
Connector Type	TH16FW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
3	P	ACC
4	BG	ILL
5	B	ILL CONT
6	SB	AV COMM (H)
8	LG	AV COMM (L)
9	BR	SW GND
14	V	DISK EJECT SIGNAL
16	G	HAZARD ON

Connector No.	M81
Connector Name	AV CONTROL UNIT
Connector Type	TH18FW-CS2

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	W	SOUND SIGNAL FRONT LH (-)
4	LG	SOUND SIGNAL REAR LH (+)
5	SB	SOUND SIGNAL REAR LH (-)
6	P	STRG SW A

7	V	ACC
9	L	ILLUMINATION
11	BR	SOUND SIGNAL FRONT RH (+)
12	R	SOUND SIGNAL FRONT RH (-)
13	L	SOUND SIGNAL REAR RH (+)
14	P	SOUND SIGNAL REAR RH (-)
15	B	STRG SW GND
16	L	STRG SW B
19	Y	BATTERY
20	B	GND

Connector No.	M82
Connector Name	AV CONTROL UNIT
Connector Type	A12FW

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
21	W	SATELLITE SOUND SIGNAL LH (-)
22	B	SATELLITE SOUND SIGNAL LH (+)
23	R	SATELLITE SOUND SIGNAL RH (-)
24	G	SATELLITE SOUND SIGNAL RH (+)
25	SHIELD	SHIELD
26	SHIELD	SHIELD
28	P	REQUEST (SAT->CONT)
29	G	COMM (SAT->CONT)
30	L	COMM (CONT->SAT)

Connector No.	M83
Connector Name	AV CONTROL UNIT
Connector Type	TH24FW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
36	BR	COMPOSITE IMAGE SIGNAL

37	Y	COMPOSITE IMAGE GND
38	P	RGB (B/BLUE) SIGNAL
39	L	RGB (G/GREEN) SIGNAL
40	G	RGB (R/RED) SIGNAL
41	W	RGB SYNC
42	SHIELD	SHIELD
43	B	RGB AREA (YS) SIGNAL
44	L	COMM (DISP->CONT)
45	R	HP
46	LG	SIGNAL GND
47	BG	SIGNAL VCC
48	BR	COMP SYNC
49	Y	SHIELD
50	SHIELD	SHIELD
55	B	SHIELD
56	LG	COMM (CONT->DISP)
57	G	VP
58	BR	INVERTER GND
59	Y	INVERTER VCC

Connector No.	M84
Connector Name	AV CONTROL UNIT
Connector Type	TH16FW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
66	G	AUX IMAGE SIGNAL
73	SHIELD	SHIELD
74	R	AUX IMAGE GND

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BASE AUDIO WITHOUT REAR VIEW CAMERA

Connector No.	M85
Connector Name	AV CONTROL UNIT
Connector Type	TH32FW-NH

91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76
107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92

Terminal No.	Color of Wire	Signal Name [Specification]
85	B	GND
86	L	CAN-H
87	P	CAN-L
88	SB	AV COMM (H)
89	LG	AV COMM (L)
90	SB	AV COMM (H)
91	LG	AV COMM (L)
95	R	AUX SOUND SIGNAL RH (+)
96	W	AUX SOUND SIGNAL LH (+)
97	B	AUX SOUND SIGNAL GND
101	BR	SW GND
103	V	EJECT SIGNAL
104	G	IGNITION
105	BG	REVERSE
106	SB	PARKING BRAKE
107	R	VEHICLE SPEED (8-PULSE)

Connector No.	M107
Connector Name	ECM
Connector Type	RH24FGY-R28-R-LH-Z

128	124	120	116	112	108	104	100
127	123	119	115	111	107	103	099
126	122	118	114	110	106	102	098
125	121	117	113	109	105	101	097

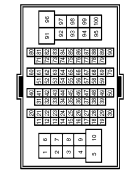
Terminal No.	Color of Wire	Signal Name [Specification]
97	R	APS 1
98	P	APS 2
99	L	AVCC-APS 1
100	W	GNDA-APS 1
101	SB	ASCDSW
102	LG	FTPRS
103	GR	AVCC-APS 2
104	V	GND-APS 2
105	L	PDPRESS
106	W	TF
107	GR	AVCC-FTPRS
108	Y	GNDA ASCD
109	G	NEUT-H
110	R	TACHO
112	V	GND-A
113	P	VEHCAN-L 1
114	L	VEHCAN-H 1
117	V	KLINE
121	LG	CDCV
122	P	BRAKE
123	B	GND
124	B	GND
125	R	VBR
126	BR	BNC SW
127	B	GND
128	B	GND

Connector No.	M116
Connector Name	WIRE TO WIRE
Connector Type	TK36MW-NS10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Terminal No.	Color of Wire	Signal Name [Specification]
2	W	-
3	B/G	-
4	P	-
5	B	-
9	R	-
10	R	-
19	B/G	-
20	Y	-
28	B	-
29	LG	-
30	LG	-
31	W	-
33	B	-
34	B	-
35	L	-
36	P	-
37	R	-
38	SB	-
41	B/G	-
42	G	-
43	P	-
44	L	-
45	Y	-
46	SB	-

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
3	SB	-
5	P	-
6	G	-
7	SB	-
9	LG	-
10	L	-
31	SB	-
32	LG	-
33	SB	-
34	LG	-
40	Y	-
41	G	-
42	LG	-
43	R	-
45	G	-
46	SHIELD	-
47	P	-
48	L	-
49	SHIELD	-
50	V	-
71	R	-
72	L	-
80	W	-
81	SHIELD	-
82	P	-
83	L	-
84	G	-
85	SHIELD	-
86	W	-
87	B	-
88	R	-
89	G	-
90	Y	-
91	V	-
92	BR	- [With rear anti-pinch system]
92	LG	- [Without rear anti-pinch system]
93	V	- [With rear anti-pinch system]
93	W	- [Without rear anti-pinch system]
94	Y	-
95	G	-
96	G	-
97	R	-
98	BG	-
99	P	-
100	L	-

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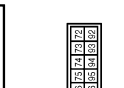
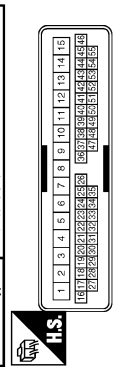
BASE AUDIO WITHOUT REAR VIEW CAMERA

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



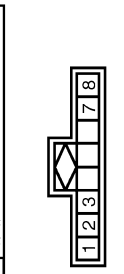
Terminal No.	Color of Wire	Signal Name [Specification]
72	R	ROOM ANT 2–
73	G	ROOM ANT 2+
74	SB	PASSENGER DOOR ANT–
75	BR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT–
77	LG	DRIVER DOOR ANT+
78	Y	ROOM ANT 1–
79	BR	ROOM ANT 1+
80	GR	NATS ANT AMP.
81	W	NATS ANT AMP.
82	SB	IGN RELAY (F/B) CONT
83	Y	KEYLESS ENTRY RECEIVER COMM
87	Y	COMBI SW INPUT 5
88	BG	COMBI SW INPUT 3
89	BR	PUSH SW
90	P	CAN–L
91	L	CAN–H
92	LG	KEY SLOT ILL
93	GR	ON IND
95	BG	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
97	L	S/L CONDITION 1
98	P	S/L CONDITION 2
99	R	SHIFT P [With A/T]
99	BR	ASCD CLUTCH SW [With M/T]
100	Y	PASSENGER DOOR REQUEST SW
101	P	DRIVER DOOR REQUEST SW
102	BG	BLOWER FAN MOTOR RELAY CONT
103	P	KEYLESS ENTRY RECEIVER POWER SUPPLY
106	SB	S/L UNIT POWER SUPPLY
107	LG	COMBI SW INPUT 1
108	R	COMBI SW INPUT 4
109	W	COMBI SW INPUT 2
110	G	HAZARD SW
111	Y	S/L UNIT COMM

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	GR	–
3	B	–
7	V	–
8	P	–
10	BR	–
11	R	–
12	G	–
13	R	–
36	G	–
37	R	–
38	GR	–
39	L	–
42	BG	–
43	BG	–
44	W	–
45	SB	–
46	LG	–
47	LG	–
48	P	–
49	Y	–
50	BR	–
51	SB	–
52	L	–
53	L	–
54	Y	–

Connector No.	M154
Connector Name	AUXILIARY INPUT JACKS
Connector Type	A08FW

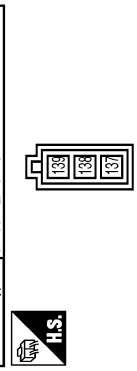


Terminal No.	Color of Wire	Signal Name [Specification]
1	R	AUX SOUND SIGNAL RH (+)
2	B	AUX SOUND SIGNAL GND
3	W	AUX SOUND SIGNAL LH (+)
7	G	AUX IMAGE SIGNAL
8	R	AUX IMAGE GND

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY

Terminal No.	Color of Wire	Signal Name [Specification]
13	R	–
14	W	–
15	L	–
16	B	–
17	BR	–
18	G	–
19	P	–
20	Y	–

Connector No.	M370
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH-2/1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
137	–	FM SUB
138	–	AM-FM MAIN
139	–	ANTENNA AMP. ON SIGNAL

Connector No.	M375
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2/1S-HU

Terminal No.	Color of Wire	Signal Name [Specification]
1	–	–
2	–	–
3	–	–

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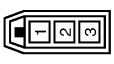
BASE AUDIO WITHOUT REAR VIEW CAMERA

Connector No.	M376
Connector Name	WIRE TO WIRE
Connector Type	GT13SCN-2/1PP-HU

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	–	–
2	–	–
3	–	–

Connector No.	M381
Connector Name	GLASS ANTENNA (MAIN)
Connector Type	P01FB-A

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	–	–

Connector No.	M378
Connector Name	ANTENNA AMP.
Connector Type	GT13SC-1/1S-HU

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	–	ANTENNA AMP. ON SIGNAL
2	–	AM-FM MAIN

Connector No.	M379
Connector Name	GLASS ANTENNA (SUB)
Connector Type	P01FB-A

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	–	–

JCNWM5230GB

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000006210252

OPERATION

Symptoms	Check items	Possible malfunction location / Action to take
Multifunction switch and preset switch operation does not work.	• All switches cannot be operated. • “MULTI AV” is displayed with CONSULT-III.	Perform CONSULT-III self-diagnosis. Refer to AV-27, "CONSULT - III Function (MULTI AV)".
	• All switches cannot be operated. • “MULTI AV” is not displayed on system selection screen the CONSULT-III is initialized.	AV control unit power supply and ground circuit malfunction. Refer to AV-40, "AV CONTROL UNIT : Diagnosis Procedure".
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to AV-20, "Diagnosis Description".

RELATED TO RGB IMAGE

Trouble diagnosis chart by symptom

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	There is malfunction in the CONSULT-III self-diagnosis result.	Perform CONSULT-III self-diagnosis. Refer to AV-27, "CONSULT - III Function (MULTI AV)".
	There is no malfunction in CONSULT-III self-diagnosis results.	• Display unit power supply circuit. Refer to AV-40, "DISPLAY UNIT : Diagnosis Procedure". • Vertical synchronizing (VP) signal circuit. Refer to AV-49, "Diagnosis Procedure".
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to AV-43, "Diagnosis Procedure".
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to AV-44, "Diagnosis Procedure".
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to AV-45, "Diagnosis Procedure".
RGB screen is rolling.	—	RGB synchronizing signal circuit. Refer to AV-46, "Diagnosis Procedure".
Fuel economy display is malfunctioning.	There is malfunction in the CONSULT-III self-diagnosis result.	Perform CONSULT-III self-diagnosis. Refer to AV-27, "CONSULT - III Function (MULTI AV)".
	There is no malfunction in CONSULT-III self-diagnosis results.	Ignition signal circuit malfunction. Refer to AV-40, "AV CONTROL UNIT : Diagnosis Procedure".

RELATED TO AUDIO

Trouble diagnosis chart by symptom

Symptoms	Check items	Possible malfunction location / Action to take
The CD cannot be removed.	—	CD eject signal circuit. Refer to AV-52, "Diagnosis Procedure".
Audio sound is not heard.	No sound from all speakers.	AV control unit. Refer to AV-90, "Exploded View".
	Sound is not heard only from the specific places (RH front, RH rear, LH front and LH rear).	Sound signal circuit of malfunctioning system.

Symptoms	Check items	Possible malfunction location / Action to take
Satellite radio is not received.	“ANTENNA” is not displayed even when the channel is turned to 0 in Satellite radio mode.	Perform the following inspection procedure. 1. Check satellite radio antenna mounting nut for looseness. **NOTE:** Tightening torque: 6.5 N·m (0.66 kg-m, 58 in-lb.) 2. Visually check for satellite radio antenna feeder. 3. Replace the satellite radio antenna. Refer to AV-97, "Exploded View". 4. Replace the satellite radio tuner. Refer to AV-96, "Exploded View".
	“ANTENNA” is displayed when the channel is turned to 0 in Satellite radio mode.	Perform the following inspection procedure. 1. Check the connection between Satellite radio tuner and antenna feeder. 2. Check the connection between Satellite radio antenna and antenna feeder. 3. Check Antenna feeder for open circuit. 4. Replace the satellite radio antenna. Refer to AV-97, "Exploded View". 5. Replace the satellite radio tuner. Refer to AV-96, "Exploded View".
The sound of Satellite radio is not heard.	Other audio sounds are normal.	Satellite radio sound signal circuit malfunction between satellite radio tuner and AV control unit.
It does not change to Satellite radio mode.	There is malfunction in the CONSULT-III self-diagnosis result.	Perform CONSULT-III self-diagnosis. Refer to AV-27, "CONSULT - III Function (MULTI AV)".
AM/FM radio is not received.	Other audio sounds are normal.	• Antenna amp. ON signal circuit. • Antenna feeder.

RELATED TO STEERING SWITCH

Trouble diagnosis chart by symptom

Symptoms	Inspection location / Probable malfunction location
None of the steering switch operations work.	Steering switch signal GND circuit. Refer to AV-57, "Diagnosis Procedure".
Only specified switch cannot be operated.	Steering switch. Refer to AV-100, "Exploded View".
“SOURCE”, “MENU UP”, “MENU DOWN” switches of steering switch are not operated.	Steering switch signal A circuit. Refer to AV-53, "Diagnosis Procedure".
”VOL UP“, “VOL DOWN” switches of steering switch are not operated.	Steering switch signal B circuit. Refer to AV-55, "Diagnosis Procedure".

RELATED TO AUXILIARY INPUT

NOTE:

Check that there is no malfunction of AUX equipment main body before performing a diagnosis.

Trouble diagnosis chart by symptom

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	AUX sound signal circuits malfunction between auxiliary input jacks and AV control unit.
Image is not displayed when AUX mode is selected.	—	• AUX image signal circuit malfunction between auxiliary input jacks and AV control unit. Refer to AV-50, "Diagnosis Procedure". • Horizontal synchronizing (HP) signal circuit malfunction between AV control unit and display unit. Refer to AV-48, "Diagnosis Procedure". • RGB area (YS) signal circuit malfunction between AV control unit and display unit. Refer to AV-47, "Diagnosis Procedure".
It does not change from AUX mode to other modes.	—	Vertical synchronizing (VP) signal circuit malfunction between AV control unit and display unit. Refer to AV-49, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000006210253

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The system in the video mode.	Press **<DISC>** to change the mode.
	The display is turned off.	Press **<Day/Night>** to turn on the display.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the multi AV system.

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD/cassette, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and then determine the cause.

NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the “red book” Compact Disc Standard and may not play.

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than “.MP3”, “.WMA”, “.mp3”, or “.wma” cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the CD is protected by copyright.
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.

Symptom	Cause and Counter measure
Move immediately to the next song when playing	When a non-MP3/WMA file has been given an extension of ".MP3", ".WMA", ".mp3", or ".wma", or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

Noise resulting from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources, is not a malfunction.

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000006210254

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precaution for Trouble Diagnosis

INFOID:0000000006210255

AV COMMUNICATION SYSTEM

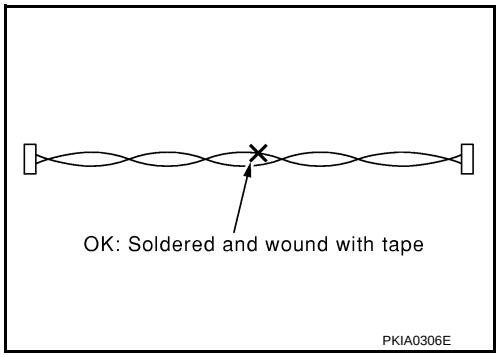
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

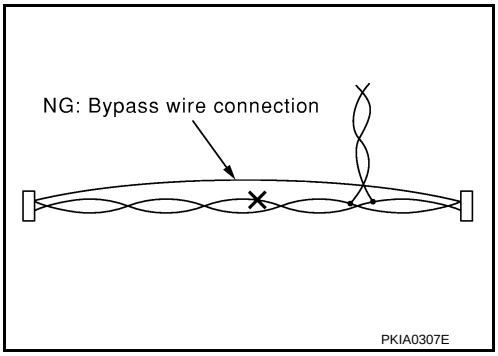
INFOID:0000000006210256

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

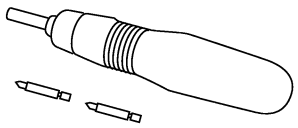


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000006210257

Tool name	Description
Power tool  PBIC0191E	Loosening screws

REMOVAL AND INSTALLATION

AV CONTROL UNIT

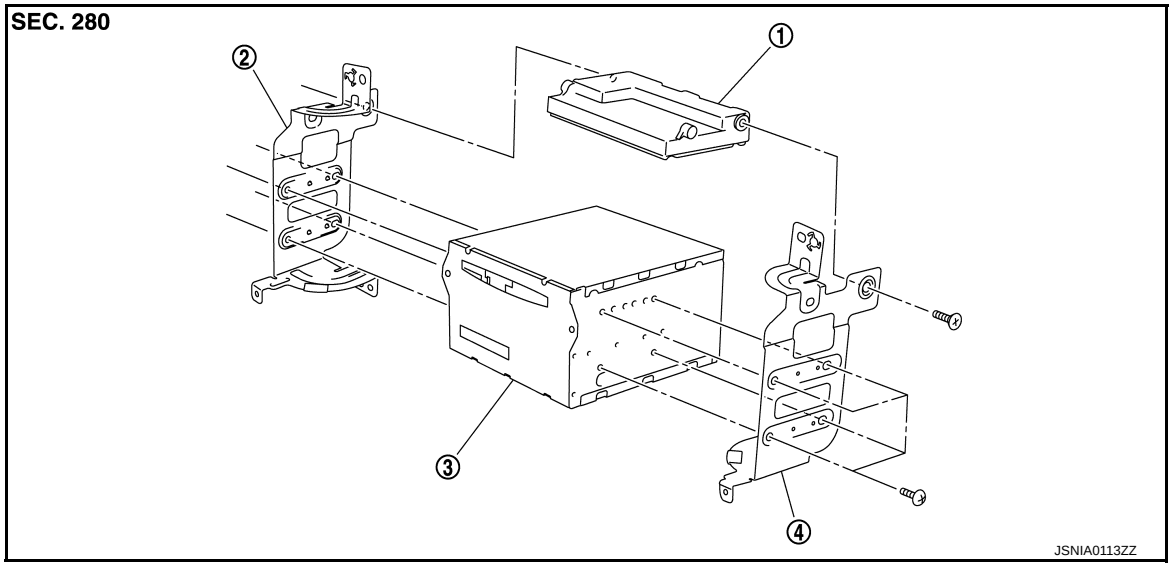
Exploded View

INFOID:0000000006210258

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Unified meter and A/C amp.
2. Bracket LH
3. AV control unit
4. Bracket RH

Removal and Installation

INFOID:0000000006210259

REMOVAL

1. Remove display unit.
2. Remove AV control unit with a unified meter and A/C amp. as a single unit from the body.
3. Remove bracket screws, and then remove AV control unit.

INSTALLATION

Installation is the reverse order of removal.

CAUTION:

Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.

DISPLAY UNIT

Exploded View

INFOID:0000000006210260

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

Removal and Installation

INFOID:0000000006210261

REMOVAL

1. Remove cluster lid D. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove display unit with bracket as a single unit.

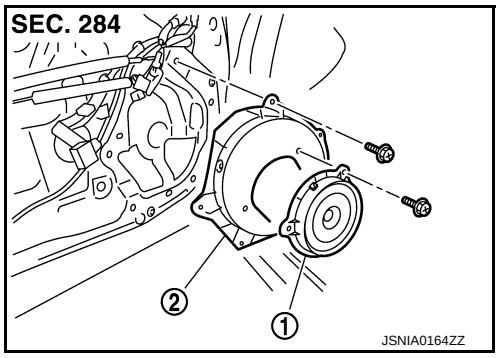
INSTALLATION

Installation is the reverse order of removal.

FRONT DOOR SPEAKER

Exploded View

INFOID:0000000006210262



1. Front door speaker
2. Speaker bracket

Removal and Installation

INFOID:0000000006210263

REMOVAL

1. Remove front door finisher. Refer to INT-12, "Exploded View".
2. Remove the front door speaker from speaker bracket.

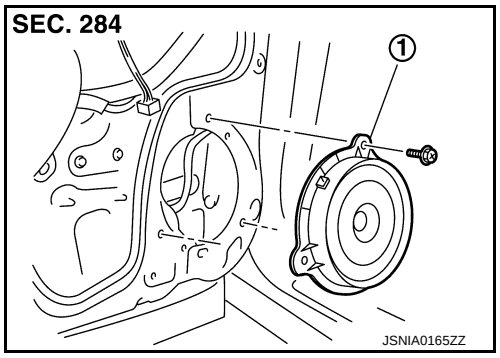
INSTALLATION

Installation is the reverse order of removal.

REAR DOOR SPEAKER

Exploded View

INFOID:0000000006210264



1. Rear door speaker

Removal and Installation

INFOID:0000000006210265

REMOVAL

1. Remove rear door finisher. Refer to INT-12, "Exploded View".
2. Remove rear door speaker from rear door.

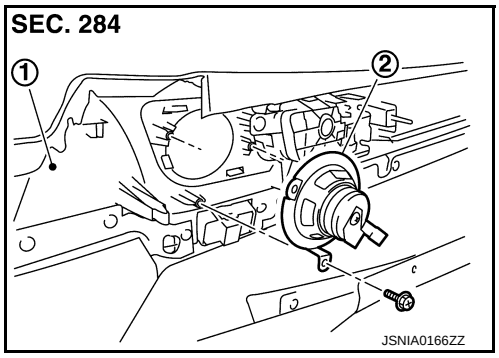
INSTALLATION

Installation is the reverse order of removal.

TWEETER

Exploded View

INFOID:0000000006210266



1. Door finisher
2. Tweeter

Removal and Installation

INFOID:0000000006210267

REMOVAL

1. Remove front door finisher. Refer to INT-12, "Exploded View".
2. Remove the tweeter from the front door finisher.

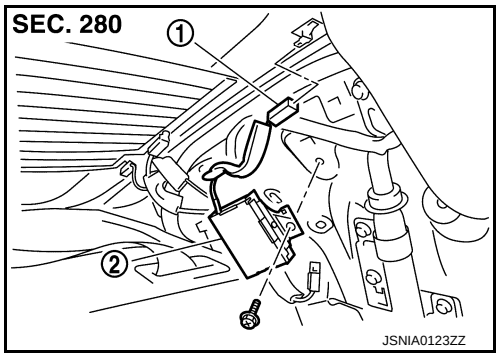
INSTALLATION

Installation is the reverse order of removal.

ANTENNA AMP.

Exploded View

INFOID:0000000006210268



1. AM-FM main connector
2. Antenna amp.

Removal and Installation

INFOID:0000000006210269

REMOVAL

1. Remove rear pillar finisher LH. Refer to INT-15, "Exploded View".
2. Remove antenna amp. from rear pillar LH.

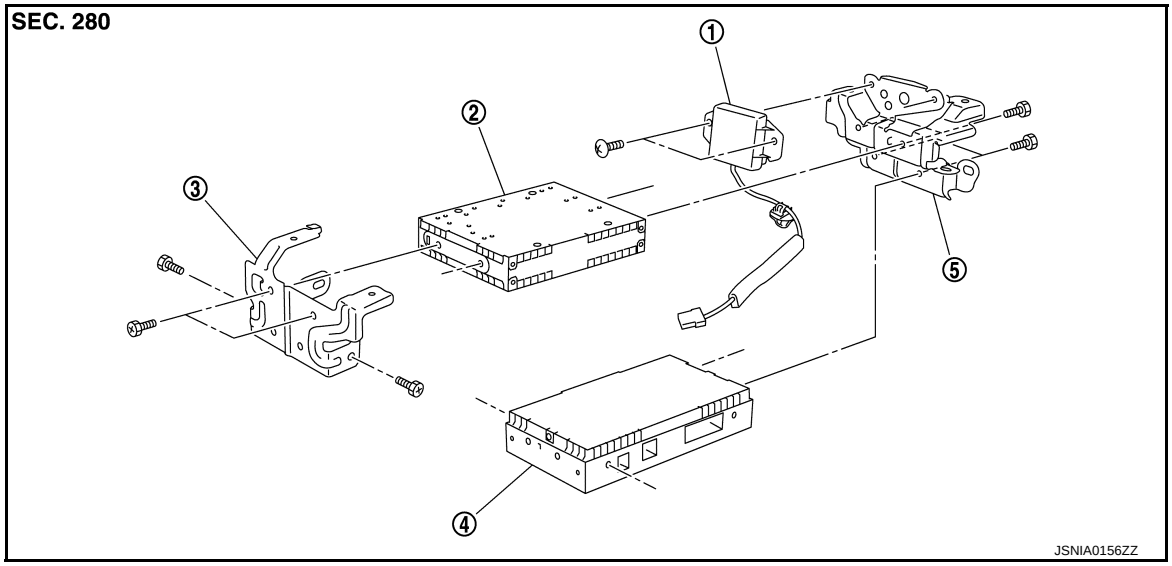
INSTALLATION

Installation is the reverse order of removal.

SATELLITE RADIO TUNER

Exploded View

INFOID:0000000006210270



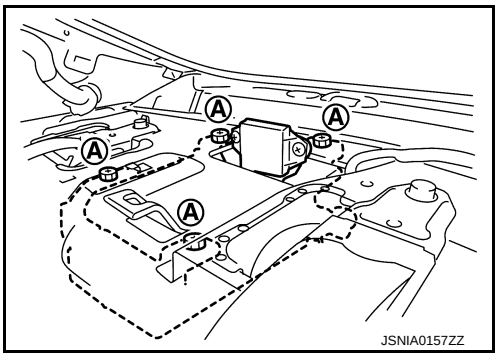
1. TEL antenna
2. Satellite radio tuner
3. Bracket (front)
4. TEL adapter unit
5. Bracket (rear)

Removal and Installation

INFOID:0000000006210271

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
3. Remove screws (A) from inside the cabin, and remove TEL adapter unit and TEL antenna as a single unit from trunk room side.
4. Remove bracket screws and remove TEL adapter unit and satellite radio tuner.



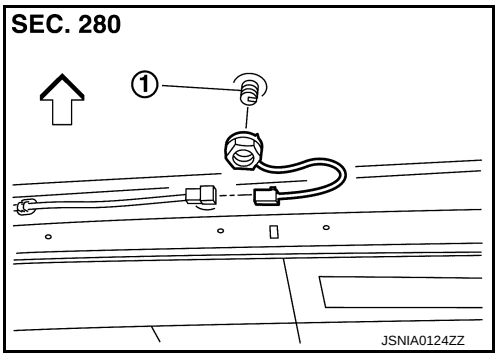
INSTALLATION

Installation is the reverse order of removal.

SATELLITE RADIO ANTENNA

Exploded View

INFOID:0000000006210272



1. Satellite radio antenna
⇦: Vehicle front

Removal and Installation

INFOID:0000000006210273

REMOVAL

1. Remove head lining assembly (rear) to secure work space between vehicle and headlining. Refer to INT-24, "NORMAL ROOF : Exploded View" (normal roof models) or INT-27, "SUNROOF : Exploded View" (sunroof models).
2. Remove nut, and then remove satellite radio antenna from roof panel.

INSTALLATION

Installation is the reverse order of removal.

Satellite radio antenna mounting nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

CAUTION:

Be careful about tightening torque. Antenna sensitivity becomes poor, and when it is excessive, roof panel may be deformed, when satellite radio antenna mounting nut tightening torque is loose.

MULTIFUNCTION SWITCH

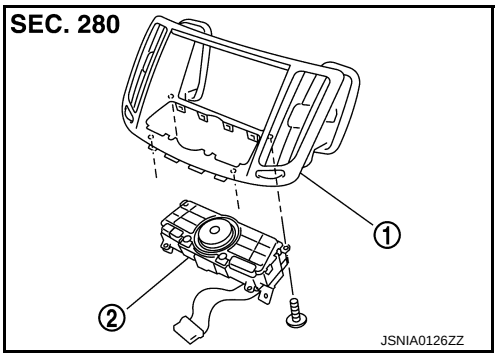
Exploded View

INFOID:0000000006210274

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Center ventilator grille
2. Multifunction switch

Removal and Installation

INFOID:0000000006210275

REMOVAL

1. Remove cluster lid D. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove multi function switch with center ventilator grille as a single unit.
3. Remove multi function switch from center ventilator.

INSTALLATION

Installation is the reverse order of removal.

PRESET SWITCH

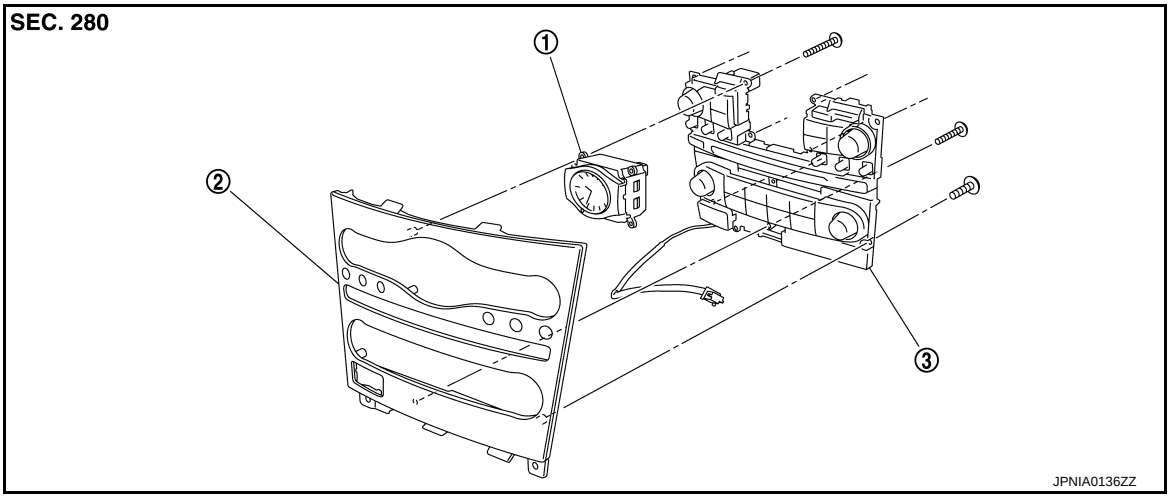
Exploded View

INFOID:0000000006210276

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Clock
2. Cluster lid C
3. Preset switch

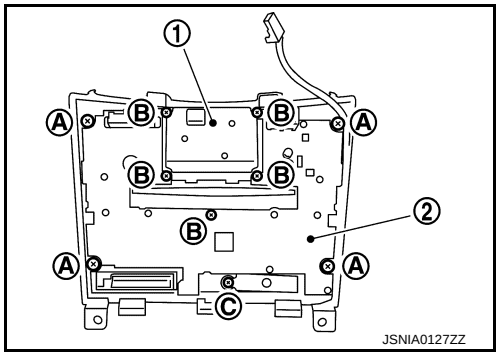
Removal and Installation

INFOID:0000000006210277

REMOVAL

1. Remove cluster lid C. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove preset switch screws (A), (B), and (C), and then remove preset switch (2) from cluster lid C.

1. Clock



INSTALLATION

Installation is the reverse order of removal.

NOTE:

When installing preset switch, do not allow the print wire that connects preset switch and multifunction switch to get caught in between AV control unit and preset switch.

STEERING SWITCH

Exploded View

INFOID:0000000006210278

Refer to ST-17, "Exploded View".

Removal and Installation

INFOID:0000000006210279

REMOVAL

Refer to ST-17, "Removal and Installation".

INSTALLATION

Installation is the reverse order of removal.

AUXILIARY INPUT JACKS

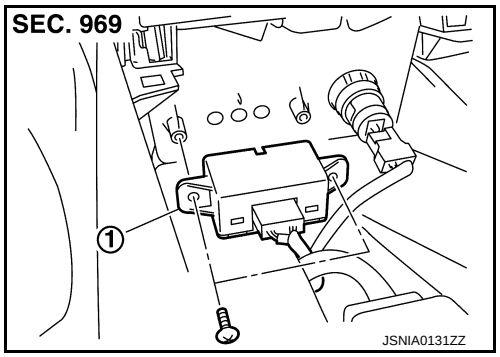
Exploded View

INFOID:0000000006210280

REMOVAL

Refer to IP-34, "A/T MODELS : Exploded View" (A/T models) or IP-39, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Auxiliary input jacks

Removal and Installation

INFOID:0000000006210281

REMOVAL

1. Remove center console. (M/T models) Refer to IP-34, "A/T MODELS : Exploded View".
   Remove center console cup. (A/T models) Refer to IP-34, "A/T MODELS : Exploded View".
2. Remove auxiliary input jacks from center console. (M/T models)
   Remove auxiliary input jacks from center console cup. (A/T models)

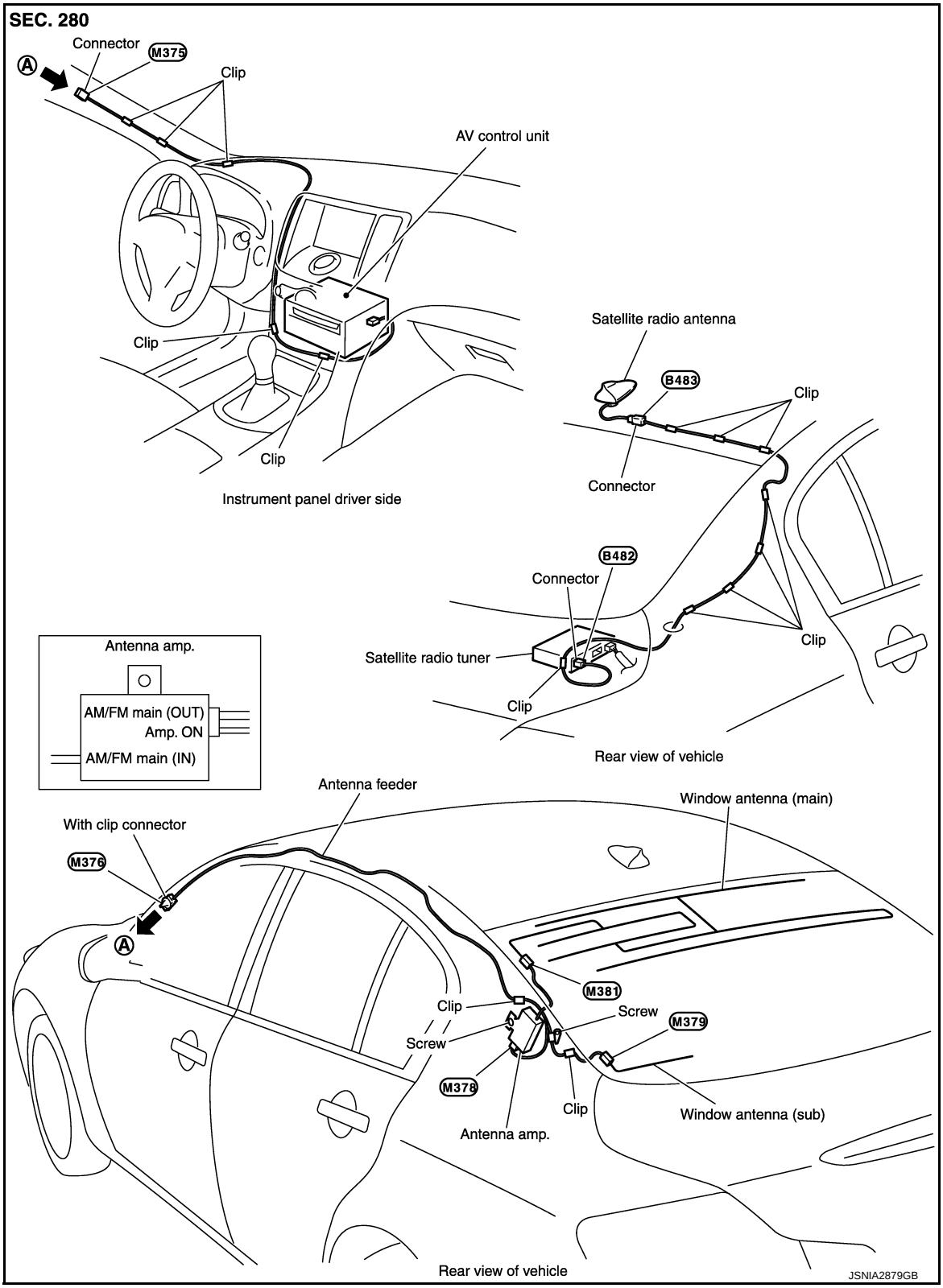
INSTALLATION

Installation is the reverse order of removal.

ANTENNA FEEDER

Feeder Layout

INFOID:0000000006210282



PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000006210283

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)

INFOID:0000000007933561

CAUTION:

Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000006210284

AV COMMUNICATION SYSTEM

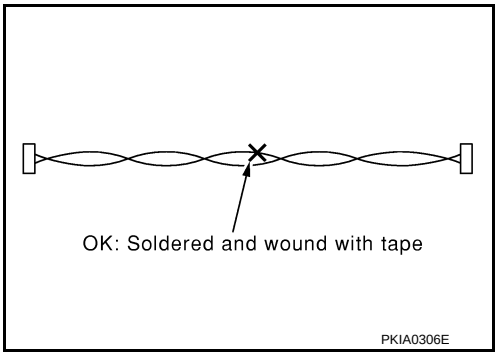
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

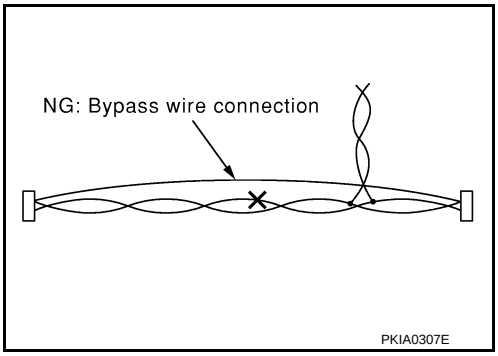
INFOID:0000000006210285

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

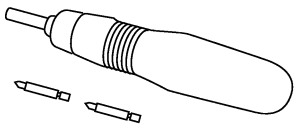


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000006210286

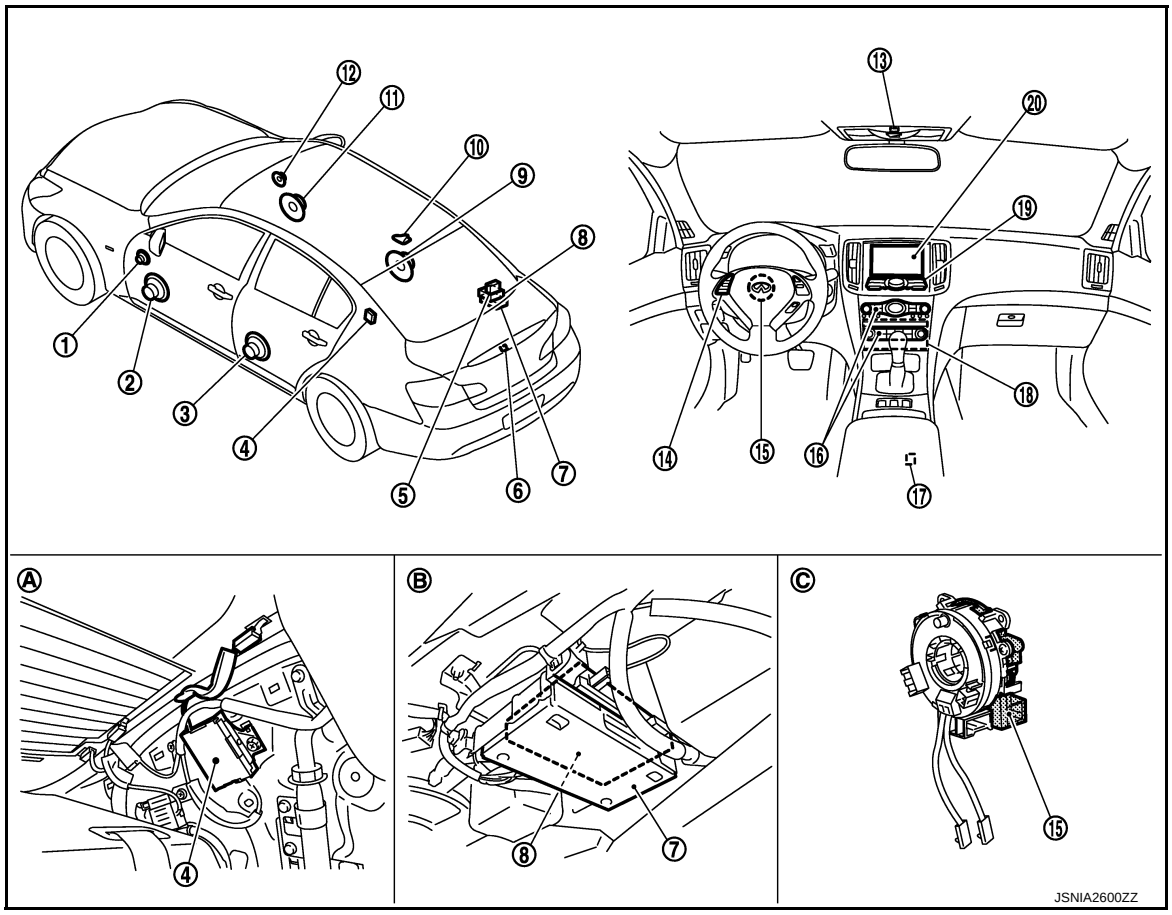
Tool		Description
Power tool	 PBIC0191E	Loosening screws

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000006210287



1. Tweeter LH
2. Front door speaker LH
3. Rear door speaker LH
4. Antenna amp.
5. TEL antenna
6. Rear view camera
7. TEL adapter unit
8. Satellite radio tuner
9. Rear door speaker RH
10. Satellite radio antenna
11. Front door speaker RH
12. Tweeter RH
13. Microphone
14. Steering switch
15. Steering angle sensor
16. Preset switch
17. USB connector
18. AV control unit
19. Multifunction switch
20. Display unit

A. Within rear pillar finisher LH
B. Lower part of rear parcel shelf (on the right side)
C. Spiral cable removed condition

Component Description

INFOID:0000000006210288

Part name	Description
AV control unit	• It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, USB connection and vehicle information functions. • It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function. • It is connected to the steering angle sensor and receives the steering angle sensor signal via CAN communication. • It inputs the illumination signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake). • TEL voice signal and voice guidance signal are input from TEL adapter unit.
Display unit	• Display image is controlled by the serial communication from AV control unit. • It receives the power (signal VCC and inverter VCC) from the AV control unit and operates. • RGB image signal is input from AV control unit (RGB image, RGB area and RGB synchronizing). • Composite image signals are input from AV control unit. • Synchronizing signal (HP, VP) is output to AV control unit.
Front door speaker	• Outputs sound signal from AV control unit. • Outputs high, mid and low range sounds.
Rear door speaker	• Outputs sound signal from AV control unit. • Outputs high, mid and low range sounds.
Tweeter	• Outputs sound signal from AV control unit. • Outputs high range sound.
Multifunction switch	• Operation panel is equipped with the centralized switch where audio operations are integrated. • Connected with preset switch via cable, and operation signal is transmitted to AV control unit via AV communication.
Preset switch	• Operation panel is equipped with the centralized switch where audio and air conditioner, etc. operations are integrated. • Connected with multifunction switch via cable, and operation signal is transmitted to AV control unit via AV communication. • The disk ejection operating signal is performed by hardwire.
Rear view camera	• Camera power supply is input from AV control unit. • The image of vehicle rear view is transmitted to AV control unit.
Steering angle sensor	It is connected to the AV control unit and transmits the steering angle sensor signal via CAN communication.
Steering switch	• Operations for audio, hands-free phone and voice control, etc. are possible. • Steering switch signal (operation signal) is output to AV control unit.
Microphone	• Used for hands-free phone operation and voice recognition. • Microphone signal is transmitted to TEL adapter unit. • Power (Microphone VCC) is supplied from TEL adapter unit.
Antenna amp.	• Radio signal received by glass antenna is amplified and transmitted to AV control unit. • Power (antenna amp. ON signal) is supplied from AV control unit.
Satellite radio tuner	• Inputs the satellite radio signal from satellite radio antenna and outputs the sound signal to the AV control unit. • It is controlled with the AV control unit and serial communication (communication signal and request signal).
Satellite radio antenna	Satellite radio signal is received and transmitted to satellite radio tuner.
TEL adapter unit	• Inputs the TEL voice signal from TEL antenna and outputs it to the AV control unit. • It is connected with the AV control unit via AV communication and controlled with the AV control unit.

Part name	Description
TEL antenna	Receives the TEL voice signal and outputs it to the TEL adapter unit.
USB connector	Image signal*1 and sound signal of USB input is transmitted to AV control unit.

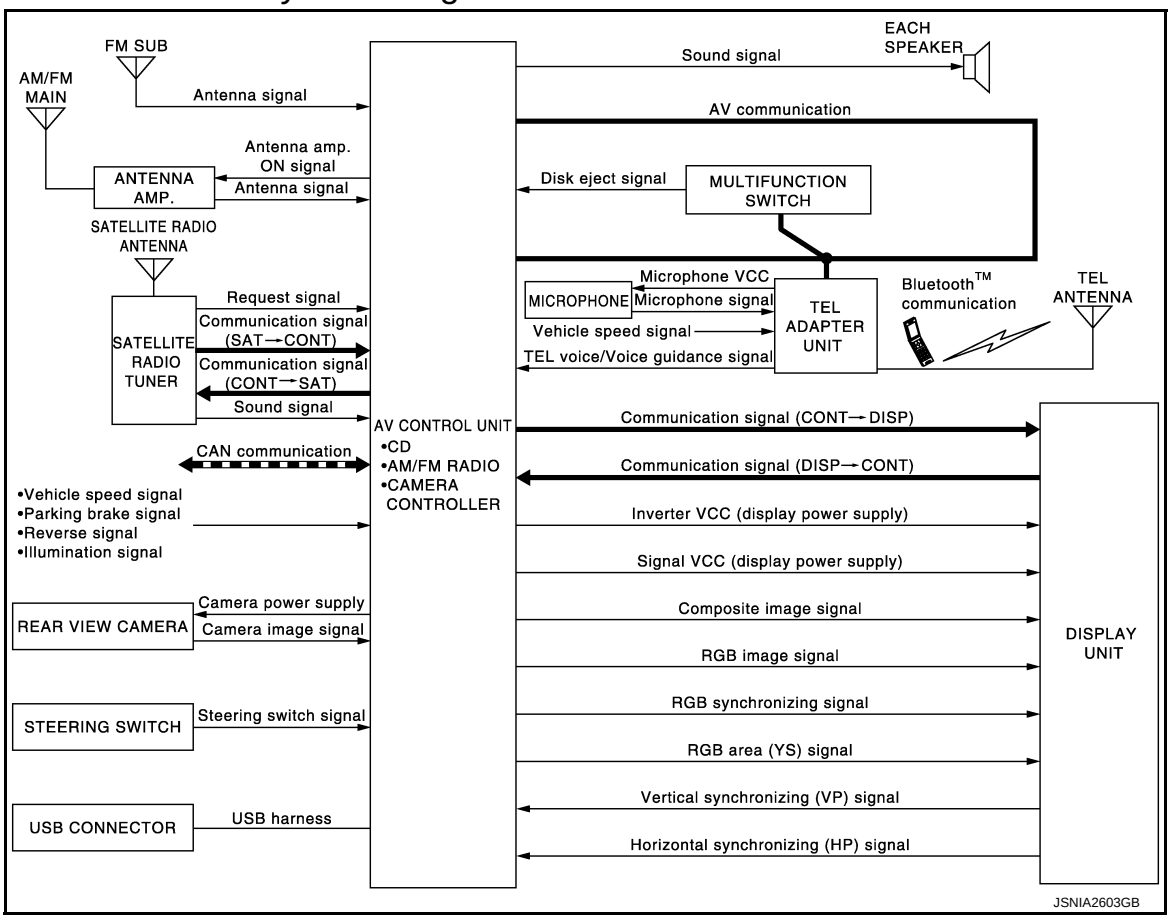
*1: Image signals cannot be received from iPod®.

SYSTEM

MULTI AV SYSTEM

MULTI AV SYSTEM : System Diagram

INFOID:0000000006210289



NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

MULTI AV SYSTEM : System Description

INFOID:0000000006210290

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Audio function
Hands-free phone function
Rear view monitor function
Vehicle information function

COMMUNICATION SIGNAL

- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected by CAN communication, and it receives data signal from ECM, unified meter and A/C amp. It computes and displays fuel economy information value with the obtained information.
- AV control unit is connected with display and serial communication, and it transmits the required signal of display and display control and receives the response signal from display.

AUDIO FUNCTION

The audio system is equipped with the following functions. Each function is operated with multifunction switch, preset switch, steering switch. Operation status of audio is indicated at display.

FUNCTION
AM/FM radio
Satellite radio
CD
USB connection function

Operating Signal

Audio system operation can be performed with multifunction switch, preset switch or steering switch.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch. The disk ejection operating signal is performed by hardwire.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.

Screen Display

- Switching of display is performed with serial communication between display unit and AV control unit.
- The image signal to display operating condition is performed with RGB image signal, RGB area signal and RGB image synchronizing signal.

AM/FM Radio Mode

- AM/FM radio tuner is built into AV control unit.
- Audio signal is received by glass antenna, next it is amplified by antenna amp, and finally it is input to AV control unit. AV control unit outputs the sound signal to each speaker.

Satellite Radio Mode

- Satellite radio tuner is controlled by communication signal and request signal with AV control unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit is output the sound signal (satellite radio) to each speaker.

CD Mode

- CD function is built into AV control unit.
- AV control unit outputs the sound signal to each speaker when inserting the CD to AV control unit.

USB Connection Function

- iPod or music files in USB memory can be played.
- iPod sound signals are transmitted from USB connector to the AV control unit and to each speaker.
- iPod® is recharged when connected to USB connector.

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

NOTE:

Use the enclosed USB harness when connecting iPod® to USB connector.

HANDS-FREE PHONE SYSTEM

- TEL adapter unit is controlled with AV communication from AV control unit.
- The connection between cellular phone and TEL adapter unit is performed with Bluetooth™ communication.
- The voice guidance signal is input from the TEL adapter unit to the AV control unit and output to the front speaker when operating the cellular phone.
- TEL adapter unit has the on board self-diagnosis function. Refer to AV-124, "On Board Diagnosis Function".

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to TEL adapter unit.
- TEL adapter unit outputs to cellular phone with Bluetooth™ communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call

- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to TEL adapter unit by establishing Bluetooth™ communication from cellular phone, and the signal is output to front speaker.

REAR VIEW MONITOR FUNCTION

- The AV control unit supplies power to the rear view camera when receiving a reverse signal.

- The rear view camera transmits camera images to the AV control unit when power is supplied from the AV control unit.
- The AV control unit transmits a warning message, fixed guide lines, and predictive course lines to the display unit by RGB image signal. Rear view monitor images are displayed by combining the RGB image signal and the camera image signals from the rear view camera.
- Predictive course lines are controlled by a steering angle sensor signal received the AV control unit via CAN communication.

VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy and maintenance are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM, unified meter and A/C amp.
- AV control unit is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000006210291

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT-III diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function, etc.

On Board Diagnosis Function

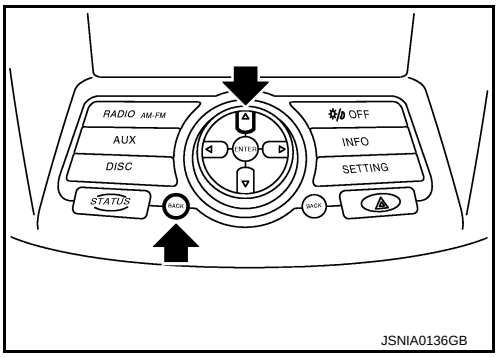
INFOID:0000000006210292

MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 4-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.
  NOTE:
  The hazard switch and disk eject switch cannot be checked.



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Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning the ignition switch OFF.

ON BOARD DIAGNOSIS ITEM

Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- Self-diagnosis mode performs the AV control unit diagnosis and the connection diagnosis between each of the units that make up the system, and it indicates the results to the display unit.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

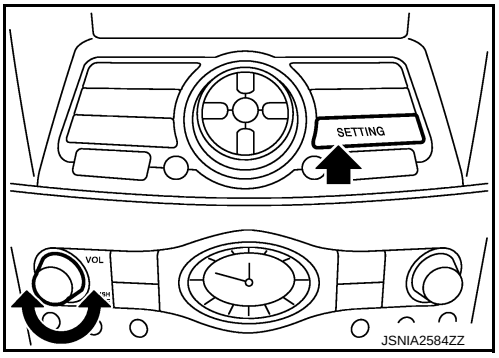
On Board Diagnosis Item

Mode	Description
Self Diagnosis	• AV control unit diagnosis. • Diagnoses the connections across system components, between AV control unit and each unit.

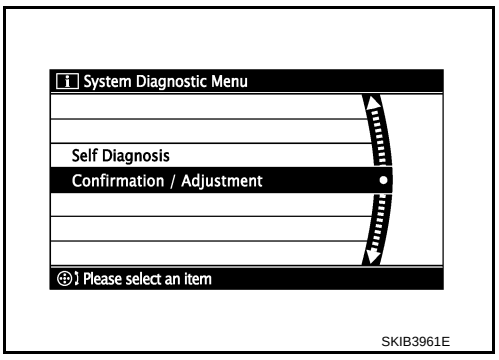
Mode		Description
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition and reverse.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Climate Control	Start auto air conditioner system self-diagnosis.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera Cont.	• Guiding line position that overlaps rear view camera image can be adjusted. • Configuration stored in the AV control unit can be checked.
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Settings	Initializes the AV control unit memory.

METHOD OF STARTING

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   • Shifting from current screen to previous screen is performed by pressing “BACK” button.



4. The trouble diagnosis initial screen is displayed, and then the items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected.

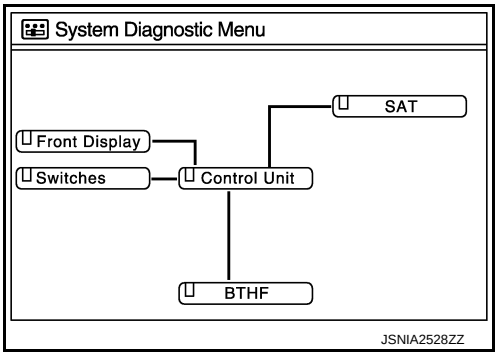


SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select “Self Diagnosis”.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

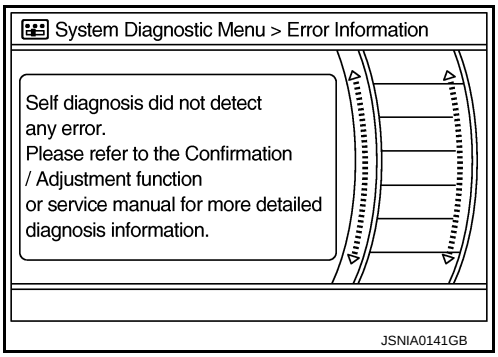
2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.



Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

NOTE:
Control unit (AV control unit) is displayed in red.
- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error. Refer to AV-202, "Exploded View".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



Detection Range of Self-diagnosis Mode
- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between AV control unit and each unit and the internal operation of the AV control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the communication circuit between AV control unit and multifunction switch.

SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

Only Unit Part Is Displayed In Red.

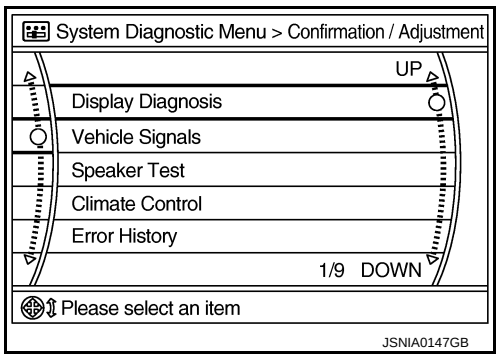
Screen switch	Description	Possible malfunction location / Action to take
Control unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit. Refer to AV-202, "Exploded View".

A Connecting Cable Between Units Is Displayed In Yellow.

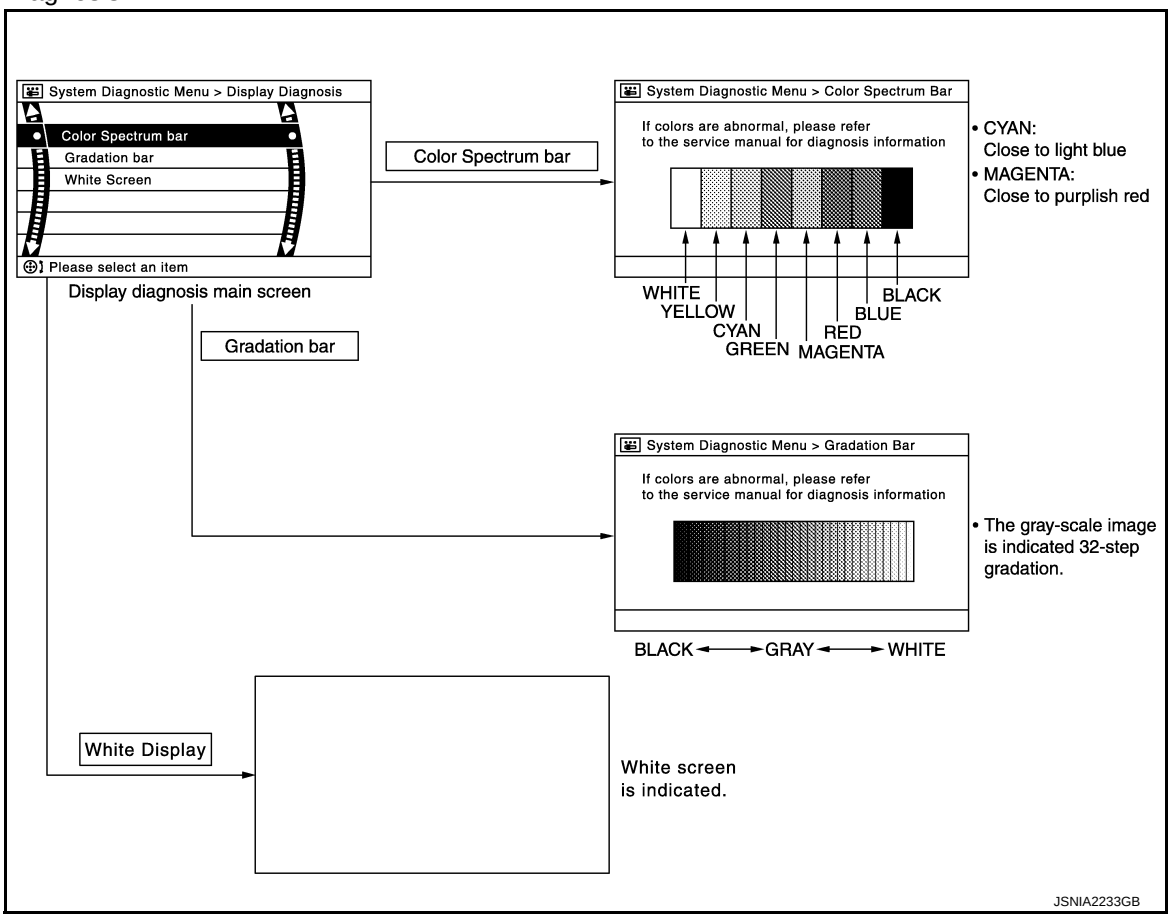
Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ⇔ Front Display	Malfunction is detected in serial communication circuits between AV control unit and display unit.	Serial communication circuits between AV control unit and display unit.
Control unit ⇔ SAT	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
Control unit ⇔ BTHF	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the “Confirmation/Adjustment Mode” screen to display the relevant trouble diagnosis screen. Press the “BACK” switch to return to the initial Confirmation/Adjustment Mode screen.

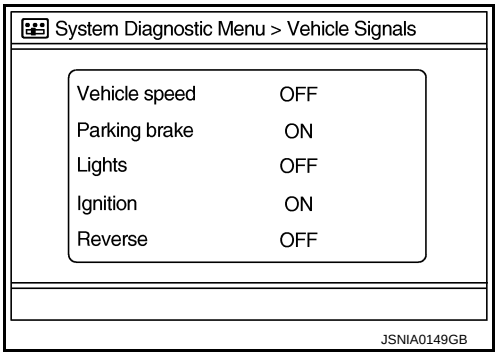


Display Diagnosis



Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.

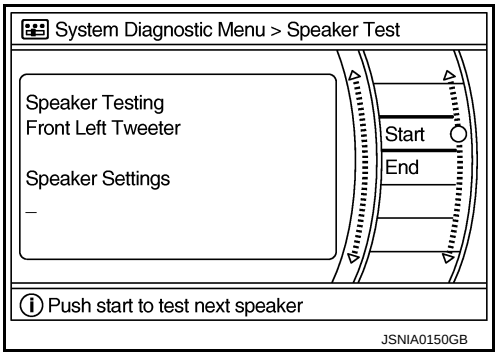


Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	—
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	

Diagnosis item	Display	Vehicle status	Remarks
Reverse	ON	Shift the selector lever to “R” position	Changes in indication may be delayed. This is normal.
	OFF	Shift the selector lever other than “R” position	

Speaker Test

Select “Speaker Test” to display the Speaker Diagnosis screen. Press “Start” to generate a test tone in a speaker. Press “Start” again to generate a test tone in the next speaker. Press “End” to stop the test tones.



Climate Control

Refer to “HEATER & AIR CONDITIONING CONTROL SYSTEM” for details.

Error History

The self-diagnosis results are judged depending on whether any error occurs from when “Self-diagnosis” is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self-diagnosis start. Check the “Error Record” to detect any error that may have occurred before the self-diagnosis start because of this situation.

The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

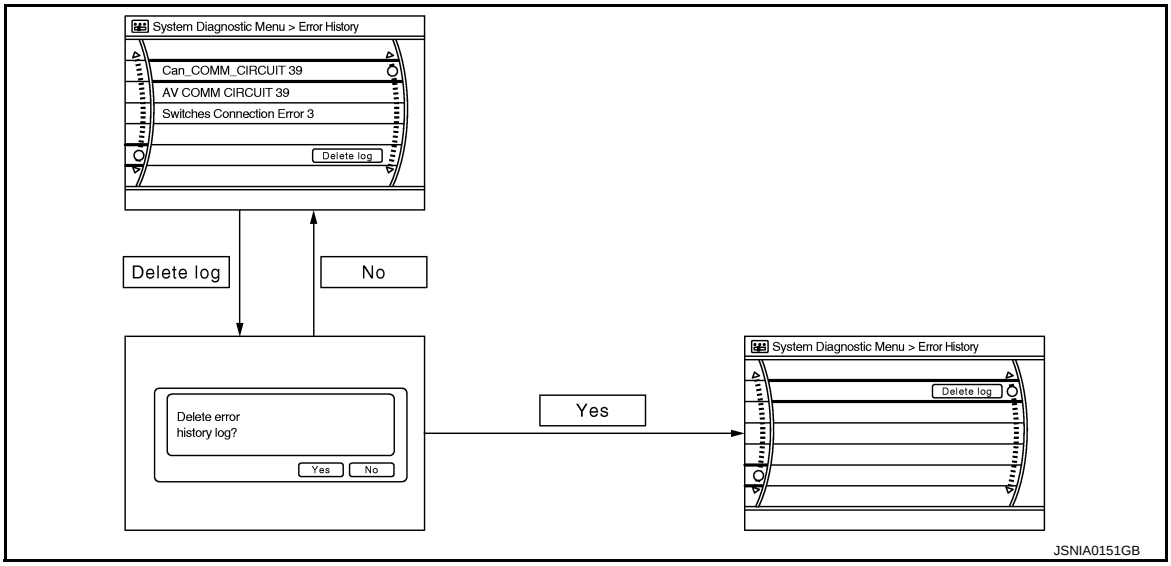
Count up method A

- The counter resets to 0 if an error occurs when ignition switch is turned ON. The counter increases by 1 if the condition is normal at a next ignition ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored.“ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT-III.

Count up method B

- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. “ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT-III.

Display type of occurrence frequency	Error history display item
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV)
Count up method B	Other than the above



Error item

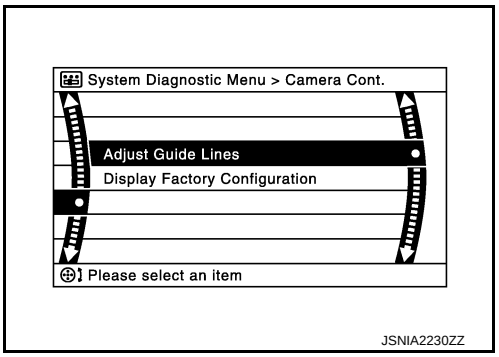
Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-121, "CONSULT - III Function".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-202, "Exploded View".
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
CAN Controller Memory Error		
Steer. Angle Sensor Calibration	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to AV-121, "CONSULT - III Function".
Front Display Connection Error	When either one of the following items is detected: • display unit power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuits. • Communication circuits between AV control unit and display unit.
XM Connection Error	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT • Switches Connection Error	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.

Error item	Description	Possible malfunction factor/Action to take
• AV COMM CIRCUIT • H/F Unit Connection Error	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.
• AV COMM CIRCUIT • Switches Connection Error • H/F Unit Connection Error	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

Camera Cont.

The two functions of “Correct Draw Line of Rear view Cam”, “Confirm Configuration” are available.

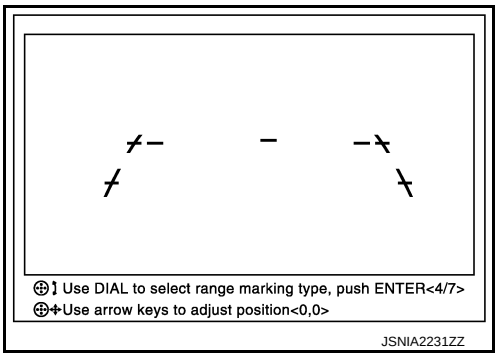


Adjust Offset of Rear view Camera

- Use this mode to adjust the guide line display position of the rear view monitor if necessary after removing the rear view monitor camera.

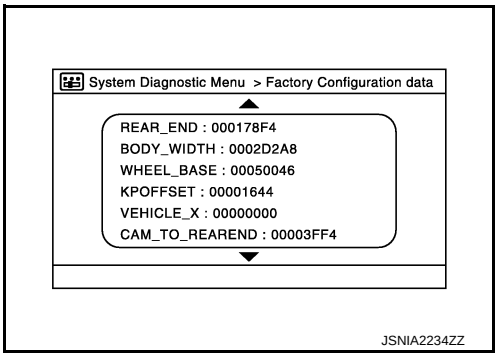
CAUTION:

After the adjustment, never perform other operations for one minute.



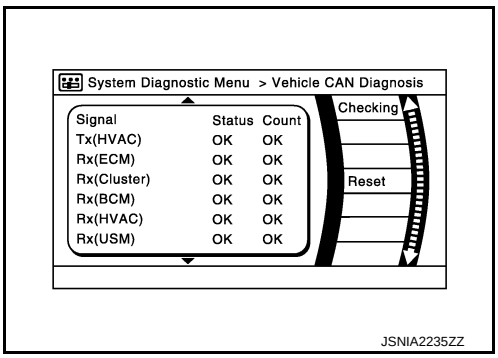
Factory Configuration Confirmation

- Configuration stored in the AV control unit can be checked.



Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

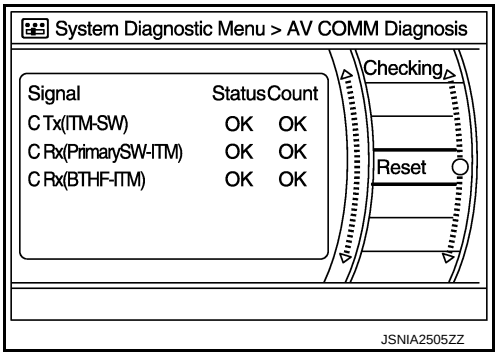


Items	Display (Current)	Malfunction counter (Past)
Tx(HVAC)	OK / ???	OK / 0 – 39
Rx(ECM)	OK / ???	OK / 0 – 39
Rx(Cluster)	OK / ???	OK / 0 – 39
Rx(BCM)	OK / ???	OK / 0 – 39
Rx(HVAC)	OK / ???	OK / 0 – 39
Rx(USM)	OK / ???	OK / 0 – 39
Rx(VDC)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

AV COMM Diagnosis

- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

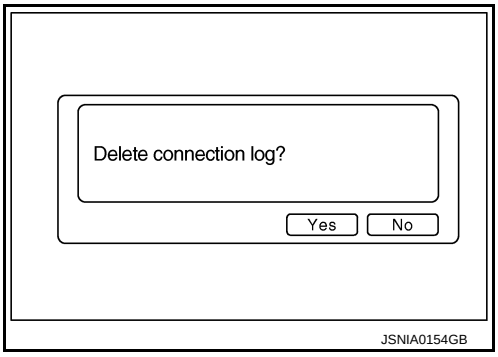


Items	Status (Current)	Counter (Past)
C Tx(ITM-SW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW-ITM)	OK / ???	OK / 0 – 39
C Rx(BTHF-ITM)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)

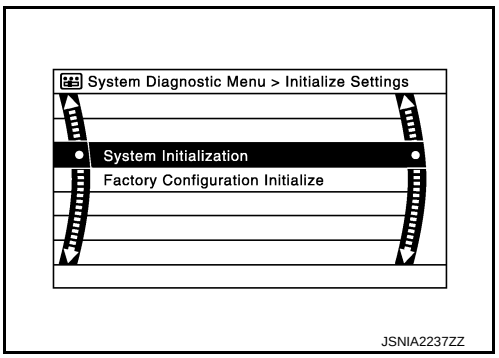


Initialize Settings

"User Data Initialization" and "Accessory Number Initialization" are possible.

CAUTION:

- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to AV-160, "Description".**



CONSULT - III Function

INFOID:0000000006210293

CONSULT-III FUNCTIONS

CONSULT-III performs the following functions via the communication with the AV control unit.

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing AV control unit.

AV Communication

When "AV communication" of "CAN Diag Support Monitor" is selected, the following function will be performed.

AV communication	AV&NAVI C/U	Displays the communication status from AV control unit to each unit as well as the error counter.
	AUDIO	Displays the AV control unit communication status and the error counter.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSIS RESULT

- In CONSULT-III self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates "CRNT". The past malfunction indicates "PAST".
- The timing is displayed as "0" if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis Results Display Item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to AV-162, "Diagnosis Procedure".
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-202, "Exploded View".
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
CAN CONT [U1216]		
ST ANGLE SEN CALIB [U1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement".

Error item	Description	Possible malfunction factor/Action to take
FRONT DISP CONN [U1243]	When either one of the following items is detected: • display unit power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuits. • Communication circuits between AV control unit and display unit.
SAT CONN [U1255]	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • HAND FREE CONN [U1256]	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch.	AV communication circuits between AV control unit and multifunction switch.

DATA MONITOR

ALL SIGNALS

- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed = 0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light SW is ON.	—
	Off	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	On	Ignition switch ON	
	Off	Ignition switch in ACC position	
REV SIG	On	Selector lever in R position	Changes in indication may be delayed. This is normal.
	Off	Selector lever in any position other than R	

SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

Item to be selected	Description
VHCL SPD SIG	The same as when “ALL SIGNALS” is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	

WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

CAUTION:

For vehicles with VDC, adjust the steering angle sensor neutral position on the ABS actuator control unit side.

Item	Description
ST ANGLE SENSOR ADJUSTMENT	Adjusts the neutral position of the steering angle sensor.

CONFIGURATION

Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

On Board Diagnosis Function

INFOID:0000000006210294

HANDS-FREE PHONE SYSTEM ON BOARD DIAGNOSIS

During on board diagnosis the diagnosis function of TEL adapter unit starts with the operation of the steering switch and performs the diagnosis when ignition switch ACC.

ON BOARD DIAGNOSIS ITEM

The on board diagnosis has 3 modes: the self-diagnosis mode that performs the trouble diagnosis, the speaker adaptation data deleting mode and the hands-free phone system initialization mode.

CAUTION:

- **Perform the diagnosis with the vehicle stopped.**
- **Perform STEP2 if necessary.**

STEP	MODE	Description
STEP1	Self-diagnosis	The self-diagnosis mode performs the microphone test and the diagnosis of TEL adapter unit, TEL antenna and steering unit, and then reads out the results with the sound and indicates them on the display.
STEP2	Speaker adaptation data deleting	The speaker adaptation data deleting mode can delete the speaker adaptation data.
	Hands-free phone system initialization	Hands-free phone system initialization mode can perform the initialization of hands-free phone system.

Self-diagnosis results

Self-diagnosis mode reads out the self-diagnosis results.

NOTE:

- Error count is read out simultaneously when reading out the DTC name.
- The errors are read out continuously when some errors occur at the same time.

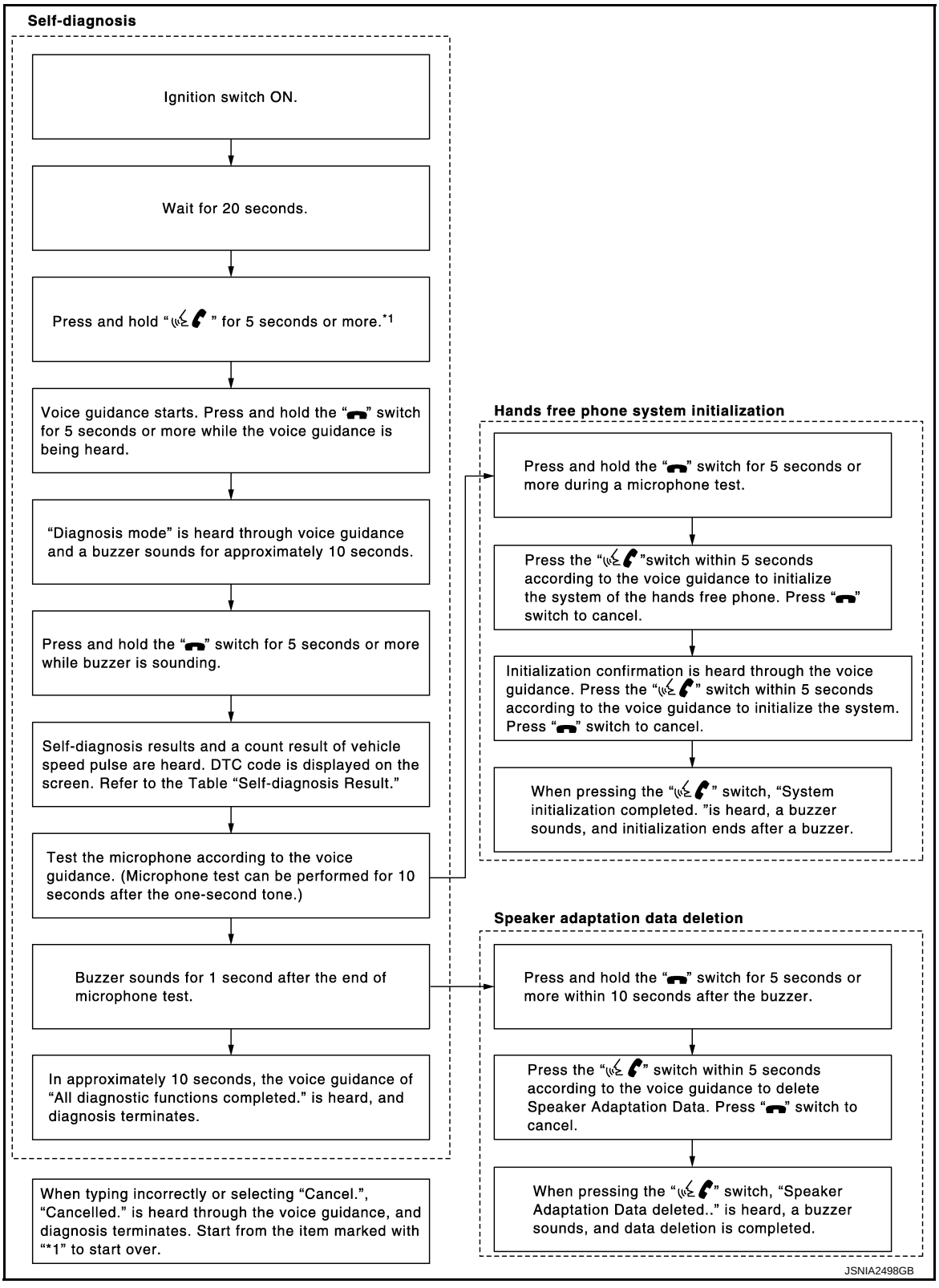
Self-diagnosis results

DTC	DTC name	Possible causes
DTC 10000	INTERNAL FAILURE	TEL adapter unit
DTC 01000	ANT. SHORT TO BATT OR OPEN	TEL antenna
DTC 00100	ANT. SHORT TO GROUND	
DTC 00010	STEERING REMOTE BUTTON STUCK A	Steering switch
DTC 00001	STEERING REMOTE BUTTON STUCK B	
DTC 00000	THERE ARE NO FAILURE RECORDS TO REPORT	—

The Details of Error Count

The error count guides “0” when the error occurs. The next time it counts up “1” if it is normal with the ignition switch ON. It continues the count up unless the initialization of hands-free phone system is performed.

FLOW CHART OF TROUBLE DIAGNOSIS



ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

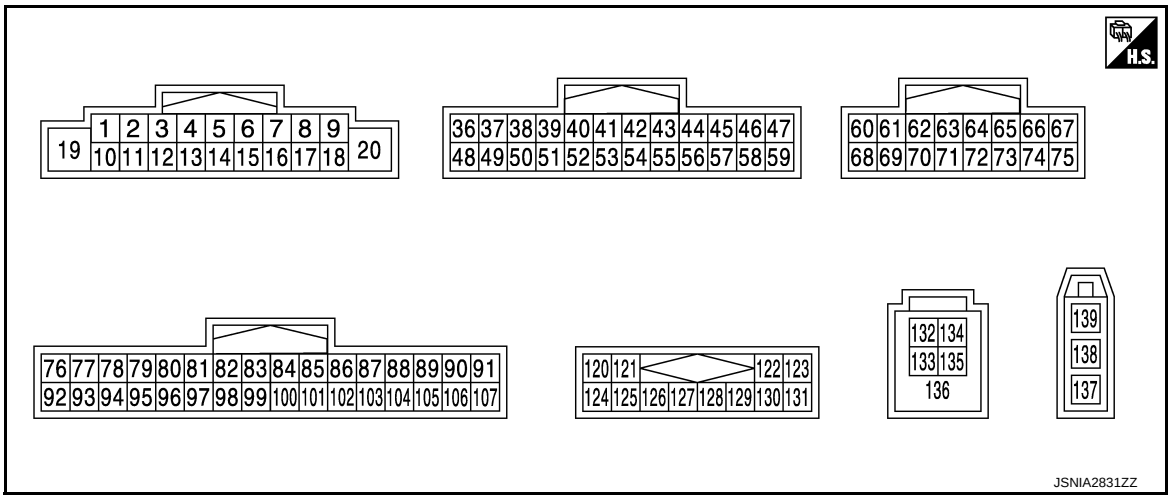
INFOID:0000000006210295

VALUES ON THE DIAGNOSIS TOOL

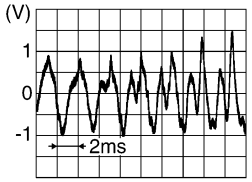
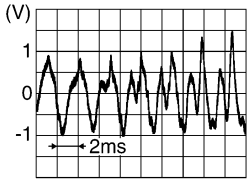
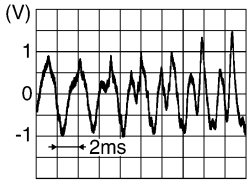
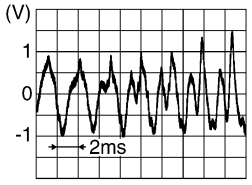
CONSULT-III MONITOR ITEM

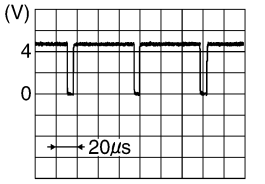
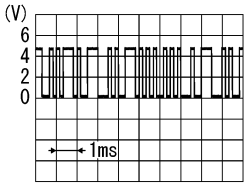
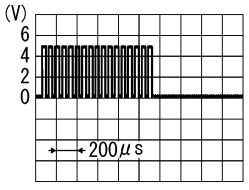
Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Light switch ON	On
		Light switch OFF	Off
IGN SIG	Ignition switch ON	—	On
	Ignition switch ACC	—	Off
REV SIG	Ignition switch ON	Selector lever in R position	On
		Selector lever in any position other than R	Off

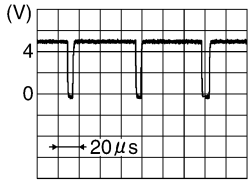
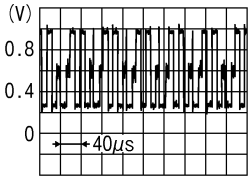
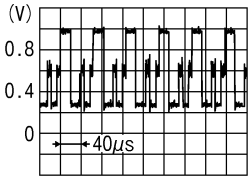
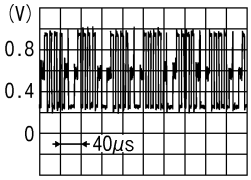
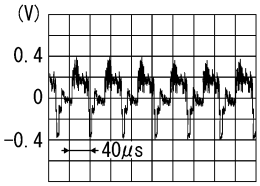
TERMINAL LAYOUT

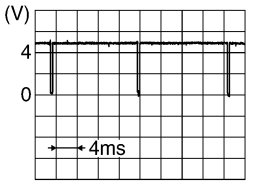
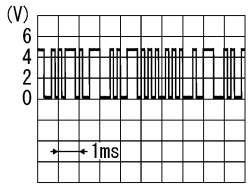
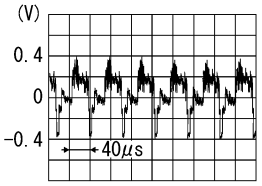


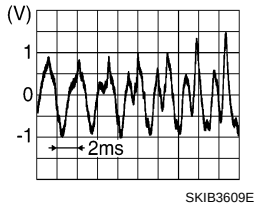
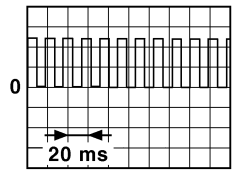
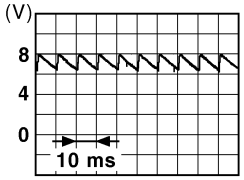
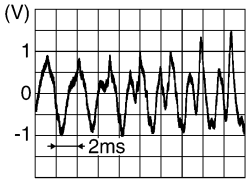
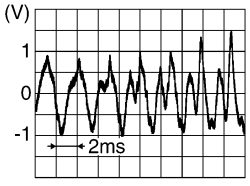
PHYSICAL VALUES

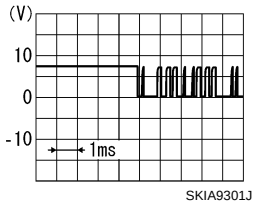
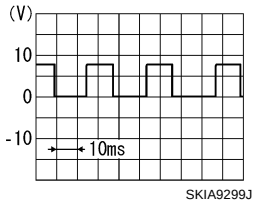
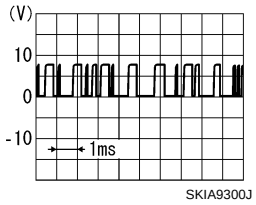
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (L)	3 (W)	Sound signal front LH	Output	Ignition switch ON	Sound output	 SKIB3609E
4 (LG)	5 (SB)	Sound signal rear LH	Output	Ignition switch ON	Sound output	 SKIB3609E
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	0.7 V
					Keep pressing MENU DOWN switch.	1.3 V
					Keep pressing switch	2.0 V
					Except for above.	3.3 V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
9 (L)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
11 (BR)	12 (R)	Sound signal front RH	Output	Ignition switch ON	Sound output	 SKIB3609E
13 (L)	14 (P)	Sound signal rear RH	Output	Ignition switch ON	Sound output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	0.7 V
					Keep pressing switch.	1.3 V
					Except for above.	3.3 V
18 (G)	Ground	Ground	—	Ignition switch ON	—	0 V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
36 (BG)	Ground	Signal VCC	Output	Ignition switch ACC	—	9.0 V
37 (LG)	Ground	Signal ground	—	Ignition switch OFF	—	0 V
38 (R)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	 SKIB3601E
39 (L)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
40 (B)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At RGB image is displayed.	5.0 V
					At DVD image is displayed.	 PKIB4948J
41	—	Shield	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
42 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—	 SKIB3603E
43 (G)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1029ZZ
44 (L)	Ground	RGB signal (G: green)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1030ZZ
45 (P)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1031ZZ
46 (Y)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
47 (BR)	Ground	Composite image signal	Output	Ignition switch ON	At rear view camera image is displayed.	 SKIB2251J
48 (Y)	Ground	Inverter VCC	Output	Ignition switch ACC	—	9.0 V
49 (BR)	Ground	Inverter ground	—	Ignition switch OFF	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
50 (G)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	 SKIB3598E
51 (LG)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
52	—	Shield	—	—	—	—
57	—	Shield	—	—	—	—
58	—	Shield	—	—	—	—
62 (W)	Ground	Camera image signal	Input	Ignition switch ON	At rear view camera image is displayed.	 SKIB2251J
71	—	Shield	—	—	—	—
72 (W)	Ground	Camera ground	—	Ignition switch ON	—	0 V
73 (R)	Ground	Camera power supply	Output	Ignition switch ON	At rear view camera image is displayed.	6.0 V
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
77 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
78 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
79 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
80 (P)	—	CAN–L	Input/ Output	—	—	—
81 (L)	—	CAN–H	Input/ Output	—	—	—
82 (BR)	Ground	Switch ground	—	Ignition switch ON	—	0 V
86	—	Shield	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
87 (L)	88 (P)	TEL voice signal	Input	Ignition switch ON	During voice guide output with the switch pressed.	 SKIB3609E
92 (R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
93 (SB)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	0 V
					Parking brake is OFF.	 JSNIA0007GB
94 (BG)	Ground	Reverse signal	Input	Ignition switch ON	R position	12.0 V
					Other than R position	0 V
95 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
96 (V)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	3.3 V
120 (B)	124 (W)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E
121 (G)	125 (R)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
122 (L)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected.	 SKIA9301J
126	—	Shield	—	—	—	—
127	—	Shield	—	—	—	—
129 (P)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIA9299J
130 (G)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIA9300J
132 (G)	—	USB ground	—	—	—	—
133 (R)	—	USB D– signal	—	—	—	—
134 (W)	—	V BUS signal	—	—	—	—
135 (L)	—	USB D+ signal	—	—	—	—
136	—	Shield	—	—	—	—
137	—	FM sub	Input	—	—	—
138	—	AM-FM main	Input	—	—	—
139	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	12.0 V

DTC Index

INFOID:0000000006210296

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-162, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [1010]	AV-163, "DTC Logic"
U1200	Cont Unit [U1200]	AV-164, "DTC Logic"
U1216	CAN CONT [U1216]	AV-165, "DTC Logic"
U1232	ST ANGLE SEN CALIB [1232]	AV-166, "Diagnosis Procedure"

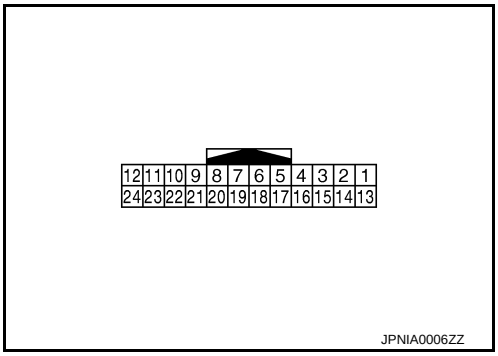
DTC	Display item	Refer to
U1243	FRONT DISP CONN [U1243]	AV-167, "Diagnosis Procedure"
U1255	SAT CONN [U1255]	AV-169, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-172, "DTC Logic"
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	AV-171, "Description"
U1300 U1256	• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	AV-171, "Description"
U1300 U1240 U1256	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • HAND FREE CONN [U1256]	AV-171, "Description"

DISPLAY UNIT

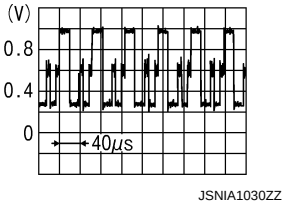
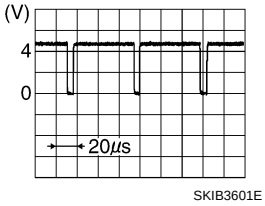
Reference Value

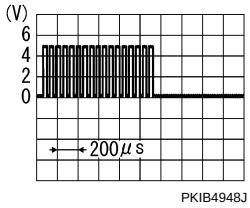
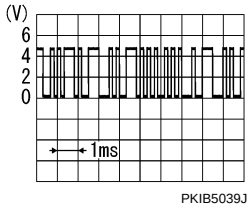
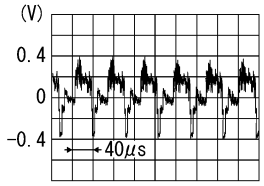
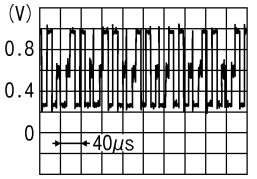
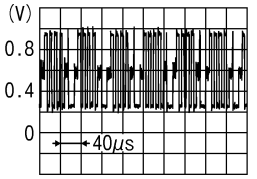
INFOID:0000000006210297

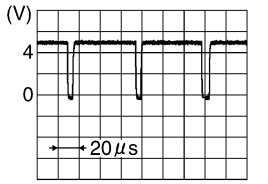
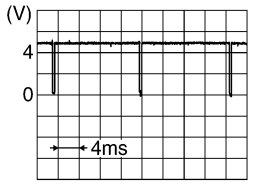
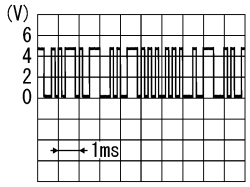
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (Y)	Ground	Inverter VCC	Input	Ignition switch ACC	—	9.0 V
3 (BG)	Ground	Signal VCC	Input	Ignition switch ACC	—	9.0 V
4 (Y)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
5	—	Shield	—	—	—	—
6 (L)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1030ZZ
7	—	Shield	—	—	—	—
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	 SKIB3601E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
9 (B)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed.	5.0 V
					At DVD image is displayed.	 PKIB4948J
11 (LG)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
13 (BR)	Ground	Inverter ground	—	Ignition switch ON	—	0 V
14 (LG)	Ground	Signal ground	—	Ignition switch ON	—	0 V
15 (BR)	Ground	Composite image signal	Input	Ignition switch ON	At rear view camera image is displayed.	 SKIB2251J
17 (G)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1029ZZ
18 (P)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1031ZZ

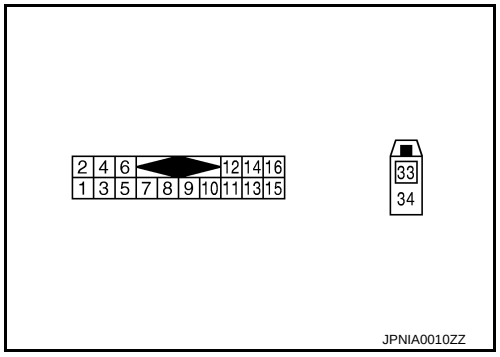
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON	—	 SKIB3603E
20 (G)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On	—	 SKIB3598E
21	—	Shield	—	—	—	—
22 (L)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
23	—	Shield	—	—	—	—

SATELLITE RADIO TUNER

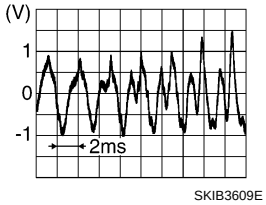
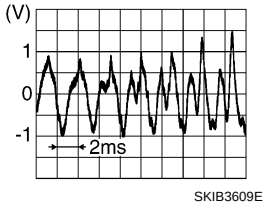
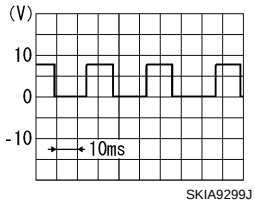
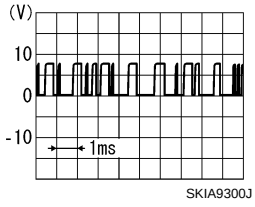
Reference Value

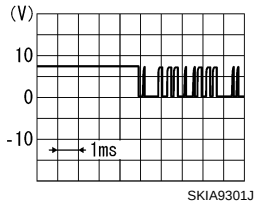
INFOID:0000000006210298

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (R)	1 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E
4 (B)	3 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
5	—	Shield	—	—	—	—
6	—	Shield	—	—	—	—
8 (G)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J
9 (L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J

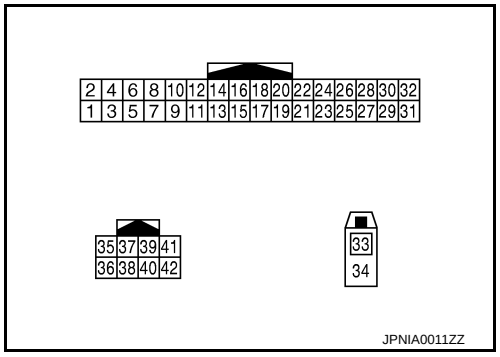
Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
10 (P)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9301J
12 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
16 (BG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
33	—	Satellite antenna	Input	—	—	—
34	—	Shield	—	—	—	—

TEL ADAPTER UNIT

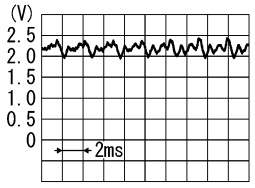
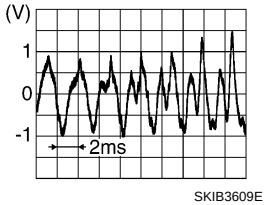
Reference Value

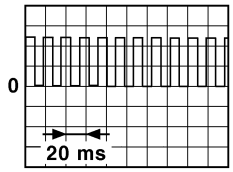
INFOID:0000000006210299

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
2 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
3 (BG)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
4 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
5	—	Shield	—	—	—	—
7 (R)	8	Microphone signal	Input	Ignition switch ON	Give a voice	
9 (Y)	10 (G)	TEL voice signal	Output	Ignition switch ON	During voice guide output with the switch pressed	
23 (B)	Ground	Control signal	Input	Ignition switch ON	—	0 V
24 (B)	Ground	Control signal	Input	Ignition switch ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
28 (W)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
29 (G)	8	Microphone VCC	Output	Ignition switch ON	—	5.0 V
33	—	TEL antenna	Input	—	—	—
34	—	Shield	—	—	—	—
35 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
36 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—

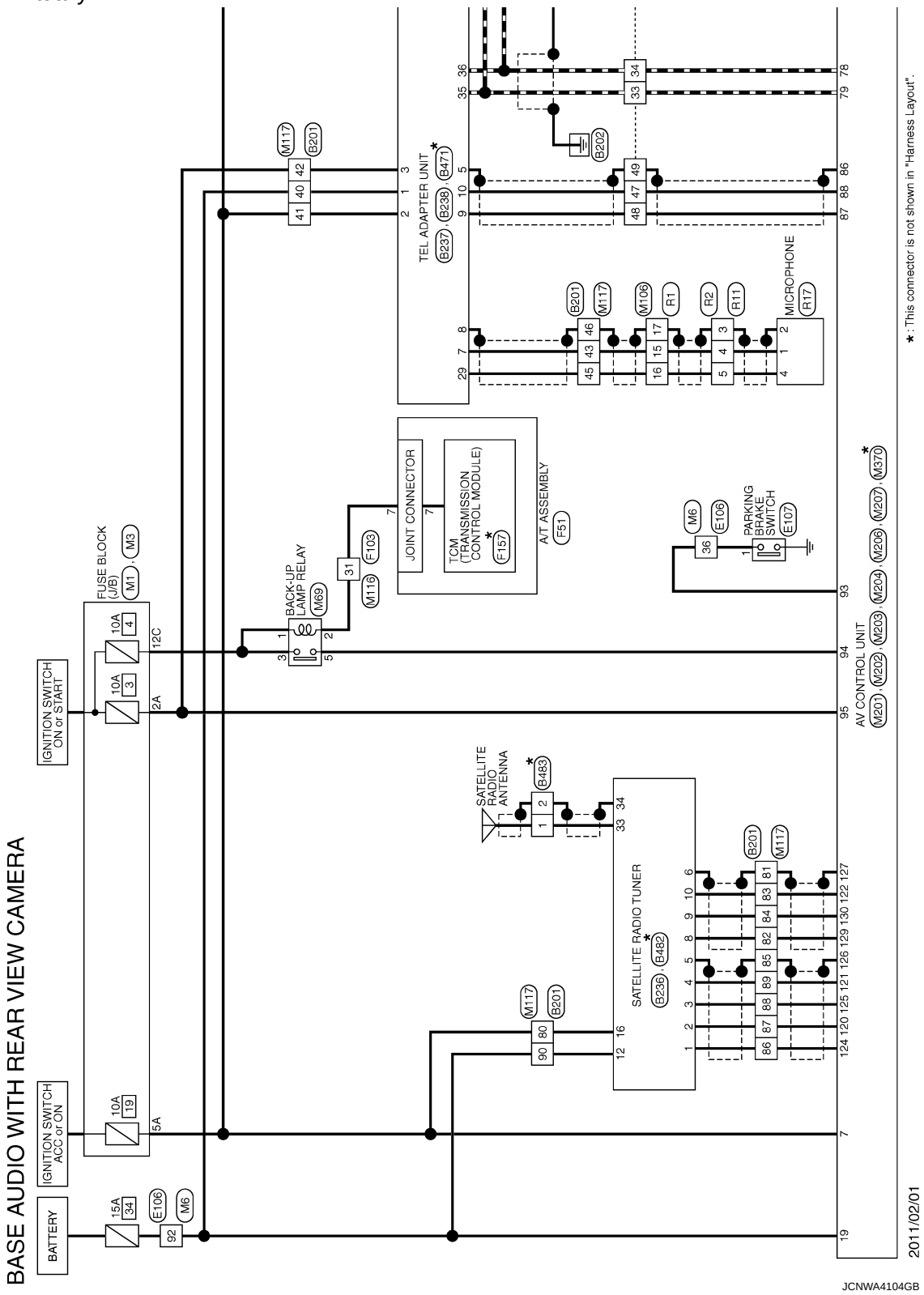
WIRING DIAGRAM

BASE AUDIO WITH REAR VIEW CAMERA

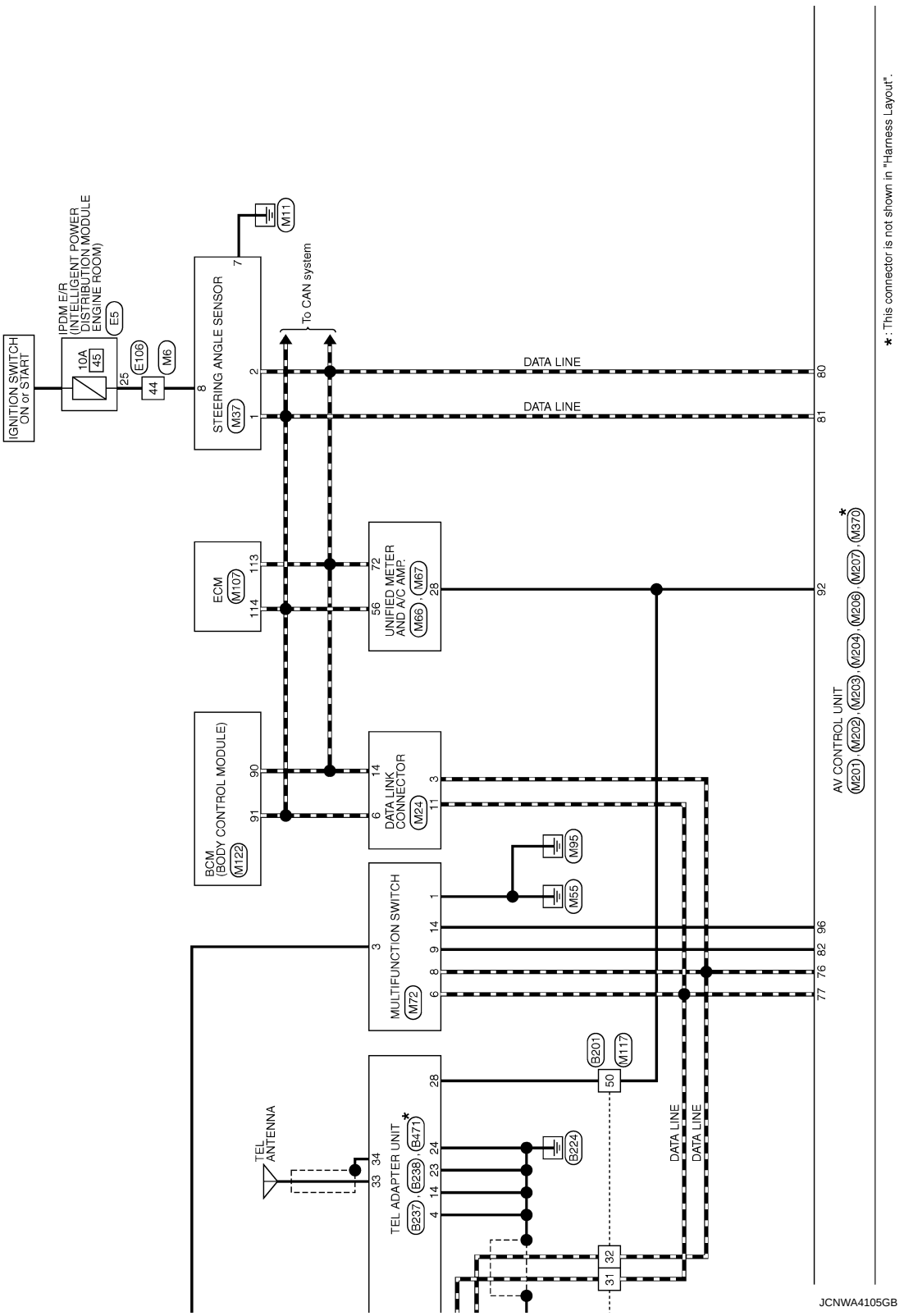
Wiring Diagram

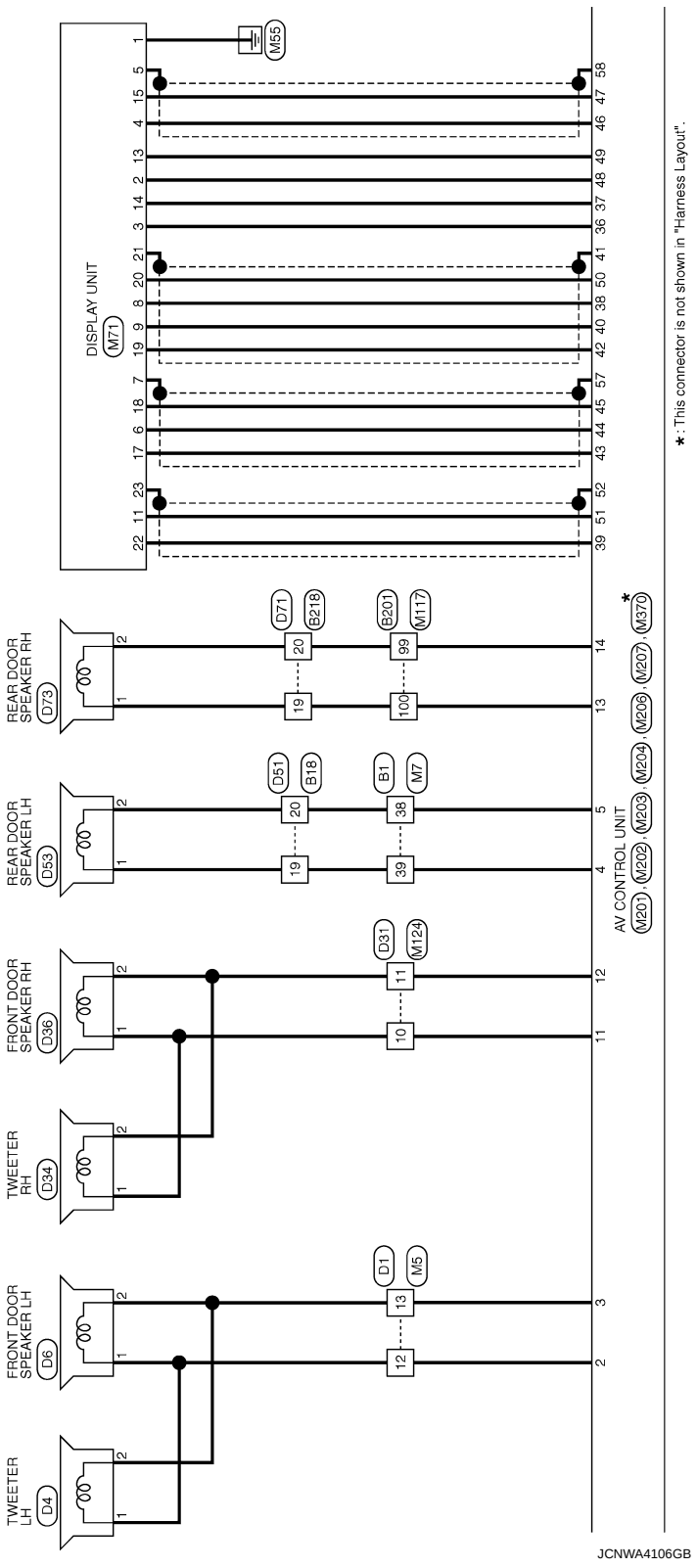
INFOID:0000000006210300

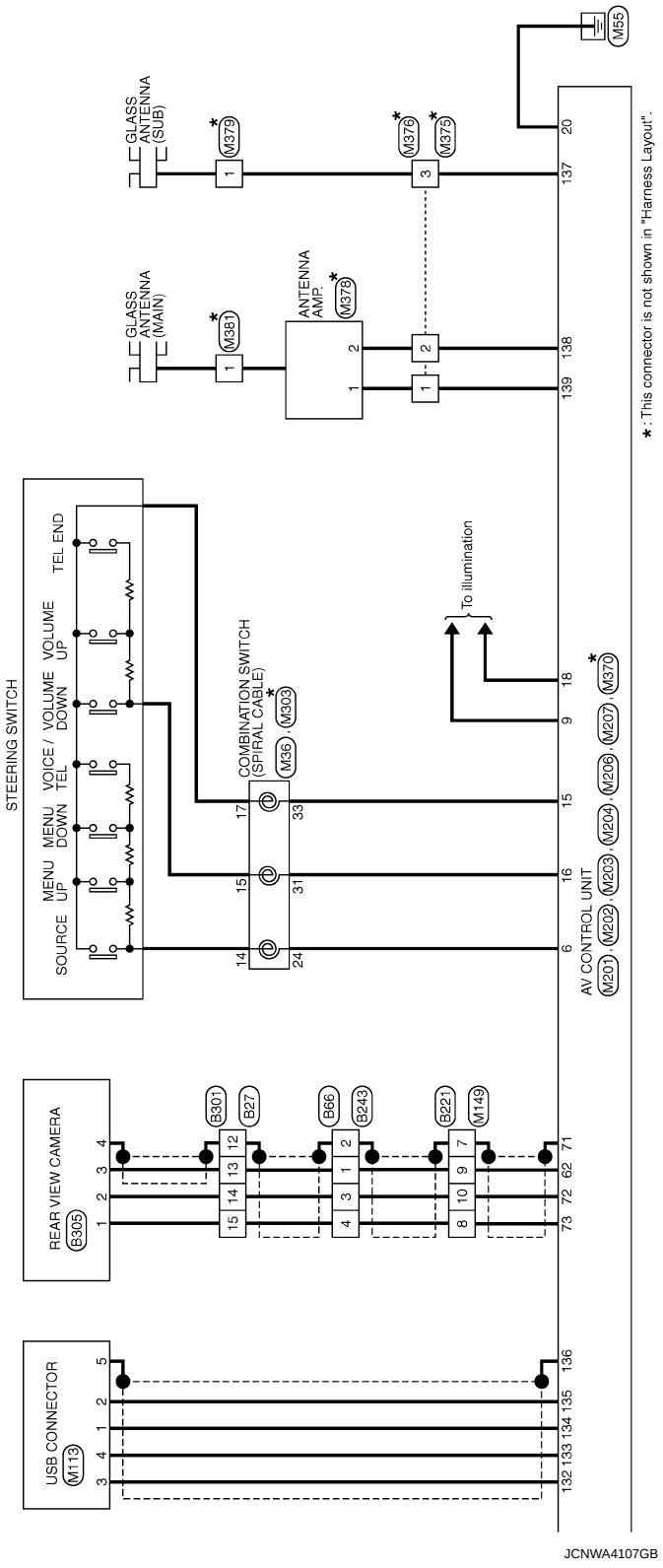
NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.



JCNWA4104GB


IGNITION SWITCH ON or START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E5
10A 45
25
E106
44
M6
8
STEERING ANGLE SENSOR
M37
1
2
7
M11
To CAN system
DATA LINE
DATA LINE
80
81
ECM
M107
113
114
UNIFIED METER AND A/C AMP.
M66, M67
72
56
28
92
BCM (BODY CONTROL MODULE)
M122
90
91
DATA LINK CONNECTOR
M24
14
6
3
11
AV CONTROL UNIT
M201, M202, M203, M204, M206, M207, M370
*
MULTIFUNCTION SWITCH
M72
3
1
14
9
8
6
96
82
76
77
M95
M55
B201
M117
50
28
TEL ANTENNA
TEL ADAPTER UNIT
B237, B238, B471
*
33
34
4
14
23
24
B224
DATA LINE
DATA LINE
31
32
* : This connector is not shown in "Harness Layout".
JCNWA4105GB

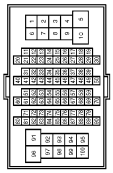

DISPLAY UNIT
M71
M55
REAR DOOR SPEAKER RH
D73
REAR DOOR SPEAKER LH
D53
FRONT DOOR SPEAKER RH
D36
TWEETER RH
D34
FRONT DOOR SPEAKER LH
D6
TWEETER LH
D4
AV CONTROL UNIT
M201, M202, M203, M204, M206, M207, M370
D71
B218
B201
M117
D51
B18
B1
M7
D31
M124
D1
M5
*: This connector is not shown in "Harness Layout".
JCNWA4106GB


M55
GLASS ANTENNA (SUB)
M379
M376
M375
GLASS ANTENNA (MAIN)
M381
ANTENNA AMP.
M378
137
138
139
20
2
1
* : This connector is not shown in "Harness Layout".
STEERING SWITCH
TEL END
VOLUME UP
VOLUME DOWN
VOICE / TEL
MENU DOWN
MENU UP
SOURCE
COMBINATION SWITCH (SPIRAL CABLE)
M36
M303
17
15
14
33
31
24
To illumination
18
9
15
16
6
AV CONTROL UNIT
M201, M202, M203, M204, M206, M207, M370
REAR VIEW CAMERA
B305
B301
B27
B66
B243
B221
M149
USB CONNECTOR
M113
132 133 134 135 136
73 72 62 71
JCNWA4107GB

BASE AUDIO WITH REAR VIEW CAMERA

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

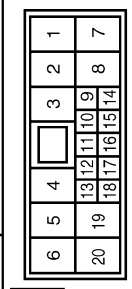
H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
2	BG	–
3	L	–
4	R	–
6	P	–
7	W	–
8	LG	– [With rear anti-pinch system]
9	GR	– [Without rear anti-pinch system]
15	Y	–
16	BR	–
17	LG	–
18	BG	–
20	L	–
21	P	–
22	L	–
23	P	–
24	V	–
25	SB	–
26	G	–
27	W	–
28	R	–
31	V	–
32	SB	–
33	SHIELD	–
34	W	–
35	BR	–
36	Y	–
37	SHIELD	–
38	Y	–
39	SB	–
40	P	–
41	L	–
42	SHIELD	–
43	R	–
44	G	–
45	SHIELD	–
46	SB	–
55	BR	–
56	R	–
58	V	–
59	SB	–
60	BR	–
61	W	–
62	R	–
63	L	–
64	Y	–
65	SHIELD	–
71	BG	–
72	GR	–
73	P	–
74	L	–
81	V	–
82	B	–
84	Y	–
85	G	–
86	W	–
87	R	–
88	BR	–
89	Y	–
90	SB	–
91	BG	–
92	BR	–
93	P	–
95	BG	–
96	Y	–
100	GR	–

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	P	–
2	LG	– [With rear anti-pinch system]
2	GR	– [Without rear anti-pinch system]
3	W	–
5	G	–
6	V	–
7	B	–

19	L	– [With BOSE system]
19	SB	– [Without BOSE system]
20	P	– [With BOSE system]
20	Y	– [Without BOSE system]

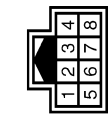
Connector No.	B27
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
2	BG	–
3	B	–
4	Y	–
5	B	–
6	W	–
11	G	–
12	SHIELD	–
13	B	–
14	W	–
15	R	–

Connector No.	B66
Connector Name	WIRE TO WIRE
Connector Type	TH08MW-NH

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	–
2	SHIELD	–
3	W	–
4	R	–

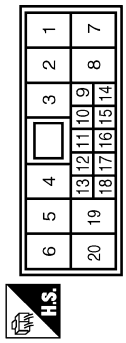
JCNWM5235GB

BASE AUDIO WITH REAR VIEW CAMERA

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

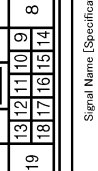
Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	–
3	W	–
5	P	–
6	L	–
7	V	–
9	LG	–
10	L	–
31	L	–
32	P	–
33	G	–
34	R	–
40	GR	–
41	LG	–
42	BG	–
43	R	–
45	G	–
46	SHIELD	–
47	G	–
48	Y	–
49	SHIELD	–
50	W	–
71	R	–
72	V	–
80	BG	–
81	SHIELD	–
82	G	–
83	P	–
84	L	–
85	SHIELD	–
86	G	–
87	R	–
88	W	–
89	B	–
90	Y	–
91	V	–
92	W	– [With rear anti-pinch system]
92	R	– [Without rear anti-pinch system]
93	BG	– [With rear anti-pinch system]
93	BR	– [Without rear anti-pinch system]
94	R	–
95	SB	–
96	G	–
97	GR	–
98	BR	–
99	P	–
100	L	–

Connector No.	B218
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10



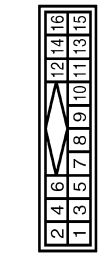
Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	W	– [With rear anti-pinch system]
2	R	– [Without rear anti-pinch system]
3	BG	– [With rear anti-pinch system]
3	BR	– [Without rear anti-pinch system]
5	P	–
6	LG	–
7	B	–
19	L	–
20	P	–

Connector No.	B221
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH



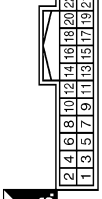
Terminal No.	Color of Wire	Signal Name [Specification]
7	SHIELD	–
8	R	–
9	B	–
10	W	–

Connector No.	B236
Connector Name	SATELLITE RADIO TUNER
Connector Type	A16FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	SATELLITE RADIO SOUND SIGNAL LH (–)
2	R	SATELLITE RADIO SOUND SIGNAL LH (+)
3	W	SATELLITE RADIO SOUND SIGNAL RH (–)
4	B	SATELLITE RADIO SOUND SIGNAL RH (+)
5	SHIELD	SHIELD
6	SHIELD	SHIELD
8	G	REQUEST (SAT->CONT)
9	L	COMM (SAT->CONT)
10	P	COMM (CONT->SAT)
12	Y	BATTERY
16	BG	ACC

Connector No.	B237
Connector Name	TEL ADAPTER UNIT
Connector Type	TH32FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	BATTERY
2	LG	ACC
3	BG	IGNITION
4	B	GND
5	SHIELD	SHIELD
7	R	MICROPHONE SIGNAL
8	SHIELD	MICROPHONE GND

9	Y	TEL VOICE SIGNAL (+)
10	G	TEL VOICE SIGNAL (–)
23	B	CONTROL SIGNAL
24	B	CONTROL SIGNAL
28	W	VEHICLE SPEED (8-PULSE)
29	G	MICROPHONE VCC

Connector No.	B238
Connector Name	TEL ADAPTER UNIT
Connector Type	TH08FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
35	SB	AV COMM (H)
36	LG	AV COMM (L)

Connector No.	B243
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	–
2	SHIELD	–
3	W	–
4	R	–

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BASE AUDIO WITH REAR VIEW CAMERA

Connector No.	B301
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
2	BG	–
3	B	–
4	G	–
5	B	–
6	W	–
11	V	–
12	SHIELD	–
13	Y	–
14	W	–
15	R	–

Connector No.	B471
Connector Name	TEL ADAPTER UNIT
Connector Type	GT16C-IS-HU

Terminal No.	Color of Wire	Signal Name [Specification]
33	–	TEL ANTENNA
34	SHIELD	SHIELD

Connector No.	B482
Connector Name	SATELLITE RADIO TUNER
Connector Type	FAKRA CONNECTOR

Terminal No.	Color of Wire	Signal Name [Specification]
33	–	SATELLITE ANTENNA
34	SHIELD	SHIELD

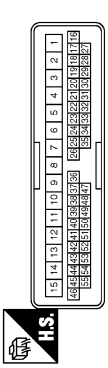
Connector No.	B483
Connector Name	SATELLITE RADIO ANTENNA
Connector Type	GT16C-IPP-HU

Terminal No.	Color of Wire	Signal Name [Specification]
1	–	–
2	SHIELD	–

Connector No.	B305
Connector Name	REAR VIEW CAMERA
Connector Type	TH04MW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	CAMERA ON SIGNAL
2	W	GND
3	Y	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	B	–
3	SB	–
4	V	–
5	GR	–
6	W	–
7	BG	–
8	L	–
9	P	–
10	LG	–
11	BR	–
12	L	–
13	W	–
14	G	–
15	R	–
16	GR	–
17	L	–
18	BR	–
19	BG	–
20	P	–
21	R	–
25	V	–
26	R	–
27	BR	–
28	W	–
29	Y	–
30	G	–
31	LG	–
32	GR	–
33	B	–
36	W	–
37	P	–
38	V	–
39	BR	–
42	G	–
43	GR	–
44	BG	–
47	V	–

48	R	–
49	SB	–
50	W	–
51	P	–
52	V	–

Connector No.	D4
Connector Name	TWEETER LH
Connector Type	TK02FBR

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	D6
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

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Connector No.	D31
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15

Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	V	–
3	B	–
7	LG	–
8	P	–
10	L	–
11	W	–
12	G	–
13	R	–
36	W	–
37	P	–
38	V	–
39	BR	–
42	L	–
43	GR	–
44	BG	–
45	G	–
47	R	–
48	SB	–
49	W	–
50	P	–
51	V	–
52	GR	–
53	BG	–
54	G	–

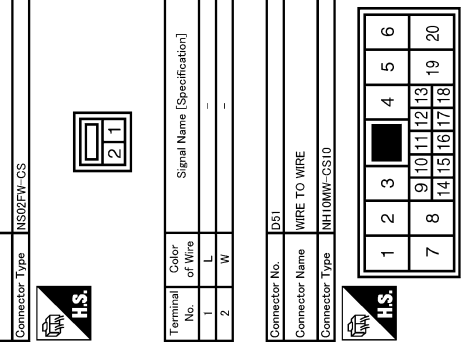
Connector No.	D34
Connector Name	TWEETER RH
Connector Type	TK02FBR

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	D36
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	D51
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10



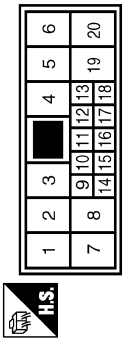
Terminal No.	Color of Wire	Signal Name [Specification]
1	V	–
2	Y	– [With rear anti-pinch system]
		– [Without rear anti-pinch system]

Connector No.	D53
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FW-CS

2	R	– [Without rear anti-pinch system]
3	W	– [With rear anti-pinch system]
3	Y	– [Without rear anti-pinch system]
5	P	–
6	BR	–
7	B	–
19	L	–
20	P	–

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	P	–

Connector No.	D71
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10

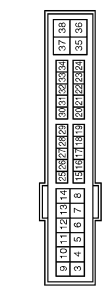


Terminal No.	Color of Wire	Signal Name [Specification]
1	V	–
2	Y	– [With rear anti-pinch system]
2	R	– [Without rear anti-pinch system]
3	W	–
5	G	–
6	V	–
7	B	–
19	L	–
20	P	–

Connector No.	D73
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	P	–

Connector No.	E5
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH20FW-CS12-M4-1V



Terminal No.	Color of Wire	Signal Name [Specification]
4	V	–
5	L	–
6	SB	–
7	P	–
11	W	–
12	B/W	–
13	Y	–
16	LG	–
19	R	–
25	G	–
26	Y	–
27	BG	–
28	L	–
30	GR	–
32	V	–
33	P	–
36	G	–

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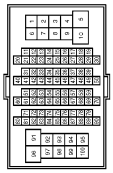
Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

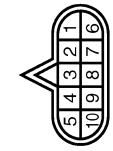


Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
3	BG	–
5	G	–
6	Y	–
7	V	–
9	R	–
10	W	–
11	V	–
12	R	–
13	L	–
14	GR	–
15	P	–
16	W	–
17	SB	–
18	BG	–
19	SB	–
20	LG	–
30	BR	–
31	L	–
32	BG	–
33	P	–
34	V	–
35	W	–
36	SB	–
37	Y	–
38	R	–
39	B	–
40	G	–
41	R	–
42	LG	–
43	G	–
44	GR	–
45	BR	–
46	LG	–
47	V	–
48	P	–
49	L	–
59	B	–
66	GR	–
67	LG	–
68	SB	–
69	P	–
70	G	–
80	R	–
81	P	–
82	G	–
83	V	–
84	L	–
85	W	–
86	L	–
87	BR	–
88	GR	–
89	V	–
91	W	–
93	GR	–
95	LG	–
97	SB	–
98	SHIELD	–
99	L	–
100	P	–

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TB01FW

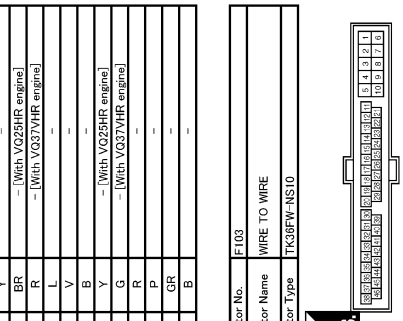
Terminal No.	Color of Wire	Signal Name [Specification]
1	BG	–

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	BR	– [With VQ25HR engine]
2	R	– [With VQ37VHR engine]
3	L	–
4	V	–
5	B	–
6	Y	– [With VQ25HR engine]
6	G	– [With VQ37VHR engine]
7	R	–
8	P	–
9	GR	–
10	B	–

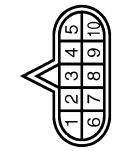
Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK36FW-NS10



Terminal No.	Color of Wire	Signal Name [Specification]
2	G	–
3	W	–
4	R	–
5	B	–
9	G	– [With VQ25HR engine]
9	Y	– [With VQ37VHR engine]
10	L	– [With VQ25HR engine]
10	GR	– [With VQ37VHR engine]
19	BG	*1 [VQ25HR engine with left and right ventilation temperature separately control system]
19	O	*2 [Except for VQ25HR engine with left and right ventilation temperature separately control system]

20	Y	–
28	B	–
29	LG	–
30	R	–
31	R	–
33	B	–
34	B	–
35	L	–
36	P	–
37	Y	–
38	G	–
41	O	–
42	BR	–
43	P	–
44	L	–
45	Y	– [With VQ25HR engine]
45	G	– [With VQ37VHR engine]
46	V	–

Connector No.	F157
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SP10FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	–	VIGN
2	–	BATT
3	–	CAN-H
4	–	K-LINE
5	–	GND
6	–	VIGN
7	–	REV LAMP RLY
8	–	CAN-L
9	–	STARTER RLY
10	–	GND

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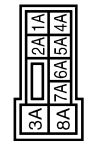
Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2

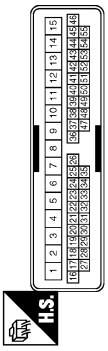
H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1A	V	–
2A	G	–
3A	L	–
4A	P	–
5A	L	–
6A	Y	–
7A	R	–
8A	L	–

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

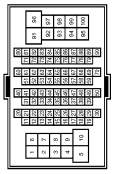
H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	B	–
3	BG	–
4	V	–
5	G	–
6	W	–
7	LG	–
8	SB	–
9	G	–
10	V	–
11	SB	–
12	L	–
13	W	–
14	B	–
15	W	–
16	R	–
17	BR	–
18	V	–
19	BG	–
20	P	–
21	W	–
25	Y	–
26	G	–
27	L	–
28	Y	–
29	G	–
30	SB	–
31	LG	–
32	W	–
33	B	–
36	W	–
37	GR	–
38	Y	–
39	B	–
42	Y	–
43	L	–
44	G	– [With automatic drive positioner]
44	L	– [Without automatic drive positioner]
47	L	–
48	GR	–
49	SB	–
50	P	–
51	LG	–
52	V	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

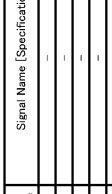
H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	BG	–
3	R	–
5	G	–
6	LG	–
7	W	–
9	G	–
10	W	–
11	V	–
12	R	–
13	L	–
14	GR	–
15	P	–
16	W	–
17	BR	–
18	P	–
19	L	–
20	L	–
30	BR	–
31	L	–
32	Y	–
33	BG	–
34	W	–
35	BR	–
36	R	–
37	Y	–
38	R	–
39	SB	–
40	G	–
41	V	–
42	LG	–
43	P	–
44	B	– [With A/T]
44	R	– [With M/T]
45	BG	–
46	G	–
47	L	–
48	P	–
49	L	–
59	B	–
66	Y	–
67	G	–
68	R	–
69	W	–
70	G	–
80	SB	–
81	B	–
82	V	–
83	W	–
84	L	–
85	GR	–
86	G	–
87	R	–
88	B	–
89	LG	–
91	W	–
93	Y	–
95	Y	–
97	GR	–
98	SHIELD	–
99	V	–
100	SB	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FW-CS

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
6C	SB	–
7C	B	–
8C	W	–
9C	BG	–
10C	L	–
11C	LG	–
12C	G	–

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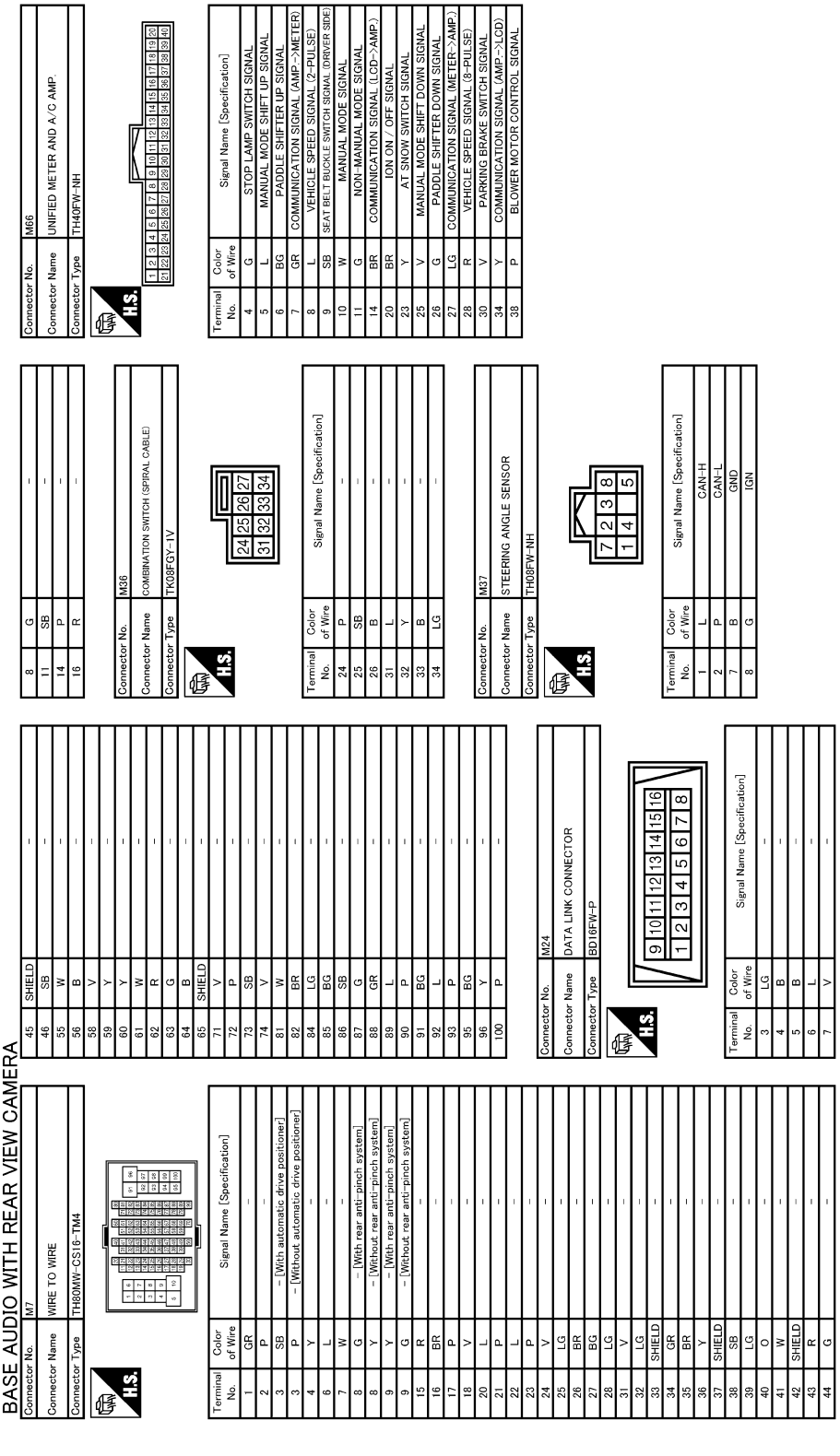
BASE AUDIO WITH REAR VIEW CAMERA



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BASE AUDIO WITH REAR VIEW CAMERA

Connector No.	M67
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH32FW-NH

H.S.

41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72

Terminal No.	Color of Wire	Signal Name [Specification]
41	L	ACC POWER SUPPLY
42	BR	FUEL LEVEL SENSOR SIGNAL
43	BR	INTAKE SENSOR SIGNAL
44	LG	IN-VEHICLE SENSOR SIGNAL
45	V	AMBIENT SENSOR SIGNAL
46	Y	SUNLOAD SENSOR SIGNAL
47	G	EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL
53	W	IGNITION POWER SUPPLY
54	SB	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CAN-H
57	LG	BRAKE FLUID LEVEL SWITCH
58	Y	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	W	IN-VEHICLE SENSOR GROUND
61	B	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	L	ION CONTROL MODE OUTPUT SIGNAL
65	BG	EOV SIGNAL
69	P	A/C LAN SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	GR	GROUND
72	P	CAN-L

Connector No.	M69
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS02FL-MZ-LC

H.S.

3	
5	
2	1

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	–
2	W	–
3	LG	–
5	BG	–

Connector No.	M71
Connector Name	DISPLAY UNIT
Connector Type	TH24FW-NH

H.S.

12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
2	Y	INVERTER VCC
3	BG	SIGNAL VCC
4	Y	COMPOSITE IMAGE GND
5	SHIELD	SHIELD [With rear view monitor]
5	Y	SHIELD [Without rear view monitor]
6	L	RGB (G/GREEN) SIGNAL
7	SHIELD	SHIELD
8	R	HP
9	B	RGB AREA (YS) SIGNAL
11	P	COMM (CONT→DISP) [With rear view monitor]
11	LG	COMM (CONT→DISP) [Without rear view monitor]
13	BR	INVERTER GND
14	LG	SIGNAL GND
15	BR	COMPOSITE IMAGE SIGNAL
16	BR	COMP SYNC
17	G	RGB (R/RED) SIGNAL
18	P	RGB (B/BLUE) SIGNAL
19	W	RGB SYNC
20	G	VP
21	SHIELD	SHIELD
22	L	COMM (DISP→CONT)
23	SHIELD	SHIELD [With rear view monitor]
23	B	SHIELD [Without rear view monitor]

Connector No.	M72
Connector Name	MULTIFUNCTION SWITCH
Connector Type	TH16FW-NH

H.S.

2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
3	P	ACC
4	BG	ILL
5	B	ILL CONT
6	SB	AV COMM (H)
8	LG	AV COMM (L)
9	BR	SW GND
14	V	DISK EJECT SIGNAL
16	G	HAZARD ON

Connector No.	M106
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10

H.S.

1	2	3		4	5	6
7	8	9	10	11	12	13
		14	15	16	17	18

19 20

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	L	–
3	SHIELD	–
4	G	–
5	BR	–
6	BG	–
7	Y	–
8	P	–
9	LG	–
10	V	–
11	B	–
12	B	–
13	R	–
15	R	–

16	G	–
17	SHIELD	–
18	B	–
19	Y	–
20	R	–

Connector No.	M107
Connector Name	ECM
Connector Type	RH24FGY-RZ8-R-LH-Z

H.S.

128	124	120	116	112	108	104	100
127	123	119	115	111	107	103	99
126	122	118	114	110	106	102	98
125	121	117	113	109	105	101	97

Terminal No.	Color of Wire	Signal Name [Specification]
97	R	APS 1
98	P	APS 2
99	L	AVCC-APS 1
100	W	GNDA-APS 1
101	SB	ASCDSW
102	LG	FTPRS
103	GR	AVCC-APS 2
104	V	GND-APS 2
105	L	PDPRESS
106	W	TF
107	GR	AVCC-FTPRS
108	Y	GNDA-ASCD
109	G	NEUT-H
110	R	TACHO
112	V	GND-A
113	P	VEHCAN-L I
114	L	VEHCAN-H I
117	V	KLINE
121	LG	CDCV
122	P	BRAKE
123	B	GND
124	B	GND
125	R	VBR
126	BR	BNC SW
127	B	GND
128	B	GND

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BASE AUDIO WITH REAR VIEW CAMERA

Connector No.	M113
Connector Name	USB CONNECTOR
Connector Type	HAA04FG

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	L	–
3	G	–
4	R	–
5	SHIELD	–

Connector No.	M116
Connector Name	WIRE TO WIRE
Connector Type	TK36MW-NS10

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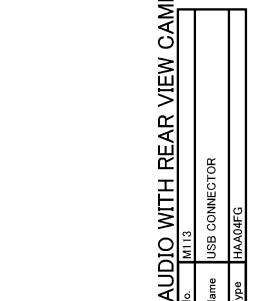
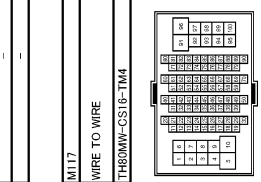


Terminal No.	Color of Wire	Signal Name [Specification]
2	W	–
3	BG	–
4	P	–
5	B	–
9	R	–
10	R	–
19	BG	–
20	Y	–
28	B	–
29	LG	–
30	LG	–
31	W	–
33	B	–
34	B	–
35	L	–
36	P	–
37	R	–
38	SB	–
41	BG	–
42	G	–
43	P	–
44	L	–
45	Y	–
46	SB	–

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

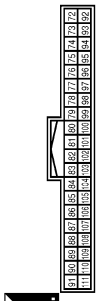
H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	–
3	SB	–
5	P	–
6	G	–
7	SB	–
9	LG	–
10	L	–
31	SB	–
32	LG	–
33	SB	–
34	LG	–
40	Y	–
41	G	–
42	LG	–
43	R	–
45	G	–
46	SHIELD	–
47	P	–
48	L	–
49	SHIELD	–
50	V	–
71	R	–
72	L	–
80	W	–
81	SHIELD	–
82	P	–
83	L	–
84	G	–
85	SHIELD	–
86	W	–
87	B	–
88	R	–
89	G	–
90	Y	–
91	V	– [With rear anti-pinch system]
92	BR	– [Without rear anti-pinch system]
92	LG	– [With rear anti-pinch system]
93	V	– [Without rear anti-pinch system]
93	W	–
94	Y	–
95	G	–
96	G	–
97	R	–
98	BG	–
99	P	–
100	L	–

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
72	R	ROOM ANT 2–
73	G	ROOM ANT 2+
74	SB	PASSENGER DOOR ANT–
75	BR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT–
77	LG	DRIVER DOOR ANT+
78	Y	ROOM ANT 1–
79	BR	ROOM ANT 1+
80	GR	NATS ANT AMP.
81	W	NATS ANT AMP.
82	SB	IGN RELAY (F/B) CONT
83	Y	KEYLESS ENTRY RECEIVER COMM
87	Y	COMBI SW INPUT 5
88	BG	COMBI SW INPUT 3
89	BR	PUSH SW
90	P	CAN–L
91	L	CAN–H
92	LG	KEY SLOT ILL
93	GR	ON IND
95	BG	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
97	L	S/L CONDITION 1
98	P	S/L CONDITION 2
99	R	SHIFT P [With A/T]
99	BR	ASCD CLUTCH SW [With M/T]
100	Y	PASSENGER DOOR REQUEST SW
101	P	DRIVER DOOR REQUEST SW
102	BG	BLOWER FAN MOTOR RELAY CONT
103	P	KEYLESS ENTRY RECEIVER POWER SUPPLY
106	SB	S/L UNIT POWER SUPPLY
107	LG	COMBI SW INPUT 1
108	R	COMBI SW INPUT 4
109	W	COMBI SW INPUT 2
110	G	HAZARD SW
111	Y	S/L UNIT COMM

JCNWM5243GB

BASE AUDIO WITH REAR VIEW CAMERA

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	GR	–
3	B	–
7	V	–
8	P	–
10	BR	–
11	R	–
12	G	–
13	R	–
36	G	–
37	R	–
38	GR	–
39	L	–
42	BG	–
43	BG	–
44	W	–
45	SB	–
47	LG	–
48	P	–
49	Y	–
50	BR	–
51	SB	–
52	L	–
53	L	–
54	Y	–

Connector No.	M149
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
7	SHIELD	–
8	R	–
9	W	–
10	B	–

Connector No.	M201
Connector Name	AV CONTROL UNIT
Connector Type	TH18FW-CS2

Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	W	SOUND SIGNAL FRONT LH (–)
4	LG	SOUND SIGNAL REAR LH (+)
5	SB	SOUND SIGNAL REAR LH (–)
6	P	STRG SW A
7	V	ACC
9	L	ILLUMINATION
11	BR	SOUND SIGNAL FRONT RH (+)
12	R	SOUND SIGNAL FRONT RH (–)
13	L	SOUND SIGNAL REAR RH (+)
14	P	SOUND SIGNAL REAR RH (–)
15	B	STRG SW GND
16	L	STRG SW B
18	G	GND
19	Y	BATTERY
20	B	GND

Connector No.	M202
Connector Name	AV CONTROL UNIT
Connector Type	TH24FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
36	BG	SIGNAL VCC
37	LG	SIGNAL GND
38	R	HP
39	L	COMM (DISP->CONT)
40	B	RGB AREA (YS) SIGNAL
41	SHIELD	SHIELD
42	W	RGB SYNC
43	G	RGB (R:RED) SIGNAL
44	L	RGB (G:GREEN) SIGNAL
45	P	RGB (B:BLUE) SIGNAL
46	Y	COMPOSITE IMAGE GND
47	BR	COMPOSITE IMAGE SIGNAL
48	Y	INVERTER VCC
49	BR	INVERTER GND
50	G	VP
51	P	COMM (CONT->DISP)
52	SHIELD	SHIELD
57	SHIELD	SHIELD
58	SHIELD	SHIELD

Connector No.	M203
Connector Name	AV CONTROL UNIT
Connector Type	TH16FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
62	W	CAMERA IMAGE SIGNAL
71	SHIELD	SHIELD
72	B	CAMERA GND

Connector No.	M204
Connector Name	AV CONTROL UNIT
Connector Type	TH32FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
76	LG	AV COMM (L)
77	SB	AV COMM (H)
78	LG	AV COMM (L)
79	SB	AV COMM (H)
80	P	CAN–L
81	L	CAN–H
82	BR	SW GND
86	SHIELD	SHIELD
87	L	TEL VOICE SIGNAL (+)
88	P	TEL VOICE SIGNAL (–)
92	R	VEHICLE SPEED (8-PULSE)
93	SB	PARKING BRAKE
94	BG	REVERSE
95	G	IGNITION
96	V	DISK EJECT SIGNAL

73	R	CAMERA POWER SUPPLY

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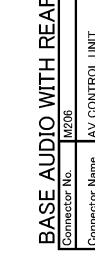
BASE AUDIO WITH REAR VIEW CAMERA

Connector No.	M206
Connector Name	AV CONTROL UNIT
Connector Type	A12FW

Terminal No.	Color of Wire	Signal Name [Specification]
120	B	SATELLITE SOUND SIGNAL LH (+)
121	G	SATELLITE SOUND SIGNAL RH (+)
122	L	COMM (CONT->SAT)
124	W	SATELLITE SOUND SIGNAL LH (-)
125	R	SATELLITE SOUND SIGNAL RH (-)
126	SHIELD	SHIELD
127	SHIELD	SHIELD
128	SB	MODE CHANGE SIGNAL
129	P	REQUEST (SAT->CONT)
130	G	COMM (SAT->CONT)

Connector No.	M207
Connector Name	AV CONTROL UNIT
Connector Type	HAA04FL



Terminal No.	Color of Wire	Signal Name [Specification]
132	G	USB GND
133	R	USB D- SIGNAL
134	W	V BUS SIGNAL
135	L	USB D+ SIGNAL
136	SHIELD	SHIELD

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY

Terminal No.	Color of Wire	Signal Name [Specification]
13	R	-
14	W	-
15	L	-
16	B	-
17	BR	-
18	G	-
19	P	-
20	Y	-

Connector No.	M370
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH-2/1S-HU

Terminal No.	Color of Wire	Signal Name [Specification]
137	-	FM SUB
138	-	AM-FM MAIN
139	-	ANTENNA AMP. ON SIGNAL

Connector No.	M375
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2/1S-HU

Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M376
Connector Name	WIRE TO WIRE
Connector Type	GT13SCN-2/1PP-HU

Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M378
Connector Name	ANTENNA AMP.
Connector Type	GT13SC-1/1S-HU

Terminal No.	Color of Wire	Signal Name [Specification]

1	-	ANTENNA AMP. ON SIGNAL
2	-	AM-FM MAIN

Connector No.	M379
Connector Name	GLASS ANTENNA (SUB)
Connector Type	P01FB-A

Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M381
Connector Name	GLASS ANTENNA (MAIN)
Connector Type	P01FB-A

Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

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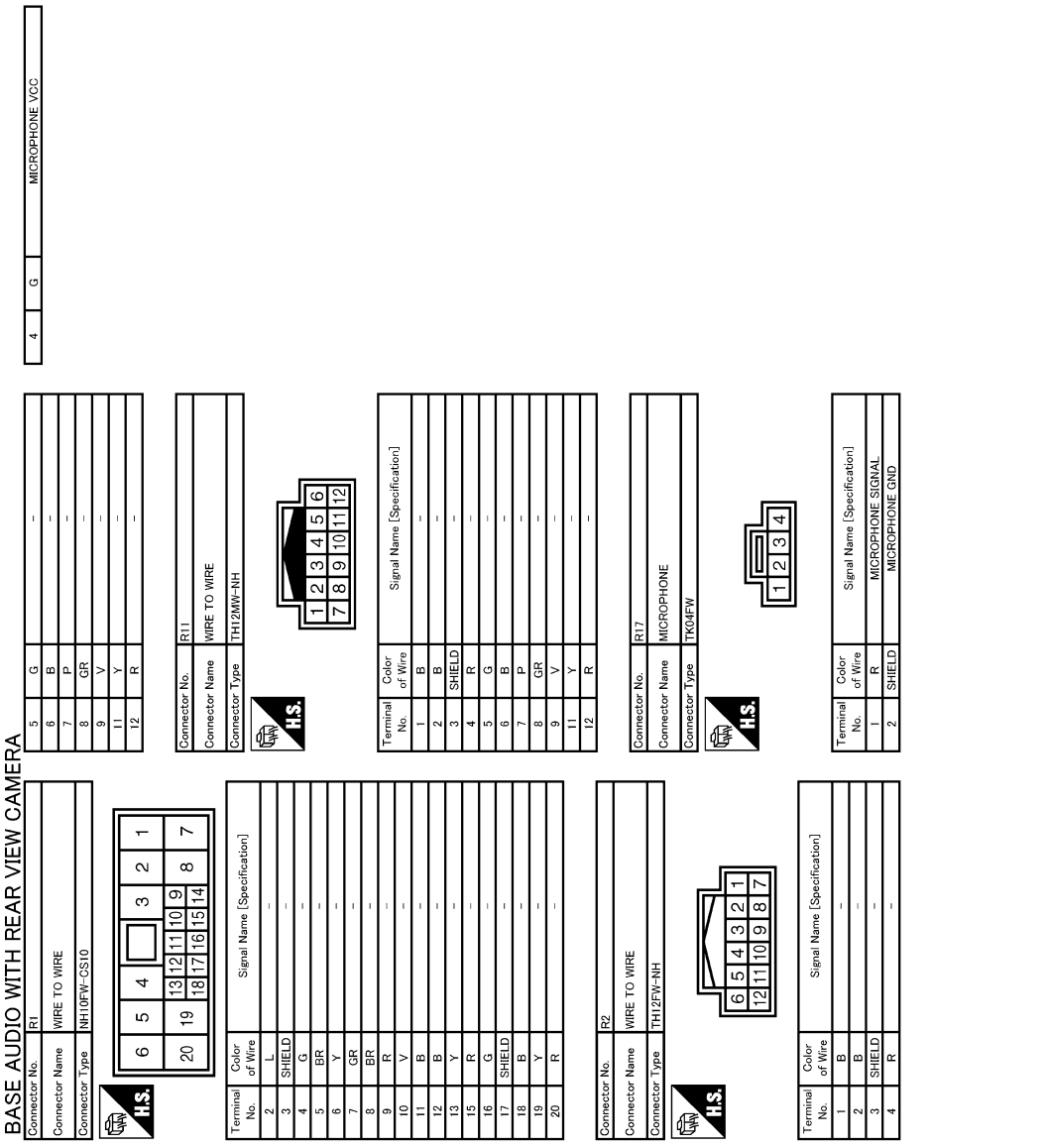

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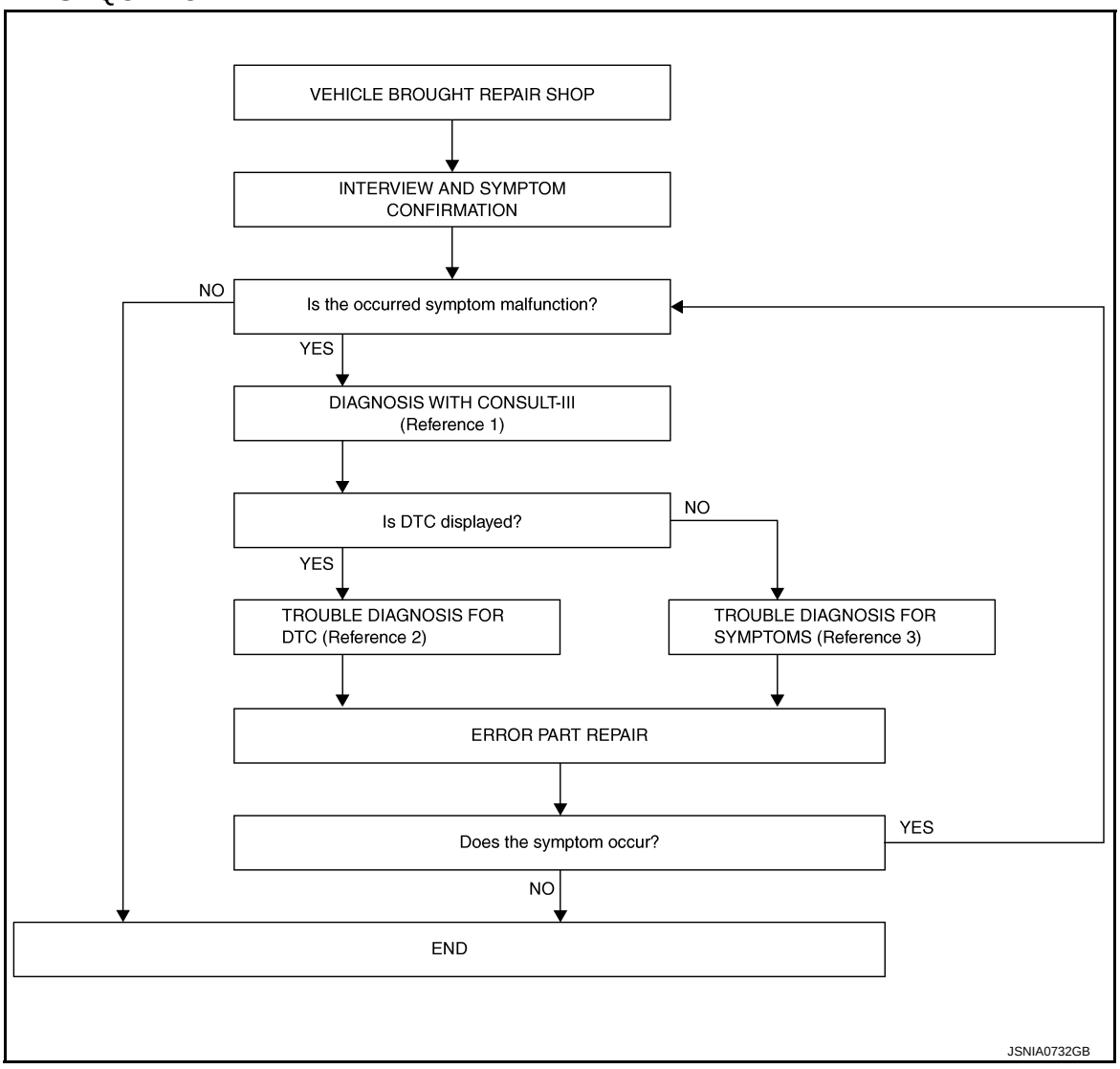
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000006210301

OVERALL SEQUENCE



- Reference 1··· Refer to AV-121, "CONSULT - III Function".
- Reference 2··· Refer to AV-132, "DTC Index".
- Reference 3··· Refer to AV-196, "Symptom Table".

DETAILED FLOW

1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.
NO >> INSPECTION END

2. DIAGNOSIS WITH CONSULT-III

1. Connect CONSULT-III and perform a self-diagnosis for “MULTI AV”. Refer to AV-121, "CONSULT - III Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “MULTI AV” is not displayed.
2. Check if any DTC is displayed in the “Self-Diagnosis Results”.

Is DTC displayed?

YES >> GO TO 3.
NO >> GO TO 4.

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the “Self-Diagnosis Results”.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-132, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-196, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “MULTI AV” with CONSULT-III.
   NOTE:
   Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the “Self-Diagnosis Results”.
3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.
NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING (AV CONTROL UNIT)

Description

INFOID:0000000006210302

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT-III configuration before replacement.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “WRITE CONFIGURATION” with CONSULT-III.

- **Complete the procedure of “WRITE CONFIGURATION” in order.**
- **If you set incorrect “WRITE CONFIGURATION”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

Work Procedure

INFOID:0000000006210303

1.SAVING VEHICLE SPECIFICATION

-CONSULT-III Configuration

Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to AV-160, "Description".

NOTE:

If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection”.

>> GO TO 2.

2.REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-202, "Exploded View".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

-CONSULT-III Configuration

Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to AV-160, "Work Procedure".

>> GO TO 4.

4.OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

CONFIGURATION (AV CONTROL UNIT)

Description

INFOID:0000000006210304

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT-III.
- Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

Work Procedure

INFOID:0000000006210305

NOTE:
If “WRITE CONFIGURATION” is unsuccessful, perform “Accessory Number Initialization”. For details, refer to AV-112, "On Board Diagnosis Function".
After performing “Accessory Number Initialization”, reboot the AV control unit to perform “WRITE CONFIGURATION”.

1. WRITING MODE SELECTION

CONSULT-III Configuration
Select “CONFIGURATION” of “MULTI AV”.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2. PERFORM “WRITE CONFIGURATION-CONFIG FILE”

CONSULT-III Configuration
Perform “WRITE CONFIGURATION-Config file”.

>> WORK END

3. PERFORM “WRITE CONFIGURATION-MANUAL SELECTION”

CONSULT-III Configuration
Select “WRITE CONFIGURATION-Manual selection” to write vehicle specifications into the AV control unit. For data to write, refer to AV-160, "Configuration List".

>> GO TO 4.

4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

Configuration List

INFOID:0000000006210306

CAUTION:
Check vehicle specifications before servicing.

MANUAL SETTING ITEM		NOTE
Items	Setting value	
STEERING	LHD	—
	RHD	—
GRADE	MODE 1	SPORT premium grade with 4WAS
	MODE 3	SPORT premium grade 2WD models without 4WAS
	MODE 2	Except for above
4WAS	WITHOUT	—
	WITH	—
SOUND SYSTEM	BASE	—
	BOSE	—

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000006210307

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-26, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000006210308

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction location
U1000	CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000006210309

1. PERFORM SELF-DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “MULTI AV”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to “LAN system”. Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI section. Refer to GI-43, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000006210310

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-202, "Exploded View".

U1200 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210311

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-202, "Exploded View".

U1216 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210312

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-202, "Exploded View".

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000006210313

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor.

Diagnosis Procedure

INFOID:0000000006210314

1.ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the predictive course line center position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement".

U1243 DISPLAY UNIT

DTC Logic

INFOID:0000000006210315

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected: • display unit power supply and ground circuit are malfunctioning. • communication circuit between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuit. • Communication circuit between AV control unit and display unit.

Diagnosis Procedure

INFOID:0000000006210316

1.CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to AV-173, "DISPLAY UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M71	11	M202	51	Existed
	22		39	

4. Check continuity between display unit harness connector and ground.

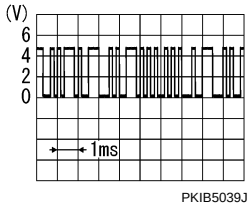
Display unit		Ground	Continuity
Connector	Terminals		
M71	11		Not existed
	22		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK COMMUNICATION SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

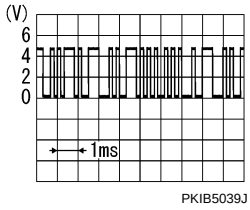
(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M71	11	Ground	When adjusting display brightness.	 PKIB5039J

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector and ground.

(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M71	22	Ground	When adjusting display brightness.	 PKIB5039J

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace display unit. Refer to AV-204, "Exploded View".

U1255 SATELLITE RADIO TUNER

DTC Logic

INFOID:0000000006210317

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.

Diagnosis Procedure

INFOID:0000000006210318

1.CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to AV-174, "SATELLITE RADIO TUNER : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT AND REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and satellite radio tuner connector.
3. Check continuity between AV control unit harness connector and satellite radio tuner harness connector.

AV control unit		Satellite radio tuner		Continuity
Connector	Terminals	Connector	Terminals	
M206	129	B236	8	Existed
	122		10	
	130		9	

4. Check continuity between AV control unit harness connector.

AV control unit			Continuity
Connector	Terminals		
M206	129	Ground	Not existed
	122		
	130		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

(+)		(–)	Reference value (Approx.)
AV control unit			
Connector	Terminals		

M206	129	Ground	7.0 V
	130	Ground	7.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

4. CHECK SATELLITE RADIO TUNER VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector.
3. Connect satellite radio tuner.
4. Turn ignition switch ON.
5. Check signal between satellite radio tuner harness connector and ground.

(+)		(–)	Reference value (Approx.)
Satellite radio tuner			
Connector	Terminal		
B236	10	Ground	7.0 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace satellite radio tuner. Refer to AV-209, "Exploded View".

U1300 AV COMM CIRCUIT

Description

INFOID:0000000006210319

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
U1300 U1256	• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.
U1300 U1240 U1256	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • HAND FREE CONN [U1256]	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch.	AV communication circuits between AV control unit and multifunction switch.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210320

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. If the malfunction occurs constantly. Refer to AV-202, "Exploded View".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000006210321

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M201	19	OFF	Battery voltage
ACC power supply	M201	7	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between AV control unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors.
3. Check continuity between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M201	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000006210322

1.CHECK POWER SUPPLY CIRCUIT (DISPLAY SIDE)

Check voltage between display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Inverter VCC	M71	2	ACC	9.0 V
Signal VCC		3		

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect the harness connector between display unit and AV control unit.
3. Check continuity between display unit harness connector M71 and AV control unit harness connector.

Signal name	Display unit (M71)	AV control unit (M202)	Continuity
Inverter VCC	2	48	Existed
Signal VCC	3	36	Existed

4. Check continuity between display unit harness connector and ground.

Signal name	Display unit (M71)	—	Continuity
Inverter VCC	2	Ground	Not existed
Signal VCC	3	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK POWER SUPPLY CIRCUIT (AV CONTROL UNIT SIDE)

1. Connect the AV control unit harness connector.
2. Turn ignition switch ACC.
3. Check voltage between AV control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Inverter VCC	M202	48	ACC	9.0 V
Signal VCC		36		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replacement of AV control unit.

4.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M71	1	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000006210323

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between satellite radio tuner harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B236	12	OFF	Battery voltage
ACC power supply	B236	16	ACC	Battery voltage

Is the inspection result normal?

YES >> INSPECTION END
NO >> Check harness between satellite radio tuner and fuse.

TEL ADAPTER UNIT

TEL ADAPTER UNIT : Diagnosis Procedure

INFOID:0000000006210324

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between TEL adapter unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B237	1	OFF	Battery voltage
ACC power supply	B237	2	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between TEL adapter unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B237	4	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:0000000006210325

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210326

1.CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	17	M202	43	Existed

4. Check continuity between display unit harness connector and ground.

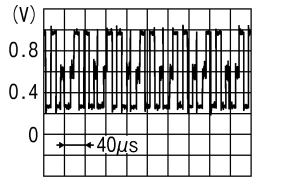
Display unit		Ground	Continuity
Connector	Terminal		
M71	17		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	17	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 JSNIA1029ZZ

Is inspection result normal?

YES >> Replace display unit. Refer to AV-204, "Exploded View".
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:0000000006210327

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210328

1. CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	6	M202	44	Existed

4. Check continuity between display unit harness connector and ground.

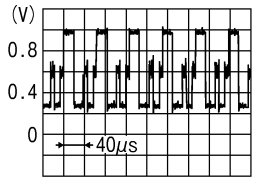
Display unit		Ground	Continuity
Connector	Terminal		
M71	6		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2. CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	6	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 JSNIA1030ZZ

Is inspection result normal?

YES >> Replace display unit. Refer to AV-204, "Exploded View".
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:0000000006210329

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210330

1.CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	18	M202	45	Existed

4. Check continuity between display unit harness connector and ground.

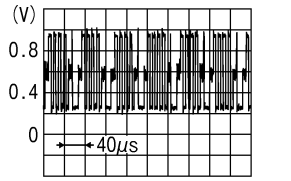
Display unit		Ground	Continuity
Connector	Terminal		
M71	18		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	18	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 JSNIA1031ZZ

Is inspection result normal?

YES >> Replace display unit. Refer to AV-204, "Exploded View".
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:0000000006210331

Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with AV control unit.

Diagnosis Procedure

INFOID:0000000006210332

1.CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	19	M202	42	Existed

4. Check continuity between display unit harness connector and ground.

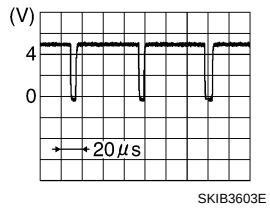
Display unit		Ground	Continuity
Connector	Terminal		
M71	19		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	19	Ground	

SKIB3603E

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-204, "Exploded View".
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:0000000006210333

Transmits the display area of RGB image displayed by AV control unit with RGB area (YS) signal to display unit.

Diagnosis Procedure

INFOID:0000000006210334

1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	9	M202	40	Existed

4. Check continuity between display unit harness connector and ground.

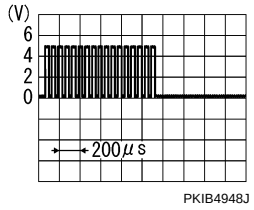
Display unit		Ground	Continuity
Connector	Terminal		
M71	9		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB AREA (YS) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value (Approx.)
Connector	Terminal			
M71	9	Ground	At RGB image is displayed.	5.0 V
			At camera image is displayed.	

PKIB4948J

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-204, "Exploded View".
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006210335

- AV control unit outputs camera power supply to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The AV control unit that inputs the camera image signal transmits the camera image signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210336

1.CHECK CONTINUITY CAMERA POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M203	73	B305	1	Existed

4. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M203	73		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VOLTAGE CAMERA POWER SUPPLY

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check voltage between AV control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M203	73	Ground	Shift position is “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M203	62	B305	3	Existed

4. Check continuity between AV control unit harness connector and ground.

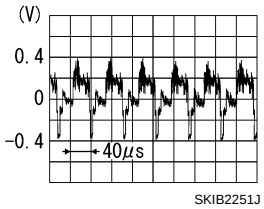
AV control unit		Ground	Continuity
Connector	Terminal		
M203	62		Not existed

Is inspection result normal?

YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check signal between AV control unit harness connector and ground.

(+)		(–)	Condition	Reference value
AV control unit				
Connector	Terminal			
M203	62	Ground	At rear view camera image is displayed.	

SKIB2251J

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-202, "Exploded View".
NO >> Replace rear view camera. Refer to AV-218, "Exploded View".

COMPOSITE IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006210337

AV control unit that inputs the camera image signal transmits the composite image signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210338

1.CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and display unit connector.
3. Check continuity between AV control unit harness connector and display unit harness connector.

AV control unit		Display unit		Continuity
Connector	Terminal	Connector	Terminal	
M202	47	M71	15	Existed

4. Check continuity between AV control unit harness connector and ground.

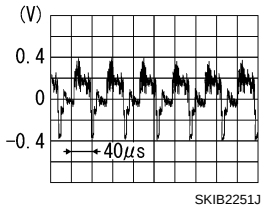
AV control unit		Ground	Continuity
Connector	Terminal		
M202	47		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK COMPOSITE IMAGE SIGNAL

1. Connect AV control unit connector and display unit connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

(+) AV control unit		(–)	Condition	Reference value
Connector	Terminal			
M202	47	Ground	At camera image is displayed.	

SKIB2251J

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-204, "Exploded View".
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:0000000006210339

In composite image (AUX image and camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:0000000006210340

1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	8	M202	38	Existed

4. Check continuity between display unit harness connector and ground.

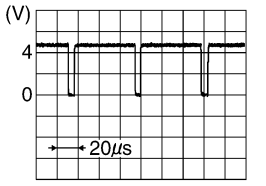
Display unit		Ground	Continuity
Connector	Terminal		
M71	8		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	8	Ground	

SKIB3601E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-202, "Exploded View".
NO >> Replace display unit. Refer to AV-204, "Exploded View".

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:0000000006210341

In composite image (AUX image and camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:0000000006210342

1. CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	20	M202	50	Existed

4. Check continuity between display unit harness connector and ground.

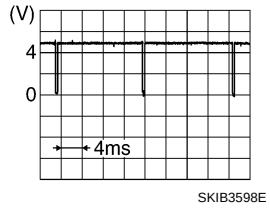
Display unit		Ground	Continuity
Connector	Terminal		
M71	20		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2. CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	20	Ground	

SKIB3598E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-202, "Exploded View".
NO >> Replace display unit. Refer to AV-204, "Exploded View".

DISK EJECT SIGNAL CIRCUIT

Description

INFOID:0000000006210343

The eject signal is output to AV control unit when the eject switch of multifunction switch is pressed.

Diagnosis Procedure

INFOID:0000000006210344

1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect multifunction switch connector and AV control unit connector.
3. Check continuity between multifunction switch harness connector and AV control unit harness connector.

Multifunction switch		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M72	14	M204	96	Existed

4. Check continuity between multifunction switch harness connector and ground.

Multifunction switch		Ground	Continuity
Connector	Terminal		
M72	14		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect multifunction switch connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M204	96	Ground	Pressing the eject switch	0 V
			Except for above	3.3 V

Is the inspection result normal?

YES >> Replace preset switch. Refer to AV-212, "Exploded View".
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000006210345

Supply power from TEL adapter unit to microphone. The microphone transmits the sound/voice to the microphone.

Diagnosis Procedure

INFOID:0000000006210346

1.CHECK CONTINUITY BETWEEN TEL ADAPTER UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector and microphone connector.
3. Check continuity between TEL adapter unit harness connector and microphone harness connector.

TEL adapter unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
B237	7	R17	1	Existed
	8		2	
	29		4	

4. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminals		
M237	7		Not existed
	29		

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VOLTAGE MICROPHONE VCC

1. Connect TEL adapter unit connector.
2. Turn ignition switch ON.
3. Check voltage between TEL adapter unit harness connector.

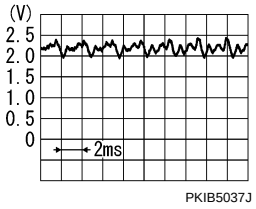
(+)		(–)		Voltage (Approx.)
TEL adapter unit		TEL adapter unit		
Connector	Terminal	Connector	Terminal	
B237	29	B237	8	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace TEL adapter unit. Refer to AV-217, "Exploded View".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between TEL adapter unit harness connector.

(+)		(–)		Condition	Reference value
TEL adapter unit		TEL adapter unit			
Connector	Terminal	Connector	Terminal		
B237	7	B237	8	give a voice.	

PKIB5037J

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-217, "Exploded View".
NO >> Replace microphone. Refer to AV-215, "Exploded View".

CONTROL SIGNAL CIRCUIT

Description

INFOID:0000000006210347

TEL adapter unit identifies the vehicle model according to the control signal and performs the control.

Diagnosis Procedure

INFOID:0000000006210348

1.CHECK CONTINUITY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminals		
B237	23		Existed
	24		

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-217, "Exploded View".
NO >> Repair harness or connector.

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000006210349

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210350

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	6	M36	24	Existed

3. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M201	6		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M201	6	M201	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-190, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View".

Component Inspection

INFOID:0000000006210351

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

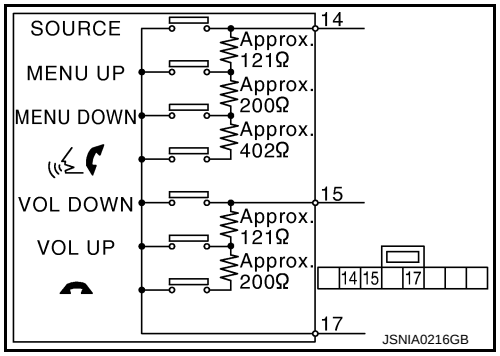
Standard

Between terminals 14 and 17

switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000006210352

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210353

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	16	M36	31	Existed

3. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M201	16		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M201	16	M201	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-192, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View".

Component Inspection

INFOID:0000000006210354

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

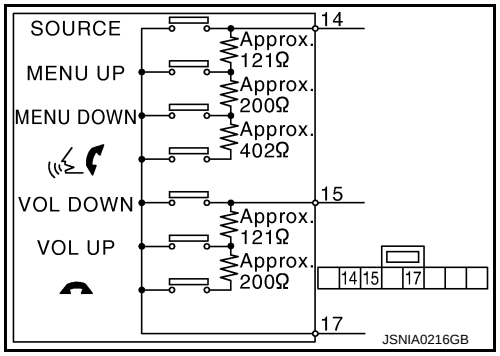
Standard

Between terminals 14 and 17

switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



STEERING SWITCH GROUND CIRCUIT

Description

INFOID:0000000006210355

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210356

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	15	M36	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK GROUND CIRCUIT

1. Connect AV control unit connector.
2. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M201	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-202, "Exploded View".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-194, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View".

Component Inspection

INFOID:0000000006210357

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

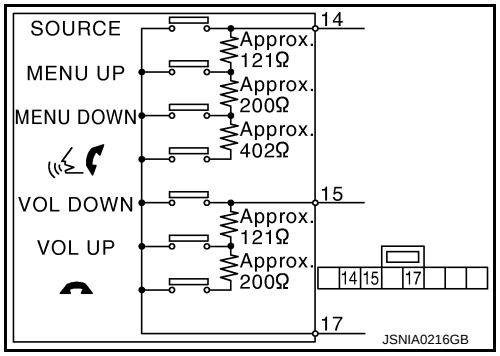
Standard

Between terminals 14 and 17

switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000006210358

OPERATION

Symptoms	Check items	Possible malfunction location / Action to take
Multifunction switch and preset switch operation does not work.	• All switches cannot be operated. • “MULTI AV” is displayed on system selection screen when the CONSULT-III is started.	• Multifunction switch power supply and ground circuit. • AV communication circuit between AV control unit and multifunction switch. Perform “Self diagnosis Result” of “MULTI AV” with CONSULT-III. Refer to AV-121, "CONSULT - III Function".
	• All switches cannot be operated. • “MULTI AV” is not displayed on system selection screen when the CONSULT-III is initialized.	AV control unit power supply and ground circuit malfunction. Refer to AV-173, "AV CONTROL UNIT : Diagnosis Procedure".
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to AV-112, "On Board Diagnosis Function".
Fuel economy display, vehicle setting operation is abnormal.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-121, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-132, "DTC Index".
	There is no malfunction in the self-diagnosis results. Refer to AV-121, "CONSULT - III Function".	Ignition signal circuit malfunction. (AV control unit)

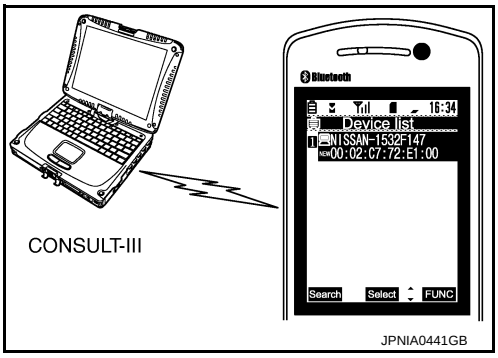
RELATED TO HANDS-FREE PHONE

Simple Check for Bluetooth™ Communication

If cellular phone and AV control unit cannot be connected with Bluetooth™ communication, following procedure allows the technician to judge which device has malfunction.

1. Turn on a cellular phone, not connecting Bluetooth™ communication.
2. Start CONSULT-III, then start Windows®.
3. Set CONSULT-III near a cellular phone.
4. When operated Bluetooth™ registration by cellular phone, check if CONSULT-III* would be displayed on the device name. (If other Bluetooth™ device is located near cellular phone, a name of the device would be displayed also.)
   NOTE:
   *:Displayed device name is “NISSAN-********”.

- If no device name is displayed, cellular phone is malfunctioning. Repair the cellular phone first, then perform diagnosis.
- If CONSULT-III is displayed on device name, cellular phone is normal. Perform diagnosis as per the following table.



Trouble Diagnosis Chart by Symptom

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	TEL adapter unit malfunction. Refer to AV-217, "Exploded View".
Hands-free phone cannot be established.	Both the reception and the speech cannot be performed	• Perform “Self diagnosis Result” of “MULTI AV” with CONSULT-III. Refer to AV-121, "CONSULT - III Function". • No malfunction. TEL adapter unit malfunction. Refer to AV-217, "Exploded View". • Malfunction is detected. Perform detected DTC diagnosis. Refer to AV-132, "DTC Index".
The other party's voice cannot be heard by hands-free phone.	The operation of the “ ” switch can be performed.	TEL voice signal circuit malfunction between TEL adapter unit and AV control unit.
	The operation of the “ ” switch cannot be performed.	Control signal circuit.
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	TEL adapter unit. Refer to AV-217, "Exploded View".
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-187, "Diagnosis Procedure".
The system cannot be operated.	“SOURCE”, “MENU UP”, and “MENU DOWN” switches are operated. But “ ” switch is not operated.	• Check steering switch. Refer to AV-190, "Component Inspection". • Malfunction is detected. Replace steering switch. Refer to AV-213, "Exploded View".
	“SOURCE”, “MENU UP”, “MENU DOWN” and “ ” switches are not operated.	Steering switch signal A circuit malfunction. Refer to AV-190, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-194, "Diagnosis Procedure".

RELATED TO RGB IMAGE

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-121, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-132, "DTC Index".
	There is no malfunction in CONSULT-III self-diagnosis results. Refer to AV-121, "CONSULT - III Function".	Vertical synchronizing (VP) signal circuit. Refer to AV-185, "Diagnosis Procedure".
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to AV-176, "Diagnosis Procedure".
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to AV-177, "Diagnosis Procedure".
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to AV-178, "Diagnosis Procedure".
RGB screen is rolling.	—	RGB synchronizing signal circuit. Refer to AV-179, "Diagnosis Procedure".

RELATED TO AUDIO

Symptoms	Check items	Possible malfunction location / Action to take
The disk cannot be removed.	—	Disk eject signal circuit. Refer to AV-186, "Diagnosis Procedure".
Audio sound is not heard.	No sound from all speakers.	AV control unit malfunction. Refer to AV-202, "Exploded View".
	Sound is heard only from specific places.	Sound signals circuit of suspect system.
Satellite radio is not received.	There is no malfunction in CONSULT-III self-diagnosis results. Refer to AV-121, "CONSULT - III Function".	Perform the following inspection procedure. 1. Check satellite radio antenna mounting nut for looseness. **NOTE:** Tightening torque: 6.5 N·m (0.66 kg-m, 58 in-lb.) 2. Visually check for satellite radio antenna feeder.
	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-121, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-132, "DTC Index".
The sound of satellite radio is not heard.	Other audio sounds are normal.	Satellite radio sound signal circuit between AV control unit and satellite radio tuner.
It does not change to satellite radio mode.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-121, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-132, "DTC Index".
AM/FM radio is not received.	Other audio sounds are normal.	• Antenna amp. ON signal circuit. • Antenna feeder.

RELATED TO USB

NOTE:

Check that there is no malfunction of USB equipment main body before performing a diagnosis.

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	• USB harness malfunction. • USB connector malfunction.

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to AV-194, "Diagnosis Procedure".
Only specified switch cannot be operated.	• Check steering switch. Refer to AV-190, "Component Inspection". • Malfunction is detected. Replace steering switch. Refer to AV-213, "Exploded View".
“SOURCE”, “MENU UP”, “MENU DOWN” and “ ” switches are not operated.	Steering switch signal A circuit. Refer to AV-190, "Diagnosis Procedure".
”VOL UP“, “VOL DOWN” and “ ” switches are not operated.	Steering switch signal B circuit. Refer to AV-192, "Diagnosis Procedure".

RELATED TO CAMERA

Trouble Diagnosis Chart by Symptom

Symptoms	Check items	Probable malfunction location
Camera image is not shown. (Vehicle width and possible route line is displayed.)	—	• Camera image signal circuit. Refer to AV-181, "Diagnosis Procedure". • Composite image signal circuit. Refer to AV-183, "Diagnosis Procedure".
Camera image does not switch.	“Reverse” is not turned ON on “Vehicle Signals” screen of “Confirmation/Adjustment”.	Reverse signal circuit malfunction.
	“Reverse” is turned ON on “Vehicle Signals” screen of “Confirmation/Adjustment”.	AV control unit malfunction. Replace AV control unit. Refer to AV-202, "Exploded View".

NORMAL OPERATING CONDITION

Description

INFOID:0000000006210359

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press “DISC-AUX” to change the mode.
	The display is turned off.	Press “☀/◑ OFF” to turn on the display.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the multi AV system.

RELATED TO VOICE RECOGNITION

Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

Symptom	Solution
System fails to interpret the command correctly.	1. Ensure that the command is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). **NOTE:** If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.
	5. If more than one command was said at a time, try saying the commands separately.
	6. If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. See “Speaker adaptation (SA) mode” earlier in this section. Refer to “OWNER’S MANUAL”.
The system consistently selects the wrong voicetag	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the “List Names” command.
	2. Replace one of the names being confused with a new name.

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and then determine the cause.

NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA, AAC, M4A) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the “red book” Compact Disc Standard and may not play.

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC/M4A files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than ".MP3", ".WMA", ".AAC", ".M4A", ".mp3", ".wma", ".aac" or ".m4a" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA/AAC/M4A writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the CD is protected by copyright.
	Discs recorded in live file system format are not supported. (For Microsoft Windows Vista, check the settings.)
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA/AAC/M4A CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA/AAC/M4A file has been given an extension of ".MP3", ".WMA", ".AAC", ".M4A", ".mp3", ".wma", ".aac" or ".m4a" or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

Noise resulting from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources, is not a malfunction.

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000006210360

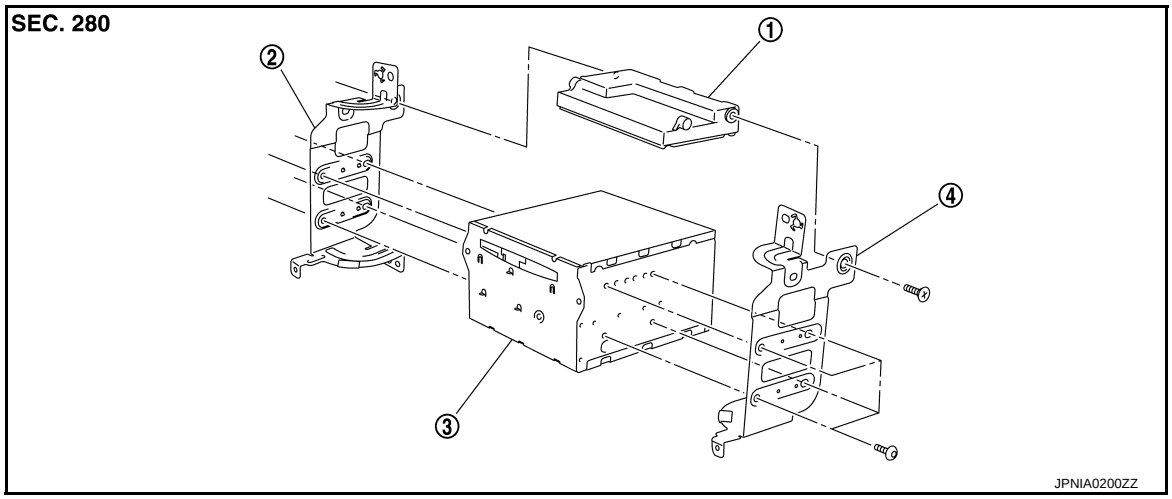
CAUTION:
- **Before replacing AV control unit, perform “READ CONFIGURATION” to save or print current vehicle specification. For details, refer to AV-159, "Description".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF**

NOTE:
After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Unified meter and A/C amp.
2. Bracket LH
3. AV control unit
4. Bracket RH

Removal and Installation

INFOID:0000000006210361

REMOVAL

CAUTION:
- **Before replacing AV control unit, perform “READ CONFIGURATION” to save or print current vehicle specification. For details, refer to AV-159, "Description".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF**

NOTE:
After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

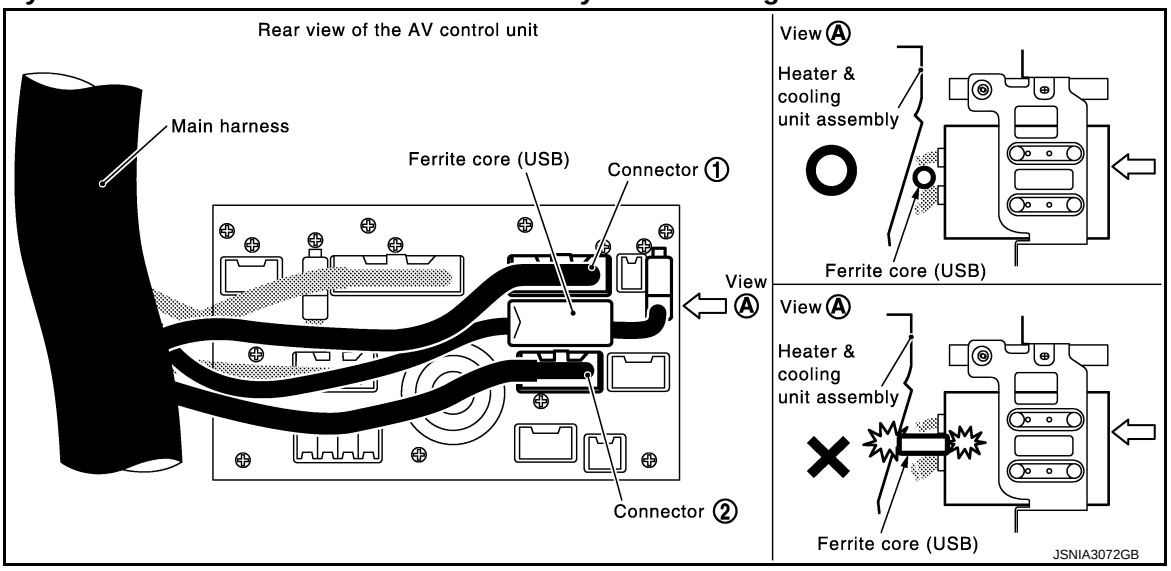
1. Remove display unit. Refer to AV-204, "Exploded View".
2. Remove AV control unit with a unified meter and A/C amp. as a single unit from the body.
3. Remove bracket screws, and then remove AV control unit.

INSTALLATION

Installation is the reverse order of removal.

CAUTION:
- **Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.**

- **Be sure to perform "WRITE CONFIGURATION" when replacing AV control unit.**
- **Install AV control unit between connector (1) and connector (2) with the ferrite core (USB) orientated sideways to the vehicle. Incorrect installation may cause damage to the AV control unit.**



DISPLAY UNIT

Exploded View

INFOID:0000000006210362

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

Removal and Installation

INFOID:0000000006210363

REMOVAL

1. Remove cluster lid D. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove display unit with bracket as a single unit.

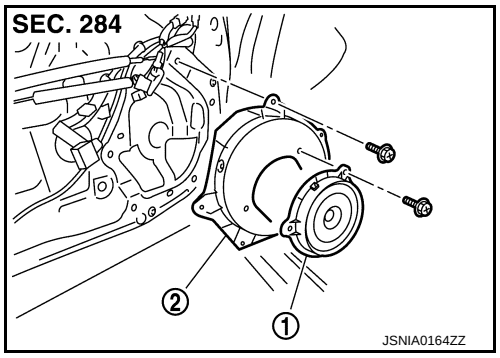
INSTALLATION

Installation is the reverse order of removal.

FRONT DOOR SPEAKER

Exploded View

INFOID:0000000006210364



1. Front door speaker
2. Speaker bracket

Removal and Installation

INFOID:0000000006210365

REMOVAL

1. Remove front door finisher. Refer to INT-12, "Exploded View".
2. Remove the front door speaker from speaker bracket.

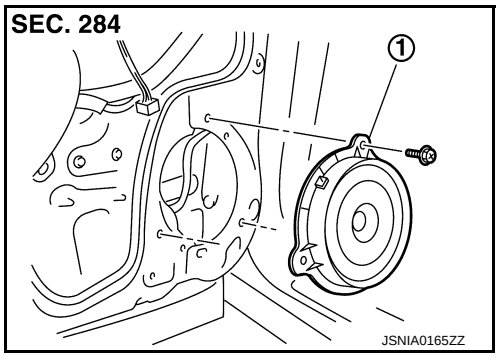
INSTALLATION

Installation is the reverse order of removal.

REAR DOOR SPEAKER

Exploded View

INFOID:0000000006210366



1. Rear door speaker

Removal and Installation

INFOID:0000000006210367

REMOVAL

1. Remove rear door finisher. Refer to INT-12, "Exploded View".
2. Remove rear door speaker from rear door.

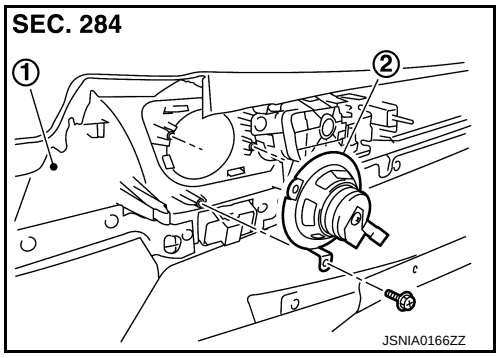
INSTALLATION

Installation is the reverse order of removal.

TWEETER

Exploded View

INFOID:0000000006210368



1. Door finisher
2. Tweeter

Removal and Installation

INFOID:0000000006210369

REMOVAL

1. Remove front door finisher. Refer to INT-12, "Exploded View".
2. Remove the tweeter from the front door finisher.

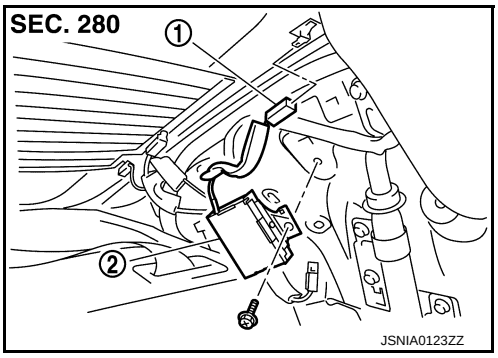
INSTALLATION

Installation is the reverse order of removal.

ANTENNA AMP.

Exploded View

INFOID:0000000006210370



1. AM-FM main connector
2. Antenna amp.

Removal and Installation

INFOID:0000000006210371

REMOVAL

1. Remove rear pillar finisher LH. Refer to INT-15, "Exploded View".
2. Remove antenna amp. from rear pillar LH.

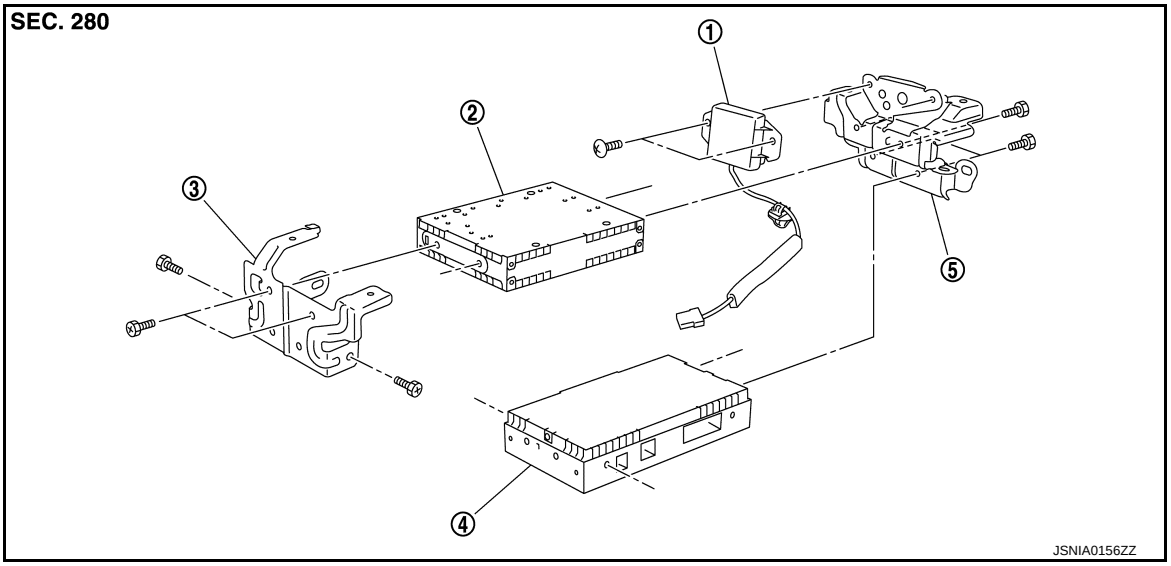
INSTALLATION

Installation is the reverse order of removal.

SATELLITE RADIO TUNER

Exploded View

INFOID:0000000006210372



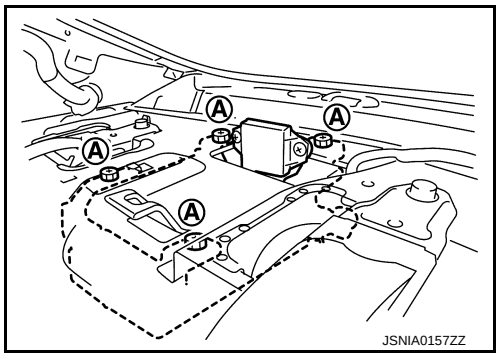
1. TEL antenna
2. Satellite radio tuner
3. Bracket (front)
4. TEL adapter unit
5. Bracket (rear)

Removal and Installation

INFOID:0000000006210373

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
3. Remove screws (A) from inside the cabin, and remove TEL adapter unit and TEL antenna as a single unit from trunk room side.
4. Remove bracket screws and remove TEL adapter unit and satellite radio tuner.



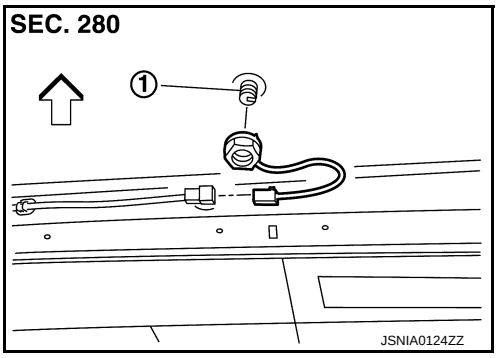
INSTALLATION

Installation is the reverse order of removal.

SATELLITE RADIO ANTENNA

Exploded View

INFOID:0000000006210374



1. Satellite radio antenna

⇦: Vehicle front

Removal and Installation

INFOID:0000000006210375

REMOVAL

1. Remove head lining assembly (rear) to secure work space between vehicle and headlining. Refer to INT-24, "NORMAL ROOF : Exploded View" (normal roof models) or INT-27, "SUNROOF : Exploded View" (sunroof models).
2. Remove nut, and then remove satellite radio antenna from roof panel.

INSTALLATION

Installation is the reverse order of removal.

Satellite radio antenna mounting nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

CAUTION:

Be careful about tightening torque. Antenna sensitivity becomes poor, and when it is excessive, roof panel may be deformed, when satellite radio antenna mounting nut tightening torque is loose.

MULTIFUNCTION SWITCH

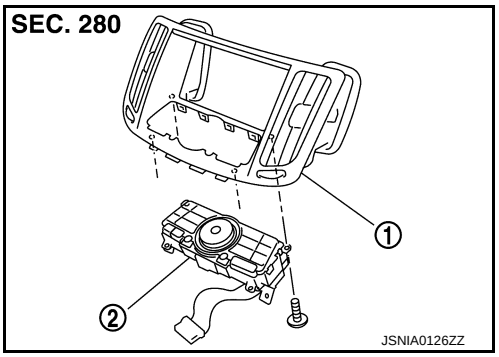
Exploded View

INFOID:0000000006210376

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Center ventilator grille
2. Multifunction switch

Removal and Installation

INFOID:0000000006210377

REMOVAL

1. Remove cluster lid D. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove multi function switch with center ventilator grille as a single unit.
3. Remove multi function switch from center ventilator.

INSTALLATION

Installation is the reverse order of removal.

PRESET SWITCH

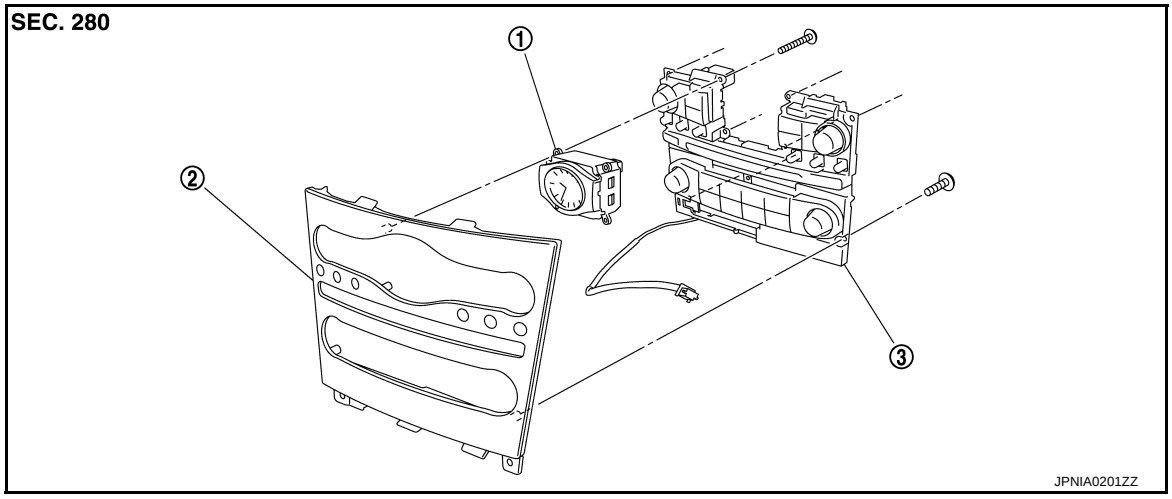
Exploded View

INFOID:0000000006210378

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Clock
2. Cluster lid C
3. Preset switch

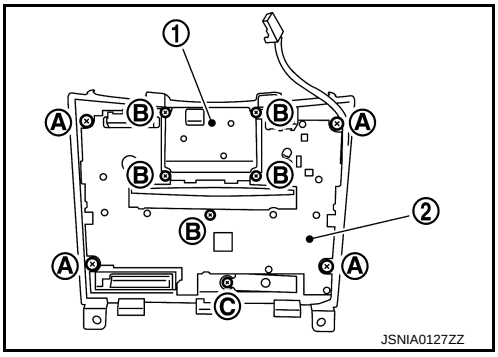
Removal and Installation

INFOID:0000000006210379

REMOVAL

1. Remove cluster lid C. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove preset switch screws (A), (B), and (C), and then remove preset switch (2) from cluster lid C.

1. Clock



INSTALLATION

Installation is the reverse order of removal.

NOTE:

When installing preset switch, do not allow the print wire that connects preset switch and multifunction switch to get caught in between AV control unit and preset switch.

STEERING SWITCH

Exploded View

INFOID:0000000006210380

Refer to ST-17, "Exploded View".

Removal and Installation

INFOID:0000000006210381

REMOVAL

Refer to ST-17, "Removal and Installation".

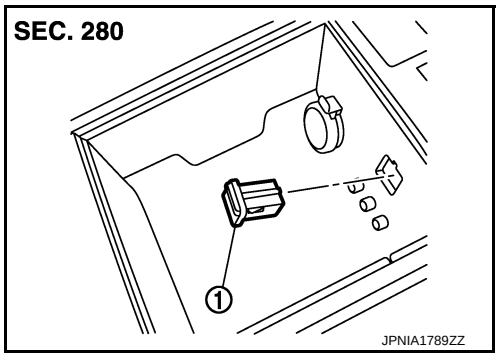
INSTALLATION

Installation is the reverse order of removal.

USB CONNECTOR

Exploded View

INFOID:0000000006210382



1. USB connector

Removal and Installation

INFOID:0000000006210383

REMOVAL

1. Remove center console. Refer to IP-34, "A/T MODELS : Exploded View" (A/T models) or IP-39, "M/T MODELS : Exploded View" (M/T models).
2. Push the pawl from the back of center console to remove USB connector.

INSTALLATION

Install in the reverse order of removal.

MICROPHONE

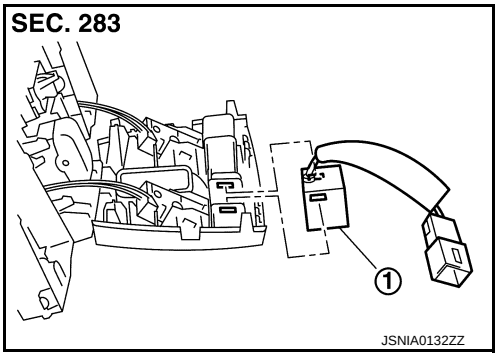
Exploded View

INFOID:0000000006210384

REMOVAL

Refer to INL-109, "Exploded View".

DISASSEMBLY



1. Microphone

Removal and Installation

INFOID:0000000006210385

REMOVAL

1. Remove map lamp. Refer to INL-109, "Exploded View".
2. Remove microphone from map lamp.

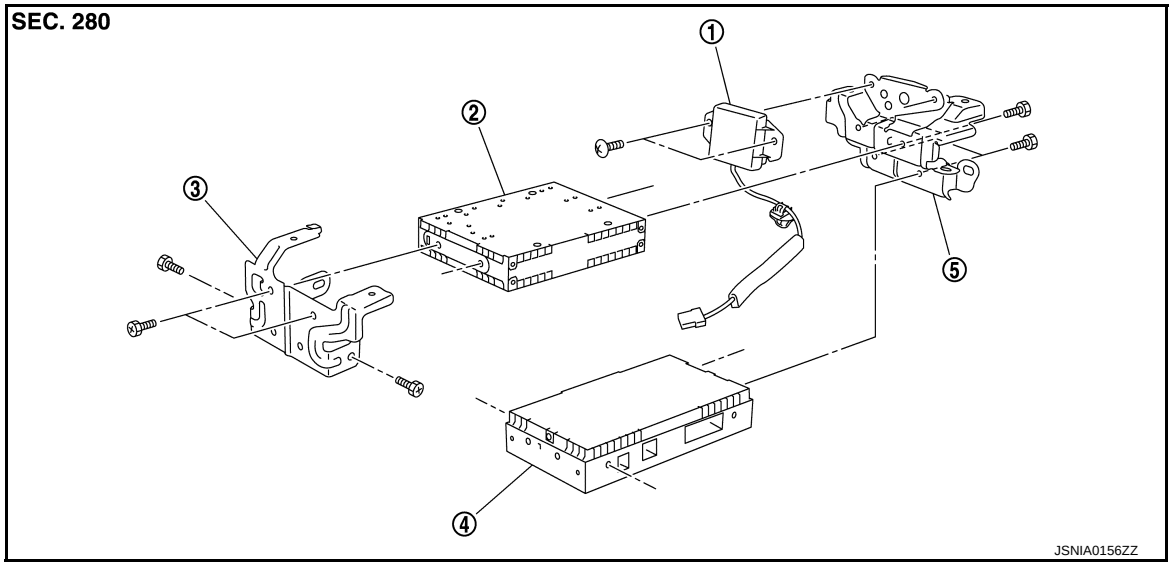
INSTALLATION

Installation is the reverse order of removal.

TEL ANTENNA

Exploded View

INFOID:0000000006210386



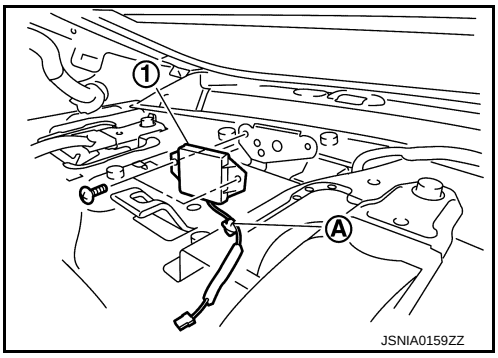
1. TEL antenna
2. Satellite radio tuner
3. Bracket (front)
4. TEL adapter unit
5. Bracket (rear)

Removal and Installation

INFOID:0000000006210387

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
3. Remove screws and clip (A) from inside the cabin and remove TEL antenna (1) connector from trunk room side.



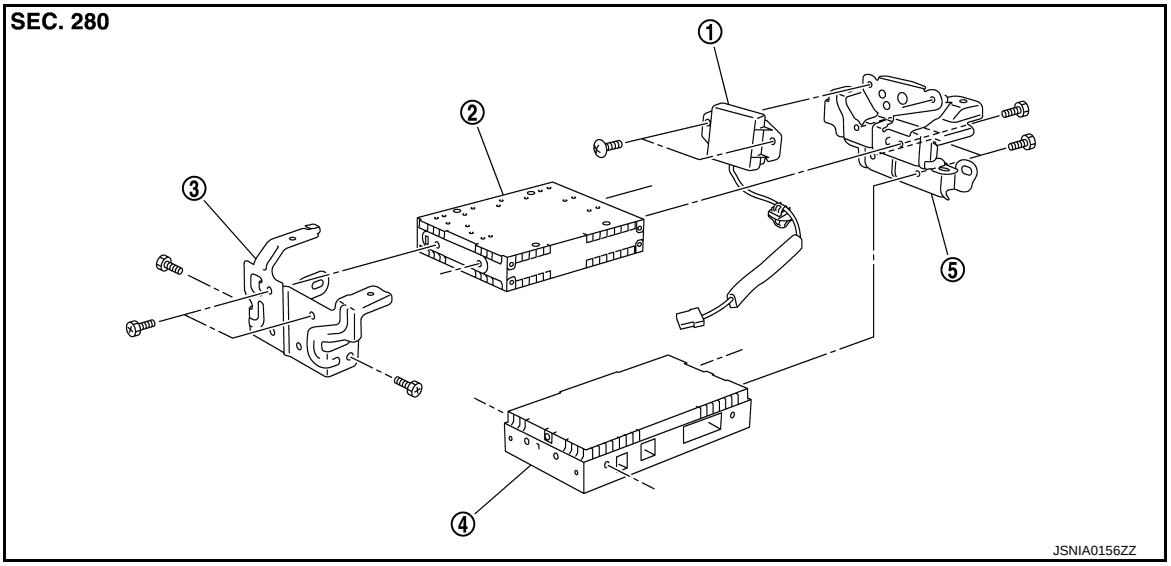
INSTALLATION

Installation is the reverse order of removal.

TEL ADAPTER UNIT

Exploded View

INFOID:0000000006210388



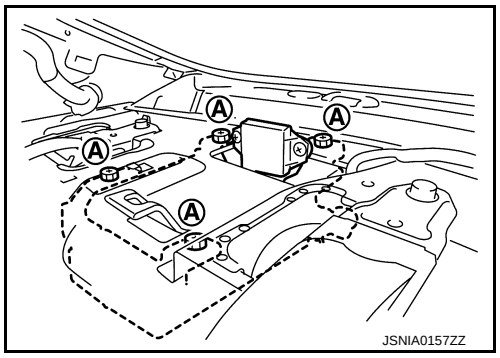
1. TEL antenna
2. Satellite radio tuner
3. Bracket (front)
4. TEL adapter unit
5. Bracket (rear)

Removal and Installation

INFOID:0000000006210389

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
3. Remove screws (A) from inside the cabin, and remove TEL adapter unit and TEL antenna as a single unit from trunk room side.
4. Remove bracket screws and remove TEL adapter unit and satellite radio tuner.



INSTALLATION

Installation is the reverse order of removal.

REAR VIEW CAMERA

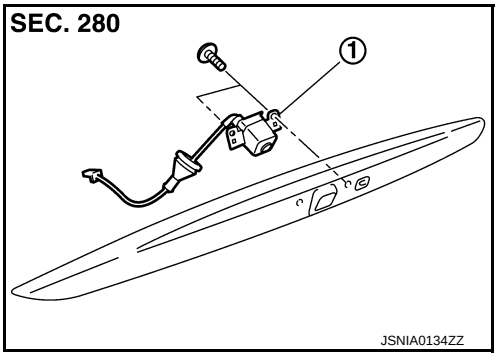
Exploded View

INFOID:0000000006210390

REMOVAL

Refer to EXT-41, "Exploded View".

DISASSEMBLY



1. Rear view camera

Removal and Installation

INFOID:0000000006210391

REMOVAL

1. Remove trunk lid finisher outer. Refer to EXT-41, "Exploded View".
2. Remove rear view camera from trunk lid finisher outer.

INSTALLATION

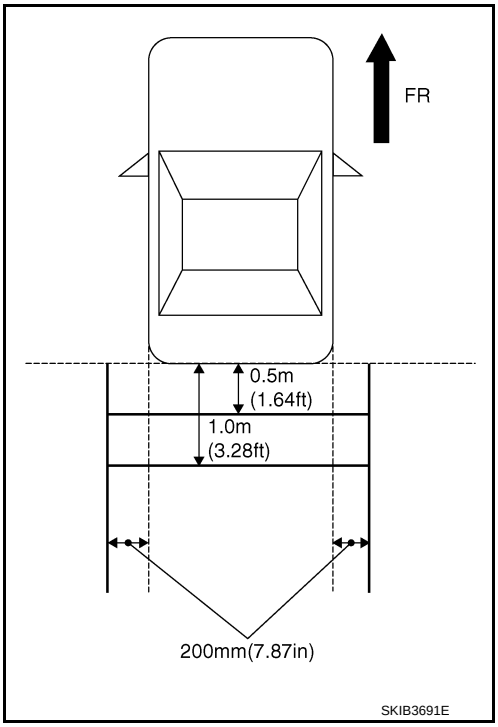
Installation is the reverse order of removal.

Adjustment

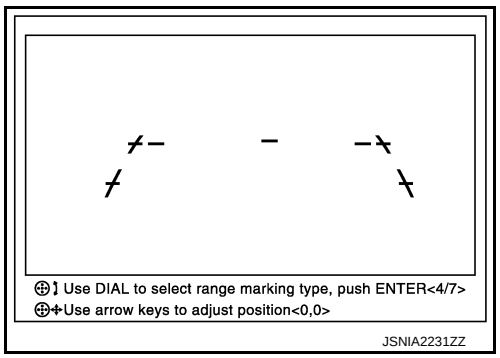
INFOID:0000000006210392

Adjust the guide line position if the guide line position is shifted after installing the rear view camera.

1. Draw lines on rearward area of the vehicle passing through the following points: 200 mm (7.87 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1.0 m (3.28 ft) from the rear end of the bumper.
2. Set into “Adjust Guide Lines” mode of “Confirmation/Adjustment” mode.



3. Rotate the center dial, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.



Selected pattern : 7

4. Make fine adjustment to the correction line of the rear of the vehicle with up/down/left/right switches so that its position is aligned with the guiding line. Press “OK” switch and record the adjusted guiding line position to the AV control unit.

Up/Down adjustment range : 20° to 20°

Left/Right adjustment range : 20° to 20°

CAUTION:

After the adjustment, never perform other operations for one minute.

STEERING ANGLE SENSOR

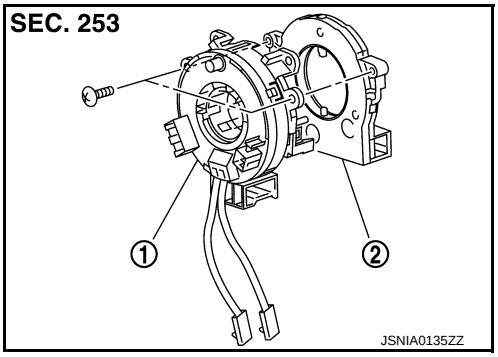
Exploded View

INFOID:0000000006210393

REMOVAL

Refer to SR-14, "Exploded View".

DISASSEMBLY



1. Spiral cable
2. Steering angle sensor

Removal and Installation

INFOID:0000000006210394

REMOVAL

1. Remove spiral cable. Refer to SR-14, "Exploded View".
2. Remove steering angle sensor from spiral cable.

INSTALLATION

Installation is the reverse order of removal.

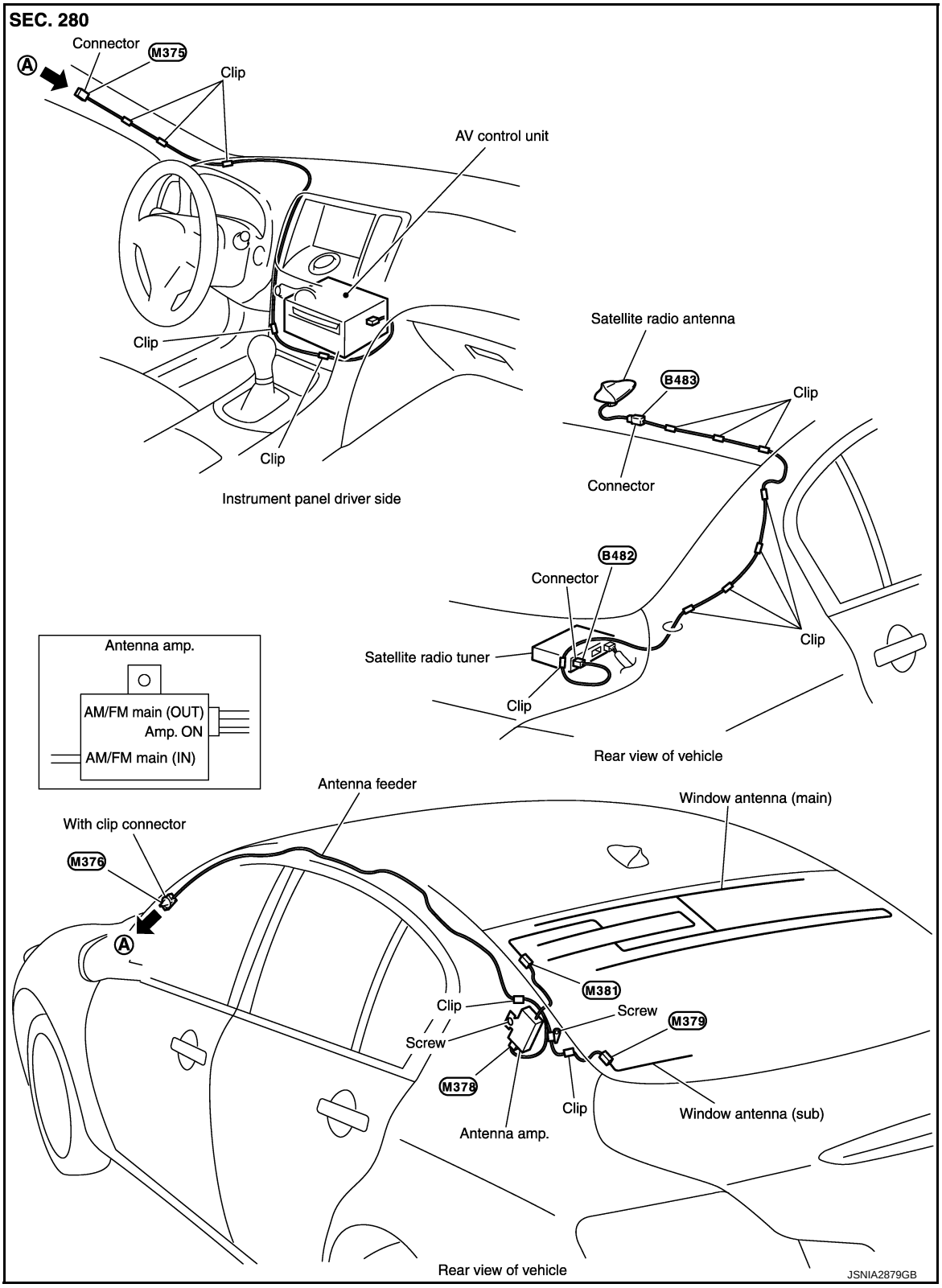
CAUTION:

After work, make sure to adjust neutral position of steering angle sensor. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description".

ANTENNA FEEDER

Feeder Layout

INFOID:0000000006210395



PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000006210396

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)

INFOID:0000000007933560

CAUTION:

Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000006210397

AV COMMUNICATION SYSTEM

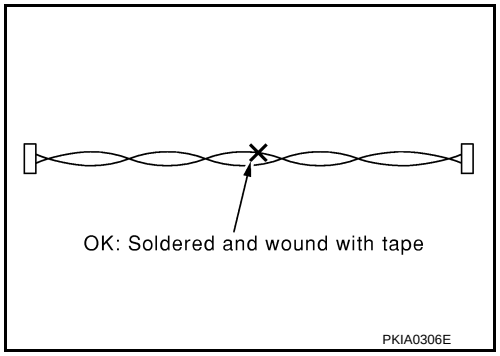
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

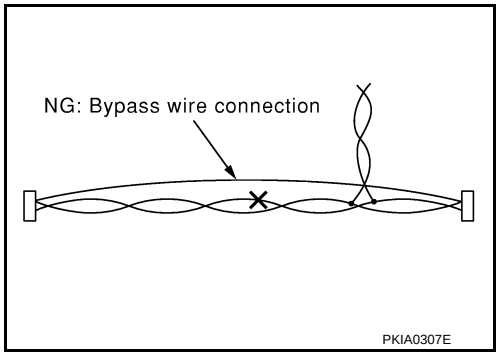
INFOID:0000000006210398

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

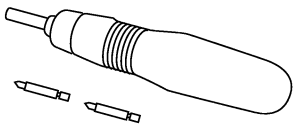


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000006210399

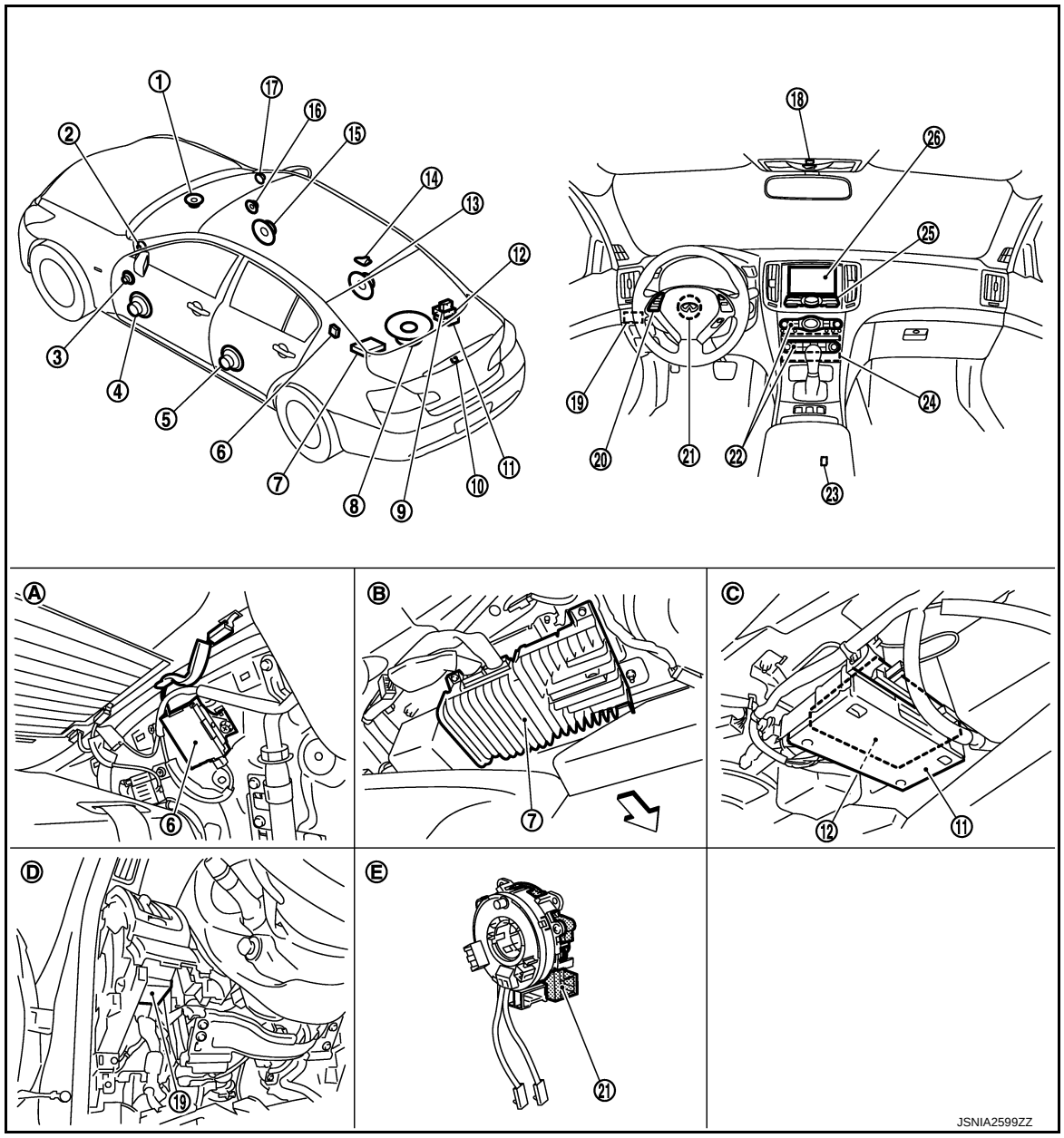
Tool	Description
Power tool  PBIC0191E	Loosening screws

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000006210400



1. Center speaker
2. Tweeter LH
3. Front door squawker LH
4. Front door woofer LH
5. Rear door speaker LH
6. Antenna amp.
7. BOSE amp.
8. Rear woofer
9. TEL antenna
10. Rear view camera
11. TEL adapter unit
12. Satellite radio tuner
13. Rear door speaker RH
14. Satellite radio antenna
15. Front door woofer RH
16. Front door squawker RH
17. Tweeter RH
18. Microphone
19. Sonar control unit
20. Steering switch
21. Steering angle sensor
22. Preset switch
23. USB connector
24. AV control unit
25. Multifunction switch
26. Display unit

A. Within rear pillar finisher LH
B. Lower part of rear parcel shelf (on the left side)
C. Lower part of rear parcel shelf (on the right side)

D. Instrument driver lower panel removed condition
E. Spiral cable removed condition
⇦: Vehicle front

Component Description

INFOID:0000000006210401

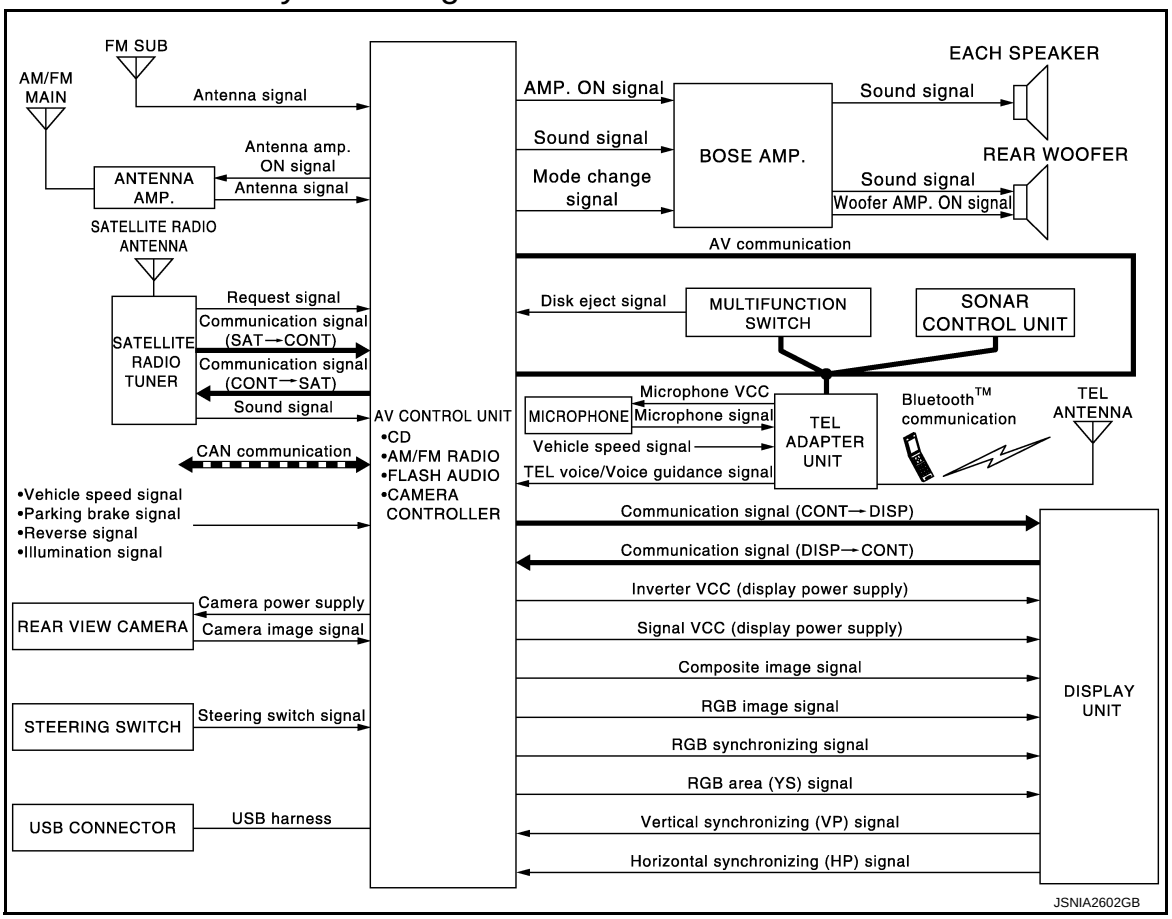
Part name	Description
AV control unit	• Integrates flash memory allowing music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, USB connection and vehicle information functions. • It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function. • It is connected to the steering angle sensor and receives the steering angle sensor signal via CAN communication. • It inputs the illumination signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake). • Amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. • TEL voice signal and voice guidance signal are input from TEL adapter unit.
Display unit	• Display image is controlled by the serial communication from AV control unit. • It receives the power (signal VCC and inverter VCC) from the AV control unit and operates. • RGB image signal is input from AV control unit (RGB image, RGB area and RGB synchronizing). • Composite image signals are input from AV control unit. • Synchronizing signal (HP, VP) is output to AV control unit.
BOSE amp.	• Inputs sound signal from AV control unit, and outputs sound signal to each speaker. • Input mode change signal from AV control unit.
Front door woofer	• Outputs sound signal from BOSE amp. • Outputs low range sound.
Front door squawker	• Outputs sound signal from BOSE amp. • Outputs mid range sound.
Rear door speaker	• Outputs sound signal from BOSE amp. • Outputs high, mid and low range sounds.
Tweeter	• Outputs sound signal from BOSE amp. • Outputs high range sound.
Center speaker	• Outputs sound signal from BOSE amp. • Outputs high, mid and low range sounds.
Rear woofer	• Outputs sound signal from BOSE amp. • Outputs low-pitched sound. • Power (woofer amp. ON signal) is supplied from BOSE amp.
Multifunction switch	• Operation panel is equipped with the centralized switch where audio operations are integrated. • Connected with preset switch via cable, and operation signal is transmitted to AV control unit via AV communication.
Preset switch	• Operation panel is equipped with the centralized switch where audio and air conditioner, etc. operations are integrated. • Connected with multifunction switch via cable, and operation signal is transmitted to AV control unit via AV communication. • The disk ejection operating signal is performed by hardwire.
Rear view camera	• Camera power supply is input from AV control unit. • The image of vehicle rear view is transmitted to AV control unit.
Steering angle sensor	It is connected to the AV control unit and transmits the steering angle sensor signal via CAN communication.

Part name	Description
Sonar control unit	• Controlled by AV communication transmitted from AV control unit. • Trouble diagnosis is supported with CONSULT-III (K-LINE).
Steering switch	• Operations for audio, hands-free phone and voice control, etc. are possible. • Steering switch signal (operation signal) is output to AV control unit.
Microphone	• Used for hands-free phone operation and voice recognition. • Microphone signal is transmitted to AV control unit. • Power (Microphone VCC) is supplied from AV control unit.
Antenna amp.	• Radio signal received by glass antenna is amplified and transmitted to AV control unit. • Power (antenna amp. ON signal) is supplied from AV control unit.
Satellite radio tuner	• Inputs the satellite radio signal from satellite radio antenna and outputs the sound signal to the AV control unit. • It is controlled with the AV control unit and serial communication (communication signal and request signal).
Satellite radio antenna	Satellite radio signal is received and transmitted to AV control unit.
TEL adapter unit	• Inputs the TEL voice signal from TEL antenna and outputs it to the AV control unit. • It is connected with the AV control unit via AV communication and controlled with the AV control unit.
TEL antenna	Receives the TEL voice signal and outputs it to the TEL adapter unit.
USB connector	Image signal*1 and sound signal of USB input is transmitted to AV control unit.

*1: Image signals cannot be received from iPod®.

SYSTEM
MULTI AV SYSTEM
MULTI AV SYSTEM : System Diagram

INFOID:0000000006210402



NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

MULTI AV SYSTEM : System Description

INFOID:0000000006210403

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Audio function
Hands-free phone function
Rear view monitor function
Sonar function
Vehicle information function

COMMUNICATION SIGNAL

- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected by CAN communication, and it receives data signal from ECM, unified meter and A/C amp. It computes and displays fuel economy information value with the obtained information.
- AV control unit is connected with display and serial communication, and it transmits the required signal of display and display control and receives the response signal from display.

AUDIO FUNCTION

The audio system is equipped with the following functions. Each function is operated with multifunction switch, preset switch, steering switch. Operation status of audio is indicated at display.

FUNCTION
AM/FM radio
Satellite radio
CD
Music Box (flash memory)
USB connection function
Driver's Audio Stage

Operating Signal

Audio system operation can be performed with multifunction switch, preset switch or steering switch.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch. The disk ejection operating signal is performed by hardwire.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.

Screen Display

- Switching of display is performed with serial communication between display unit and AV control unit.
- The image signal to display operating condition is performed with RGB image signal, RGB area signal and RGB image synchronizing signal.

AM/FM Radio Mode

- AM/FM radio tuner is built into AV control unit.
- Audio signal is received by glass antenna, next it is amplified by antenna amp, and finally it is input to AV control unit. Audio signal is input to BOSE amp., and BOSE amp. outputs to each speaker.

Satellite Radio Mode

- Satellite radio tuner is controlled by communication signal and request signal with AV control unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit is output the sound signal (satellite radio) to each speaker.

CD Mode

- CD function is built into AV control unit.
- AV control unit outputs audio signal to BOSE amp., and BOSE amp. outputs to each speaker when CD is inserted to AV control unit.

Music Box Mode

- Music CD data is stored on flash memory that is built into AV control unit, and it can be played.
- AV control unit outputs music (sound signal) that is stored on flash memory to BOSE amp., and BOSE amp. outputs to each speaker.

USB Connection Function

- iPod or music files in USB memory can be played.
- iPod sound signals are transmitted from USB connector to the AV control unit and to each speaker.
- iPod® is recharged when connected to USB connector.

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

NOTE:

Use the enclosed USB harness when connecting iPod® to USB connector.

Driver's Audio Stage

- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.
- ON/OFF signals of Driver's Audio Stage are transmitted from AV control unit to BOSE amp. using mode change signal.

HANDS-FREE PHONE SYSTEM

- TEL adapter unit is controlled with AV communication from AV control unit.
- The connection between cellular phone and TEL adapter unit is performed with Bluetooth™ communication.

- The voice guidance signal is input from the TEL adapter unit to the AV control unit and output via BOSE amp. to the front speaker when operating the cellular phone.
- TEL adapter unit has the on board self-diagnosis function. Refer to AV-243, "On Board Diagnosis Function".

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to TEL adapter unit.
- TEL adapter unit outputs to cellular phone with Bluetooth™ communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call

- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to TEL adapter unit by establishing Bluetooth™ communication from cellular phone, and the signal is output via BOSE amp. to front speaker.

REAR VIEW MONITOR FUNCTION

- The AV control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the AV control unit when power is supplied from the AV control unit.
- The AV control unit transmits a warning message, fixed guide lines, and predictive course lines to the display unit by RGB image signal. Rear view monitor images are displayed by combining the RGB image signal and the camera image signals from the rear view camera.
- Predictive course lines are controlled by a steering angle sensor signal received the AV control unit via CAN communication.

SONAR SYSTEM

For further information about the sonar system, refer to SN-7, "System Description".

VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy and maintenance are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM, unified meter and A/C amp.
- AV control unit is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000006210404

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT-III diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function, etc.

On Board Diagnosis Function

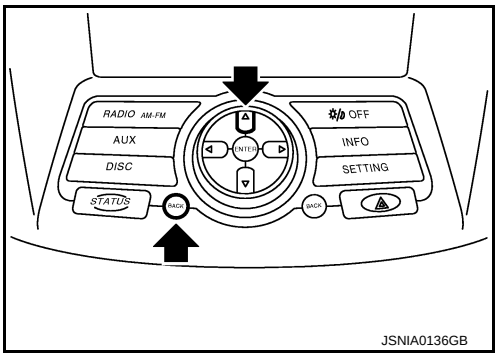
INFOID:0000000006210405

MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 4-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.
  NOTE:
  The hazard switch and disk eject switch cannot be checked.



Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning the ignition switch OFF.

ON BOARD DIAGNOSIS ITEM

Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- Self-diagnosis mode performs the AV control unit diagnosis and the connection diagnosis between each of the units that make up the system, and it indicates the results to the display unit.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

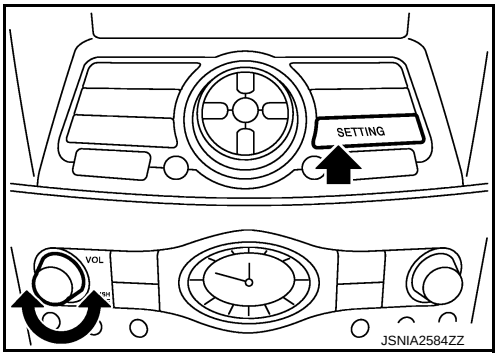
On Board Diagnosis Item

Mode	Description
Self Diagnosis	• AV control unit diagnosis. • Diagnoses the connections across system components, between AV control unit and each unit.

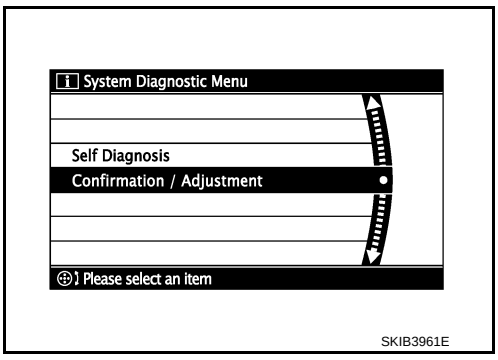
Mode		Description
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition and reverse.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Climate Control	Start auto air conditioner system self-diagnosis.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera Cont.	• Guiding line position that overlaps rear view camera image can be adjusted. • Configuration stored in the AV control unit can be checked.
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Settings	Initializes the AV control unit memory.

METHOD OF STARTING

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   • Shifting from current screen to previous screen is performed by pressing “BACK” button.



4. The trouble diagnosis initial screen is displayed, and then the items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected.

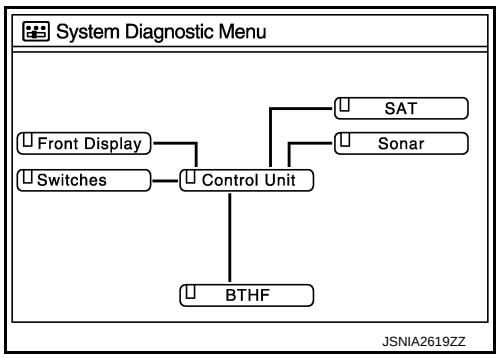


SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select “Self Diagnosis”.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

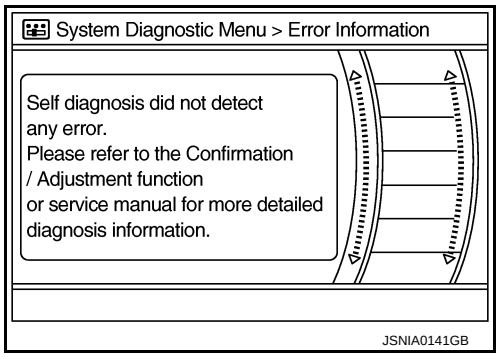
2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.



Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

NOTE:
Control unit (AV control unit) is displayed in red.
- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error. Refer to AV-329, "Exploded View".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



Detection Range of Self-diagnosis Mode
- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between AV control unit and each unit and the internal operation of the AV control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the communication circuit between AV control unit and multifunction switch.

SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

Only Unit Part Is Displayed In Red.

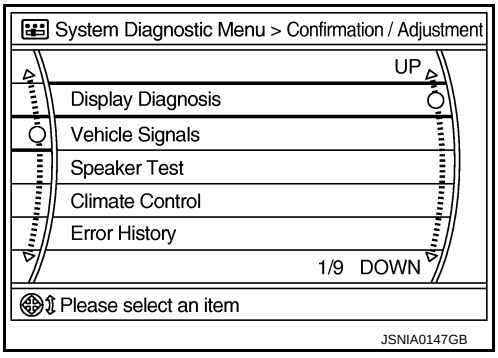
Screen switch	Description	Possible malfunction location / Action to take
Control unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit. Refer to AV-329, "Exploded View".

A Connecting Cable Between Units Is Displayed In Yellow.

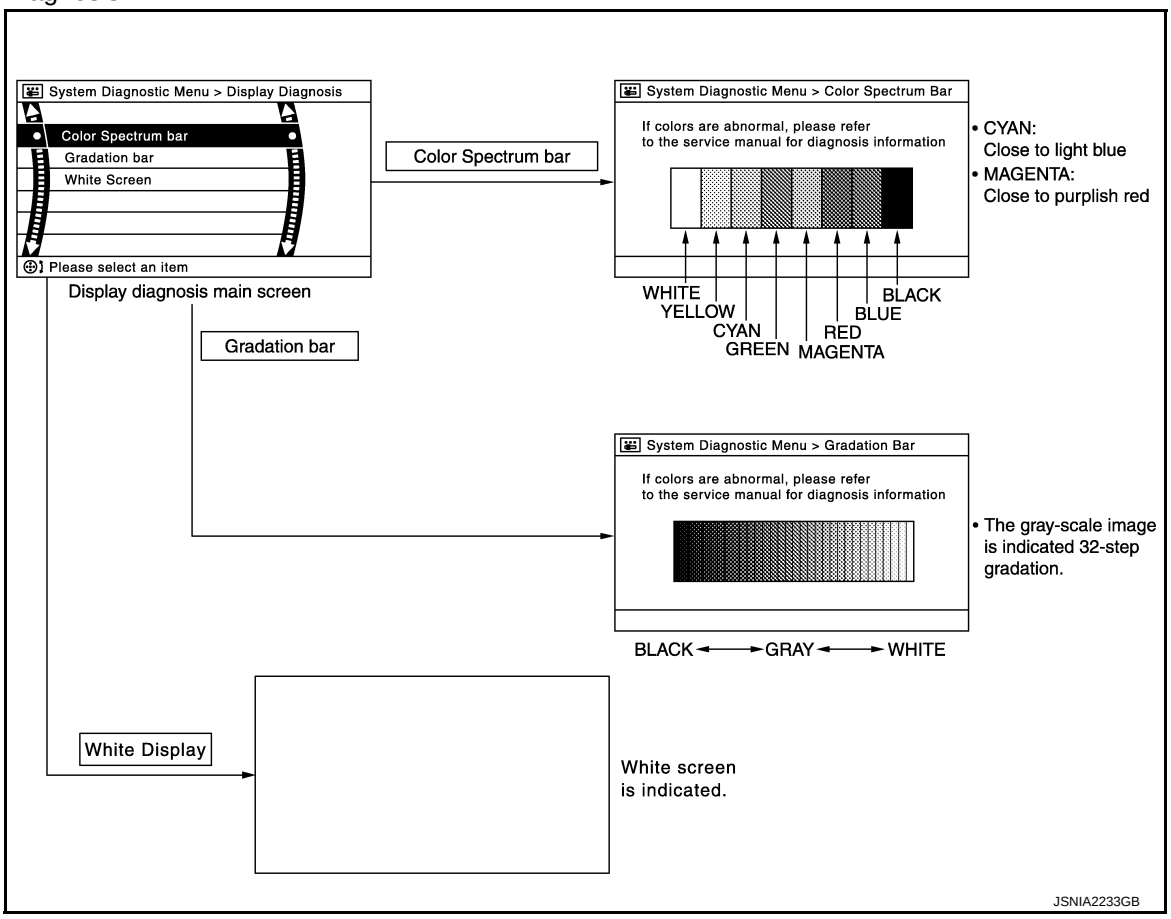
Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ⇔ Front Display	Malfunction is detected in serial communication circuits between AV control unit and display unit.	Serial communication circuits between AV control unit and display unit.
Control unit ⇔ SAT	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
Control unit ⇔ Sonar	When either one of the following items is detected: • sonar control unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and sonar control unit are malfunctioning.	• Sonar control unit power supply and ground circuits. • AV communication circuits between AV control unit and sonar control unit.
Control unit ⇔ BTHF	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the “Confirmation/Adjustment Mode” screen to display the relevant trouble diagnosis screen. Press the “BACK” switch to return to the initial Confirmation/Adjustment Mode screen.

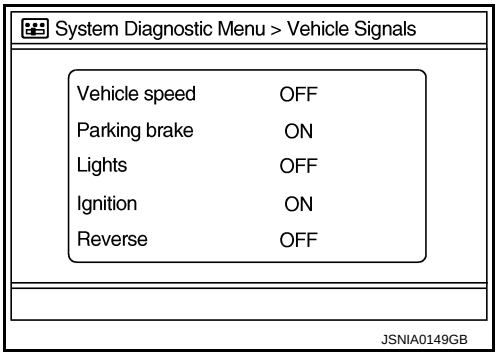


Display Diagnosis



Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.

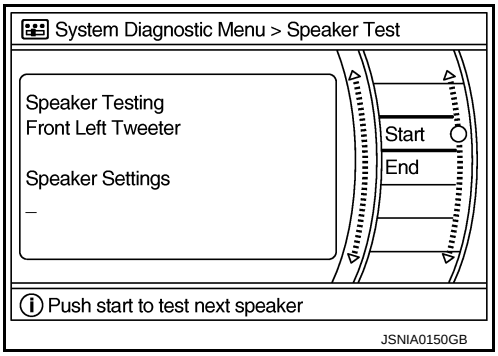


Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	—
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	

Diagnosis item	Display	Vehicle status	Remarks
Reverse	ON	Shift the selector lever to “R” position	Changes in indication may be delayed. This is normal.
	OFF	Shift the selector lever other than “R” position	

Speaker Test

Select “Speaker Test” to display the Speaker Diagnosis screen. Press “Start” to generate a test tone in a speaker. Press “Start” again to generate a test tone in the next speaker. Press “End” to stop the test tones.



Climate Control

Refer to “HEATER & AIR CONDITIONING CONTROL SYSTEM” for details.

Error History

The self-diagnosis results are judged depending on whether any error occurs from when “Self-diagnosis” is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self-diagnosis start. Check the “Error Record” to detect any error that may have occurred before the self-diagnosis start because of this situation.

The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

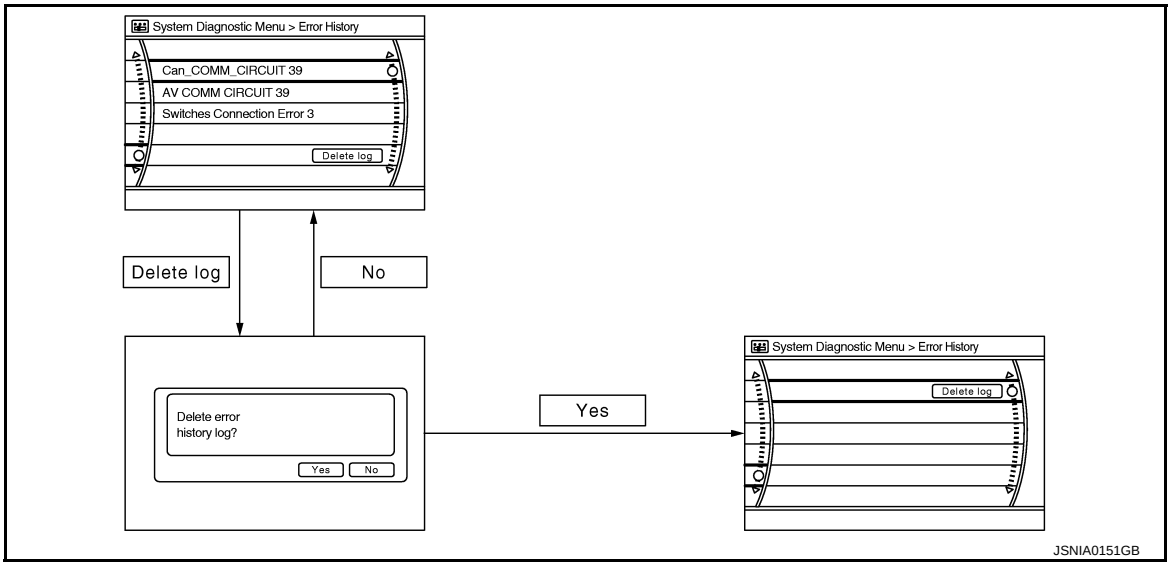
Count up method A

- The counter resets to 0 if an error occurs when ignition switch is turned ON. The counter increases by 1 if the condition is normal at a next ignition ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored.“ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT-III.

Count up method B

- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. “ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT-III.

Display type of occurrence frequency	Error history display item
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV)
Count up method B	Other than the above



Error item

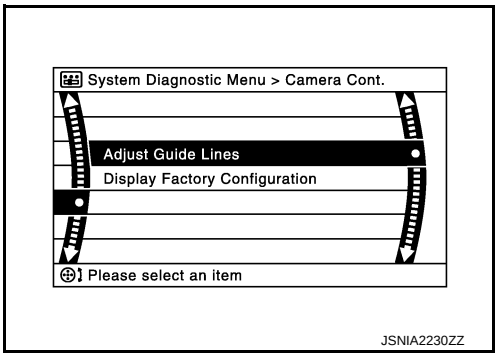
Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-240, "CONSULT - III Function".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-329, "Exploded View".
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
CAN Controller Memory Error		
Steer. Angle Sensor Calibration	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to AV-240, "CONSULT - III Function".
Front Display Connection Error	When either one of the following items is detected: • display unit power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuits. • Communication circuits between AV control unit and display unit.
XM Connection Error	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT • Switches Connection Error	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.

Error item	Description	Possible malfunction factor/Action to take
• AV COMM CIRCUIT • Sonar Connection Error	When either one of the following items are detected: • sonar control unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and sonar control unit are malfunctioning.	• Sonar control unit power supply and ground circuits. • AV communication circuits between AV control unit and sonar control unit.
• AV COMM CIRCUIT • H/F Unit Connection Error	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.
• AV COMM CIRCUIT • Switches Connection Error • Sonar Connection Error • H/F Unit Connection Error	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

Camera Cont.

The two functions of “Correct Draw Line of Rear view Cam”, “Confirm Configuration” are available.

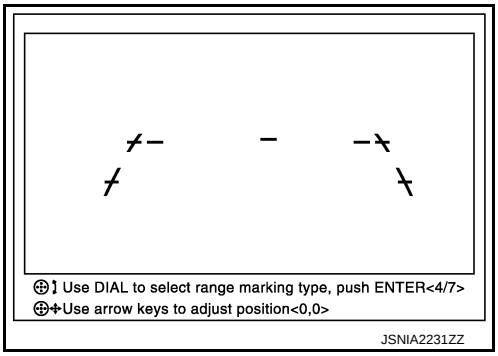


Adjust Offset of Rear view Camera

- Use this mode to adjust the guide line display position of the rear view monitor if necessary after removing the rear view monitor camera.

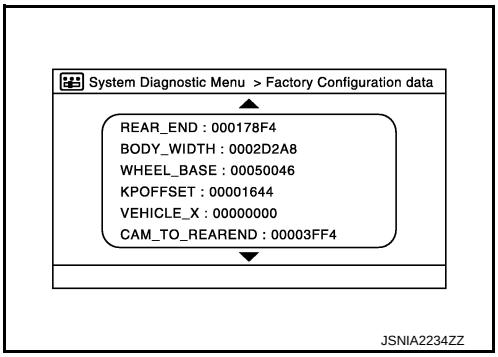
  CAUTION:

  After the adjustment, never perform other operations for one minute.



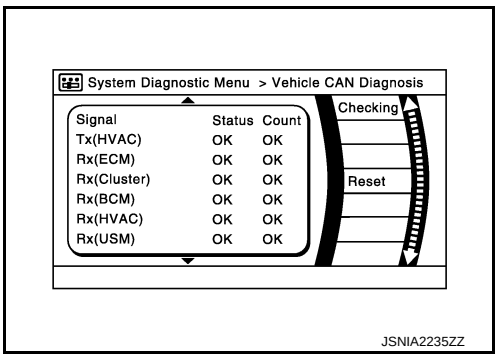
Factory Configuration Confirmation

- Configuration stored in the AV control unit can be checked.



Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

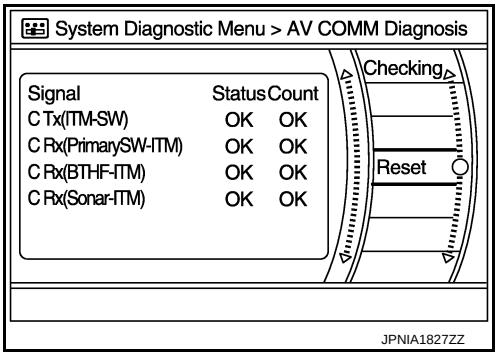


Items	Display (Current)	Malfunction counter (Past)
Tx(HVAC)	OK / ???	OK / 0 – 39
Rx(ECM)	OK / ???	OK / 0 – 39
Rx(Cluster)	OK / ???	OK / 0 – 39
Rx(BCM)	OK / ???	OK / 0 – 39
Rx(HVAC)	OK / ???	OK / 0 – 39
Rx(USM)	OK / ???	OK / 0 – 39
Rx(VDC)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

AV COMM Diagnosis

- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

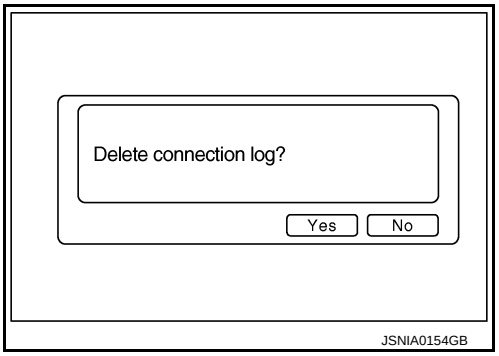


Items	Status (Current)	Counter (Past)
C Tx(ITM-SW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW-ITM)	OK / ???	OK / 0 – 39
C Rx(BTHF-ITM)	OK / ???	OK / 0 – 39
C Rx(Sonar-ITM)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)

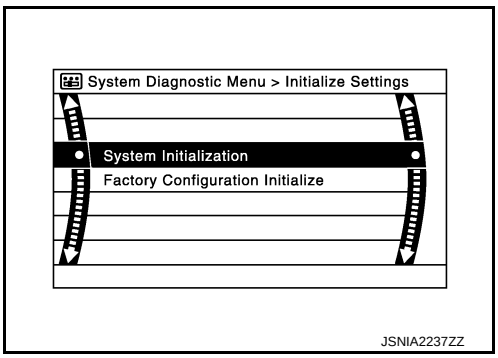


Initialize Settings

“User Data Initialization” and “Accessory Number Initialization” are possible.

CAUTION:

- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to AV-285, "Description".**



CONSULT - III Function

INFOID:0000000006210406

APPLICATION ITEMS

CONSULT-III performs the following functions via the communication with the AV control unit.

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing AV control unit.

AV Communication

When “AV communication” of “CAN Diag Support Monitor” is selected, the following function will be performed.

AV communication	AV&NAVI C/U	Displays the communication status from AV control unit to each unit as well as the error counter.
	AUDIO	Displays the AV control unit communication status and the error counter.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSIS RESULT

- In CONSULT-III self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- The timing is displayed as “0” if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis Results Display Item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to AV-287, "Diagnosis Procedure".
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-329, "Exploded View".
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
CAN CONT [U1216]		
ST ANGLE SEN CALIB [U1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement".

Error item	Description	Possible malfunction factor/Action to take
FRONT DISP CONN [U1243]	When either one of the following items is detected: • display unit power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuits. • Communication circuits between AV control unit and display unit.
SAT CONN [U1255]	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
• AV COMM CIRCUIT [U1300] • SONAR CONN [U125C]	When either one of the following items are detected: • sonar control unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and sonar control unit are malfunctioning.	• Sonar control unit power supply and ground circuits. • AV communication circuits between AV control unit and sonar control unit.
• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • SONAR CONN [U125C] • HAND FREE CONN [U1256]	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch.	AV communication circuits between AV control unit and multifunction switch.

DATA MONITOR

ALL SIGNALS

- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed = 0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	

Display Item	Display	Vehicle status	Remarks
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light SW is ON.	—
	Off	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	On	Ignition switch ON	
	Off	Ignition switch in ACC position	
REV SIG	On	Selector lever in R position	Changes in indication may be delayed. This is normal.
	Off	Selector lever in any position other than R	

SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

Item to be selected	Description
VHCL SPD SIG	The same as when “ALL SIGNALS” is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	

WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

CAUTION:

For vehicles with VDC, adjust the steering angle sensor neutral position on the ABS actuator control unit side.

Item	Description
ST ANGLE SENSOR ADJUSTMENT	Adjusts the neutral position of the steering angle sensor.

CONFIGURATION

Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

On Board Diagnosis Function

INFOID:0000000006210407

HANDS-FREE PHONE SYSTEM ON BOARD DIAGNOSIS

During on board diagnosis the diagnosis function of TEL adapter unit starts with the operation of the steering switch and performs the diagnosis when ignition switch ACC.

ON BOARD DIAGNOSIS ITEM

The on board diagnosis has 3 modes: the self-diagnosis mode that performs the trouble diagnosis, the speaker adaptation data deleting mode and the hands-free phone system initialization mode.

CAUTION:

- **Perform the diagnosis with the vehicle stopped.**
- **Perform STEP2 if necessary.**

STEP	MODE	Description
STEP1	Self-diagnosis	The self-diagnosis mode performs the microphone test and the diagnosis of TEL adapter unit, TEL antenna and steering unit, and then reads out the results with the sound and indicates them on the display.
STEP2	Speaker adaptation data deleting	The speaker adaptation data deleting mode can delete the speaker adaptation data.
	Hands-free phone system initialization	Hands-free phone system initialization mode can perform the initialization of hands-free phone system.

Self-diagnosis results

Self-diagnosis mode reads out the self-diagnosis results.

NOTE:

- Error count is read out simultaneously when reading out the DTC name.
- The errors are read out continuously when some errors occur at the same time.

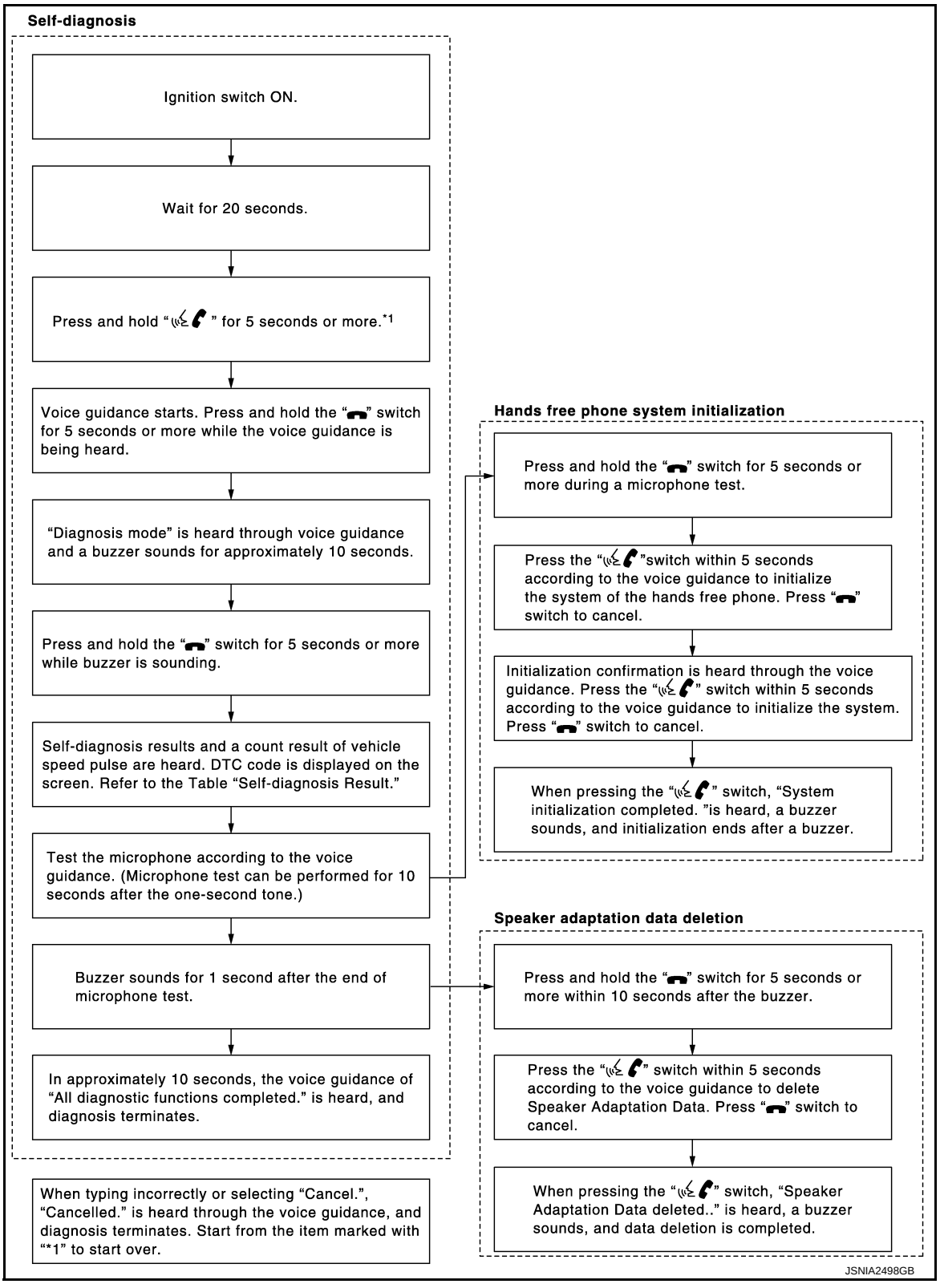
Self-diagnosis results

DTC	DTC name	Possible causes
DTC 10000	INTERNAL FAILURE	TEL adapter unit
DTC 01000	ANT. SHORT TO BATT OR OPEN	TEL antenna
DTC 00100	ANT. SHORT TO GROUND	
DTC 00010	STEERING REMOTE BUTTON STUCK A	Steering switch
DTC 00001	STEERING REMOTE BUTTON STUCK B	
DTC 00000	THERE ARE NO FAILURE RECORDS TO REPORT	—

The Details of Error Count

The error count guides “0” when the error occurs. The next time it counts up “1” if it is normal with the ignition switch ON. It continues the count up unless the initialization of hands-free phone system is performed.

FLOW CHART OF TROUBLE DIAGNOSIS



ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

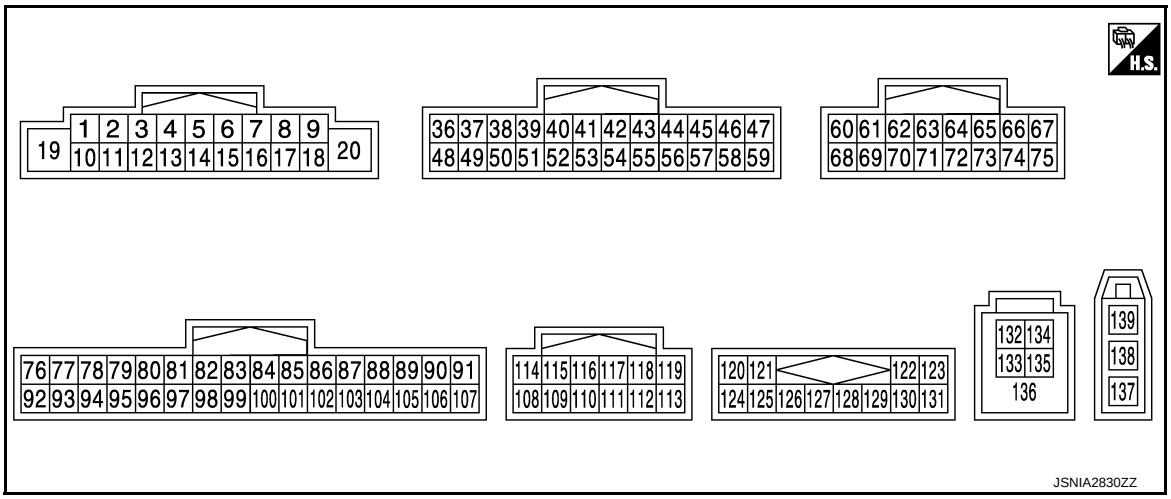
INFOID:0000000006210408

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

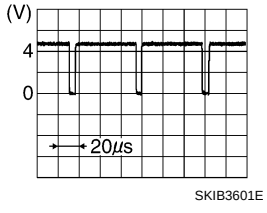
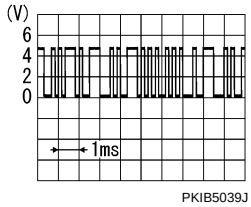
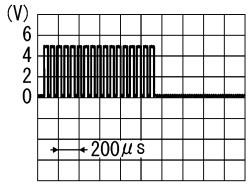
Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Light switch ON	On
		Light switch OFF	Off
IGN SIG	Ignition switch ON	—	On
	Ignition switch ACC	—	Off
REV SIG	Ignition switch ON	Selector lever in R position	On
		Selector lever in any position other than R	Off

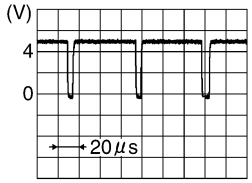
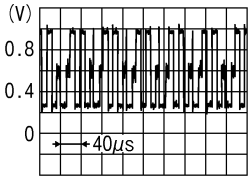
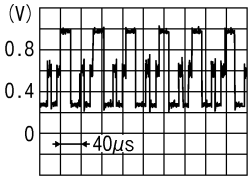
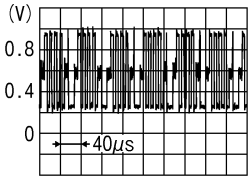
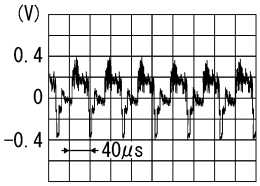
TERMINAL LAYOUT

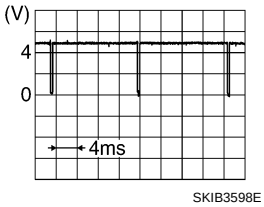
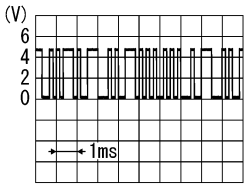
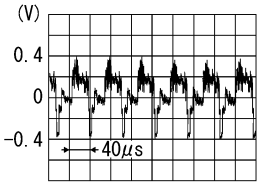


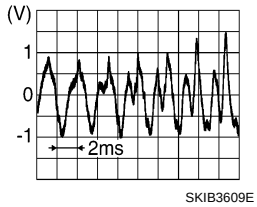
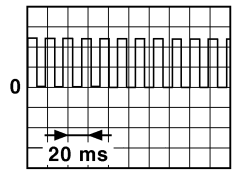
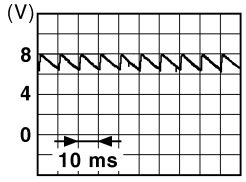
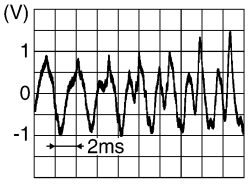
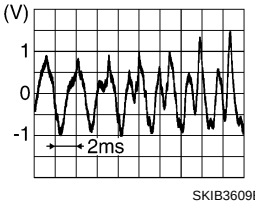
PHYSICAL VALUES

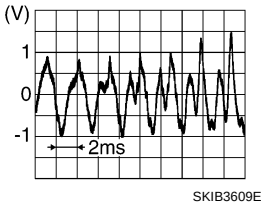
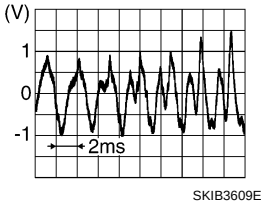
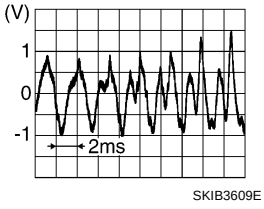
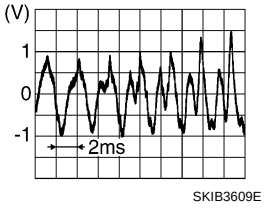
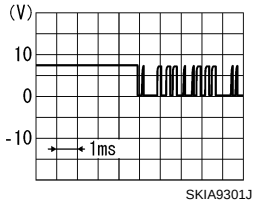
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	0.7 V
					Keep pressing MENU DOWN switch.	1.3 V
					Keep pressing switch	2.0 V
					Except for above.	3.3 V

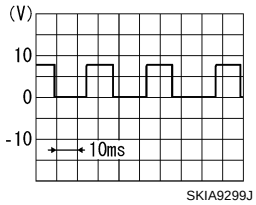
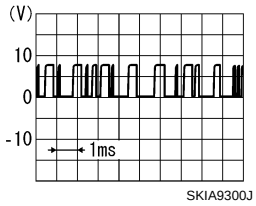
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
9 (L)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	0.7 V
					Keep pressing switch.	1.3 V
					Except for above.	3.3 V
18 (G)	Ground	Ground	—	Ignition switch ON	—	0 V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
36 (BG)	Ground	Signal VCC	Output	Ignition switch ACC	—	9.0 V
37 (LG)	Ground	Signal ground	—	Ignition switch OFF	—	0 V
38 (R)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	 SKIB3601E
39 (L)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
40 (B)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At RGB image is displayed.	5.0 V
					At DVD image is displayed.	 PKIB4948J
41	—	Shield	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
42 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—	 SKIB3603E
43 (G)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1029ZZ
44 (L)	Ground	RGB signal (G: green)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1030ZZ
45 (P)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1031ZZ
46 (Y)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
47 (BR)	Ground	Composite image signal	Output	Ignition switch ON	At rear view camera image is displayed.	 SKIB2251J
48 (Y)	Ground	Inverter VCC	Output	Ignition switch ACC	—	9.0 V
49 (BR)	Ground	Inverter ground	—	Ignition switch OFF	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
50 (G)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	 SKIB3598E
51 (LG)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
52	—	Shield	—	—	—	—
57	—	Shield	—	—	—	—
58	—	Shield	—	—	—	—
62 (W)	Ground	Camera image signal	Input	Ignition switch ON	At rear view camera image is displayed.	 SKIB2251J
71	—	Shield	—	—	—	—
72 (W)	Ground	Camera ground	—	Ignition switch ON	—	0 V
73 (R)	Ground	Camera power supply	Output	Ignition switch ON	At rear view camera image is displayed.	6.0 V
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
77 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
78 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
79 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
80 (P)	—	CAN–L	Input/ Output	—	—	—
81 (L)	—	CAN–H	Input/ Output	—	—	—
82 (BR)	Ground	Switch ground	—	Ignition switch ON	—	0 V
86	—	Shield	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
87 (L)	88 (P)	TEL voice signal	Input	Ignition switch ON	During voice guide output with the switch pressed.	 SKIB3609E
92 (R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
93 (SB)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	0 V
					Parking brake is OFF.	 JSNIA0007GB
94 (BG)	Ground	Reverse signal	Input	Ignition switch ON	R position	12.0 V
					Other than R position	0 V
95 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
96 (V)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	3.3 V
108 (BR)	114 (Y)	Sound signal rear RH	Output	Ignition switch ON	Sound output	 SKIB3609E
109 (R)	115 (G)	Sound signal front RH	Output	Ignition switch ON	Sound output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
110 (GR)	Ground	Amp. ON signal	Output	Ignition switch ON	—	10.0 V
111 (B)	—	Shield	—	—	—	—
112 (V)	118 (LG)	Sound signal rear LH	Output	Ignition switch ON	Sound output	 SKIB3609E
113 (O)	119 (W)	Sound signal front LH	Output	Ignition switch ON	Sound output	 SKIB3609E
120 (B)	124 (W)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E
121 (G)	125 (R)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E
122 (L)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected.	 SKIA9301J
126	—	Shield	—	—	—	—
127	—	Shield	—	—	—	—
128 (SB)	Ground	Mode change signal	Output	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
129 (P)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIA9299J
130 (G)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIA9300J
132 (G)	—	USB ground	—	—	—	—
133 (R)	—	USB D– signal	—	—	—	—
134 (W)	—	V BUS signal	—	—	—	—
135 (L)	—	USB D+ signal	—	—	—	—
136	—	Shield	—	—	—	—
137	—	FM sub	Input	—	—	—
138	—	AM-FM MAIN	Input	—	—	—
139	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	12.0 V

DTC Index

INFOID:0000000006210409

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-287, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [1010]	AV-288, "DTC Logic"
U1200	Cont Unit [U1200]	AV-289, "DTC Logic"
U1216	CAN CONT [U1216]	AV-290, "DTC Logic"
U1232	ST ANGLE SEN CALIB [1232]	AV-291, "Diagnosis Procedure"
U1243	FRONT DISP CONN [U1243]	AV-292, "Diagnosis Procedure"
U1255	SAT CONN [U1255]	AV-294, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-297, "DTC Logic"
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	AV-296, "Description"
U1300 U125C	• AV COMM CIRCUIT [U1300] • SONAR CONN [U125C]	AV-296, "Description"

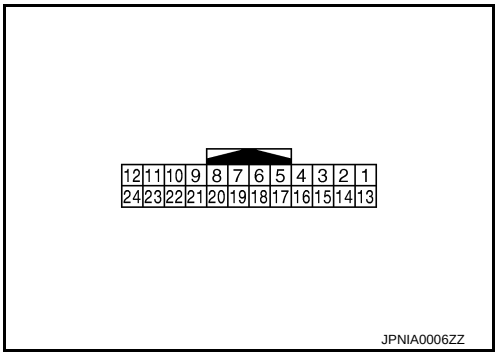
DTC	Display item	Refer to
U1300 U1256	• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	AV-296, "Description"
U1300 U1240 U125C U1256	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • SONAR CONN [U125C] • HAND FREE CONN [U1256]	AV-296, "Description"

DISPLAY UNIT

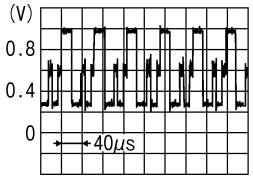
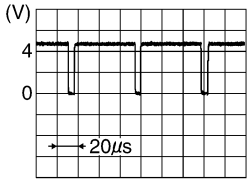
Reference Value

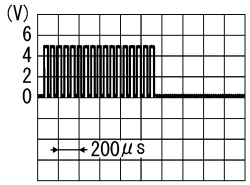
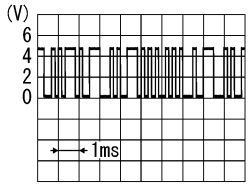
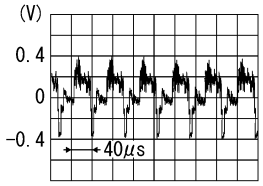
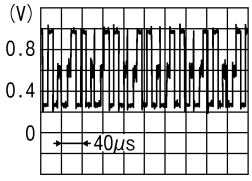
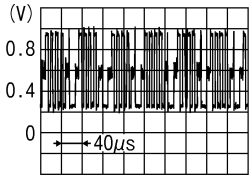
INFOID:0000000006210410

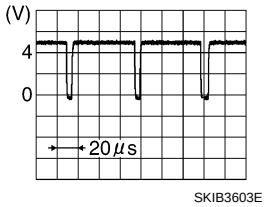
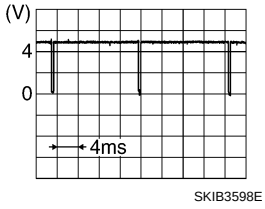
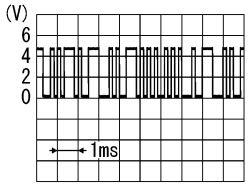
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (Y)	Ground	Inverter VCC	Input	Ignition switch ACC	—	9.0 V
3 (BG)	Ground	Signal VCC	Input	Ignition switch ACC	—	9.0 V
4 (Y)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
5	—	Shield	—	—	—	—
6 (L)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1030ZZ
7	—	Shield	—	—	—	—
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	 SKIB3601E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
9 (B)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed.	5.0 V
					At DVD image is displayed.	 PKIB4948J
11 (LG)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
13 (BR)	Ground	Inverter ground	—	Ignition switch ON	—	0 V
14 (LG)	Ground	Signal ground	—	Ignition switch ON	—	0 V
15 (BR)	Ground	Composite image signal	Input	Ignition switch ON	At rear view camera image is displayed.	 SKIB2251J
17 (G)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1029ZZ
18 (P)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	 JSNIA1031ZZ

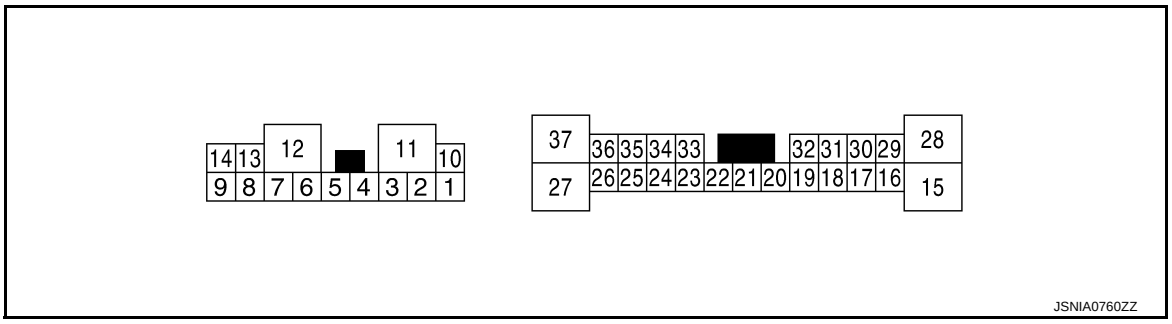
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON	—	 SKIB3603E
20 (G)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On	—	 SKIB3598E
21	—	Shield	—	—	—	—
22 (L)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
23	—	Shield	—	—	—	—

BOSE AMP.

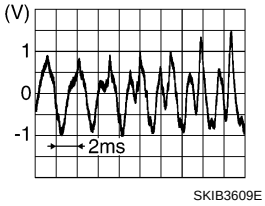
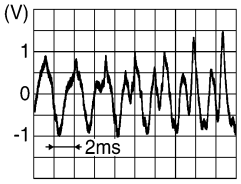
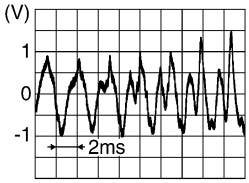
Reference Value

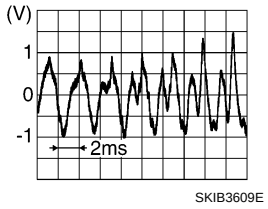
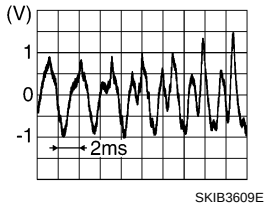
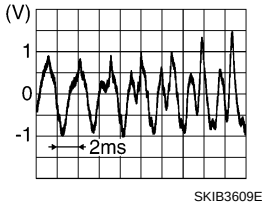
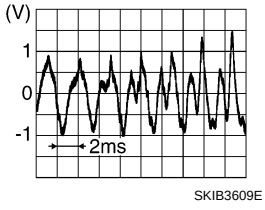
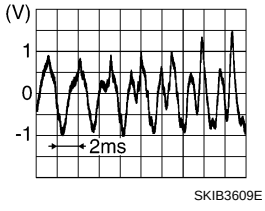
INFOID:0000000006210411

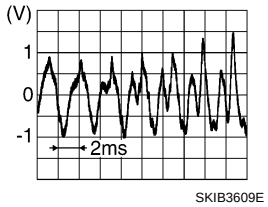
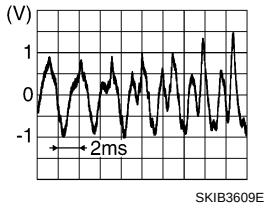
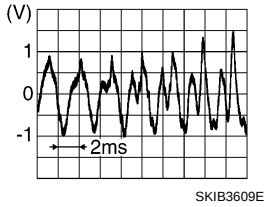
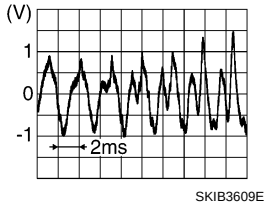
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (L)	2 (W)	Sound signal front LH	Output	Ignition switch ON	Sound output	 SKIB3609E
4 (V)	3 (LG)	Sound signal front RH	Output	Ignition switch ON	Sound output	 SKIB3609E
5 (G)	6 (R)	Sound signal door woofer RH	Output	Ignition switch ON	Sound output	 SKIB3609E
7 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
10 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
11 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
14 (B)	9 (W)	Sound signal front door woofer LH	Output	Ignition switch ON	Sound output	 SKIB3609E
16 (SB)	17 (V)	Sound signal woofer	Output	Ignition switch ON	Sound output	 SKIB3609E
18 (L)	19 (P)	Sound signal rear door speaker LH	Output	Ignition switch ON	Sound output	 SKIB3609E
20 (W)	Ground	Amp. ON signal	Input	Ignition switch ACC	—	10.0 V
21	—	Shield	—	—	—	—
22 (GR)	Ground	Woofer Amp. ON signal	Output	Ignition switch ACC	—	10.0 V
24 (V)	23 (SB)	Sound signal rear LH	Input	Ignition switch ON	Sound output	 SKIB3609E
26 (BR)	25 (Y)	Sound signal rear RH	Input	Ignition switch ON	Sound output	 SKIB3609E

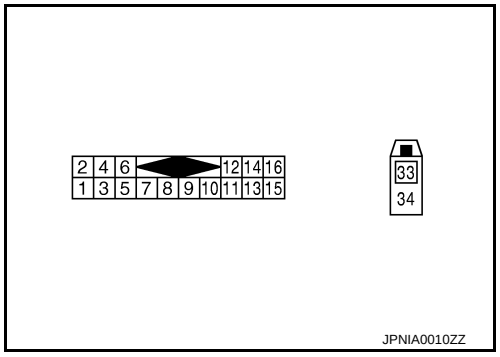
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
29 (L)	30 (BG)	Sound signal center speaker	Output	Ignition switch ON	Sound output	 SKIB3609E
31 (LG)	32 (Y)	Sound signal rear door speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
33 (R)	34 (G)	Sound signal front RH	Input	Ignition switch ON	Sound output	 SKIB3609E
35 (P)	36 (L)	Sound signal front LH	Input	Ignition switch ON	Sound output	 SKIB3609E
37 (SB)	Ground	Mode change signal	Input	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V

SATELLITE RADIO TUNER

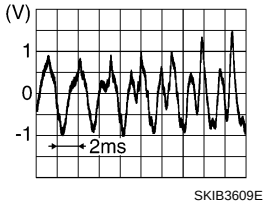
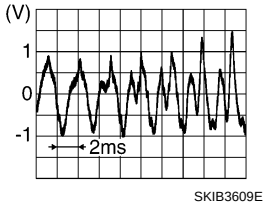
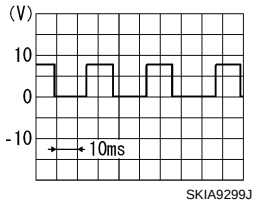
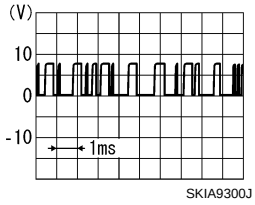
Reference Value

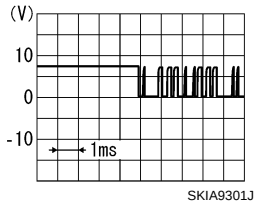
INFOID:0000000006210412

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (R)	1 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E
4 (B)	3 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
5	—	Shield	—	—	—	—
6	—	Shield	—	—	—	—
8 (G)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9299J
9 (L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	 SKIA9300J

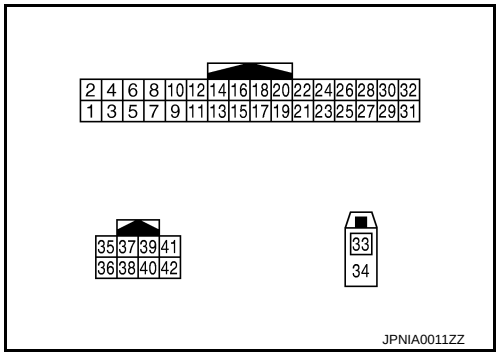
Terminal		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
10 (P)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	 SKIA9301J
12 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
16 (BG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
33	—	Satellite antenna	Input	—	—	—
34	—	Shield	—	—	—	—

TEL ADAPTER UNIT

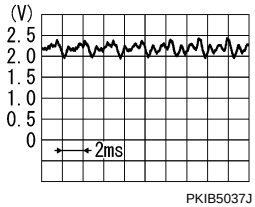
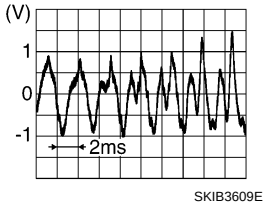
Reference Value

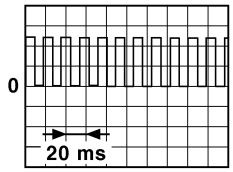
INFOID:0000000006210413

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
2 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
3 (BG)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
4 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
5	—	Shield	—	—	—	—
7 (R)	8	Microphone signal	Input	Ignition switch ON	Give a voice	
9 (Y)	10 (G)	TEL voice signal	Output	Ignition switch ON	During voice guide output with the switch pressed	
23 (B)	Ground	Control signal	Input	Ignition switch ON	—	0 V
24 (B)	Ground	Control signal	Input	Ignition switch ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
28 (W)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
29 (G)	8	Microphone VCC	Output	Ignition switch ON	—	5.0 V
33	—	TEL antenna	Input	—	—	—
34	—	Shield	—	—	—	—
35 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
36 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—

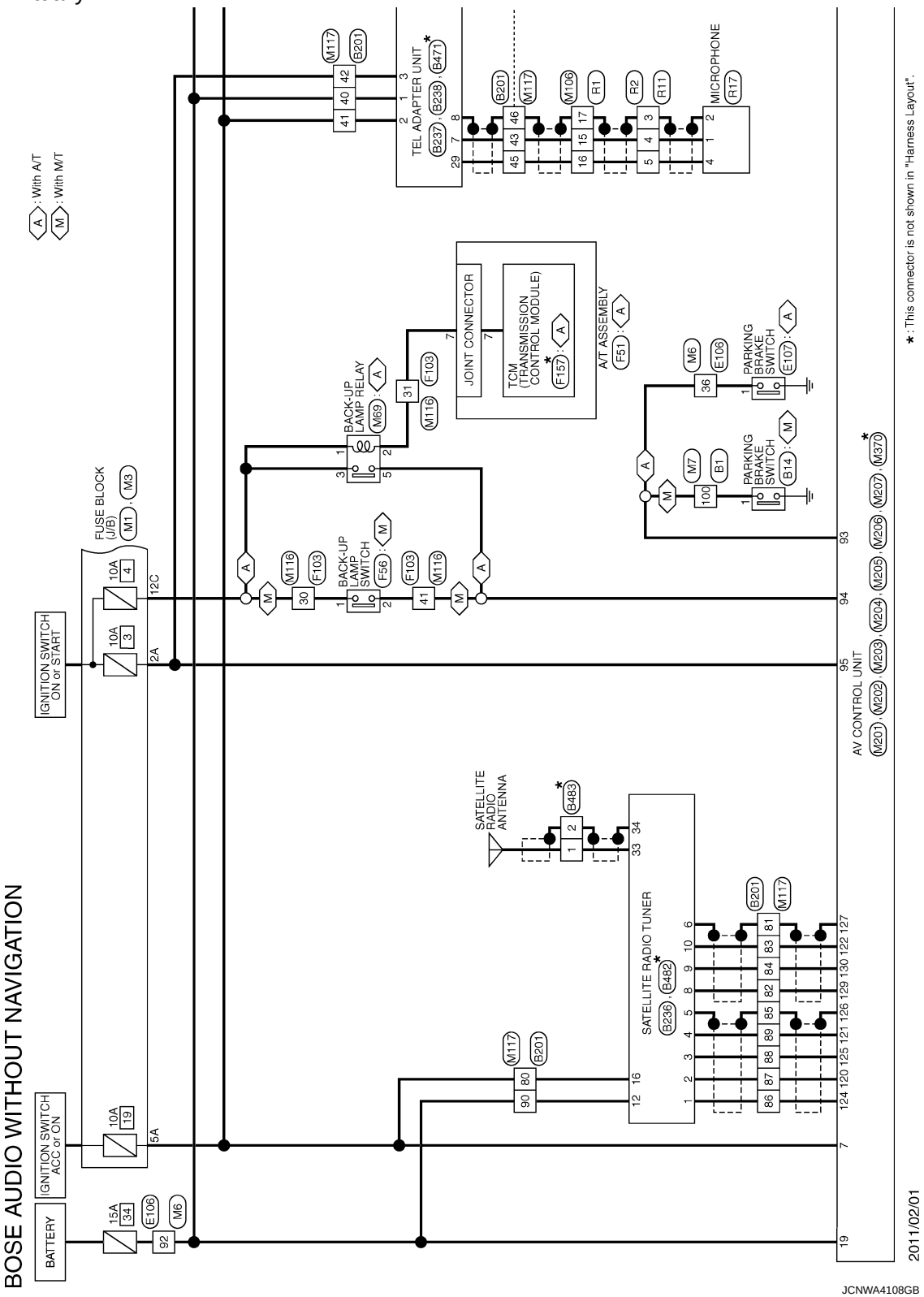
WIRING DIAGRAM

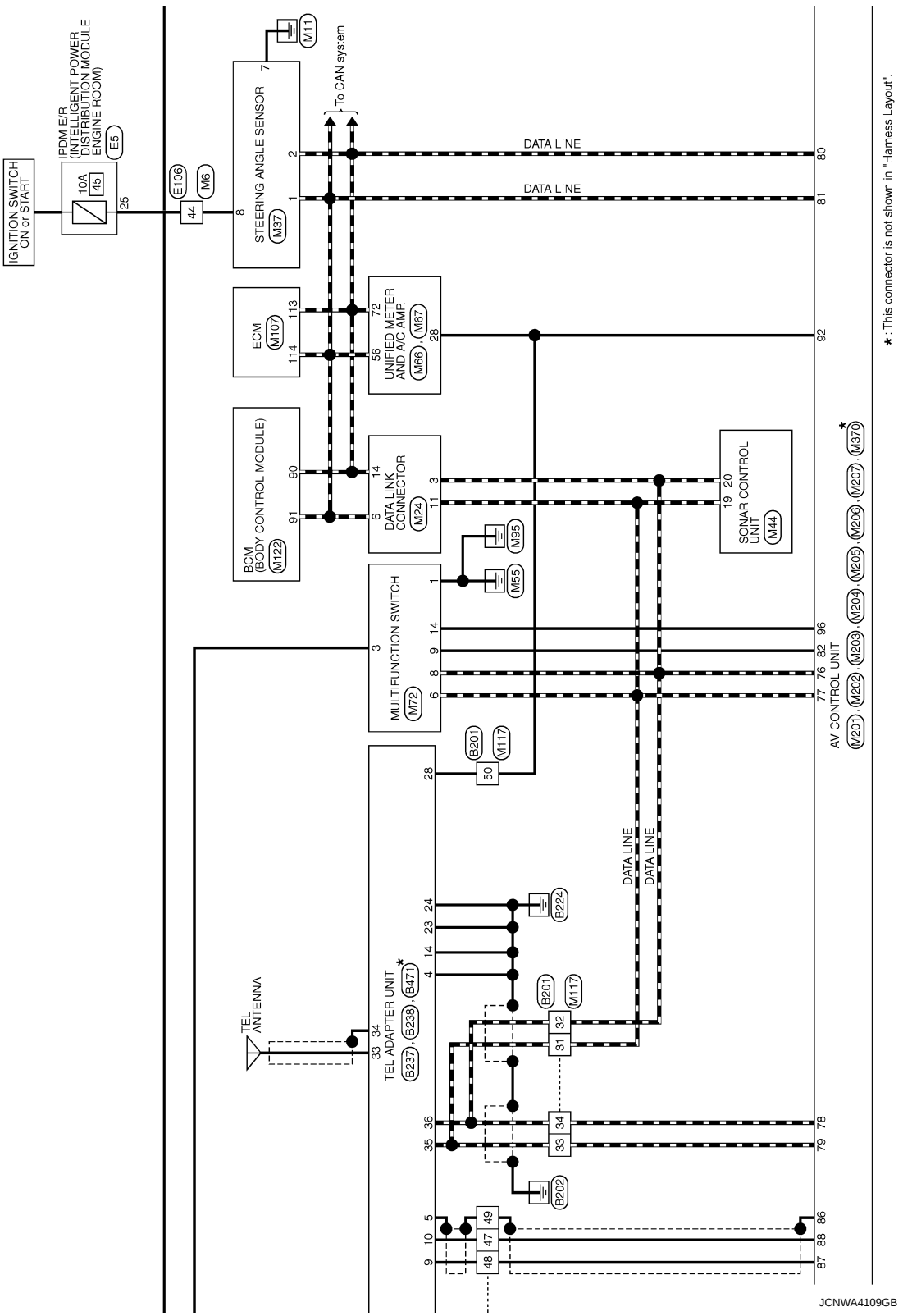
BOSE AUDIO WITHOUT NAVIGATION

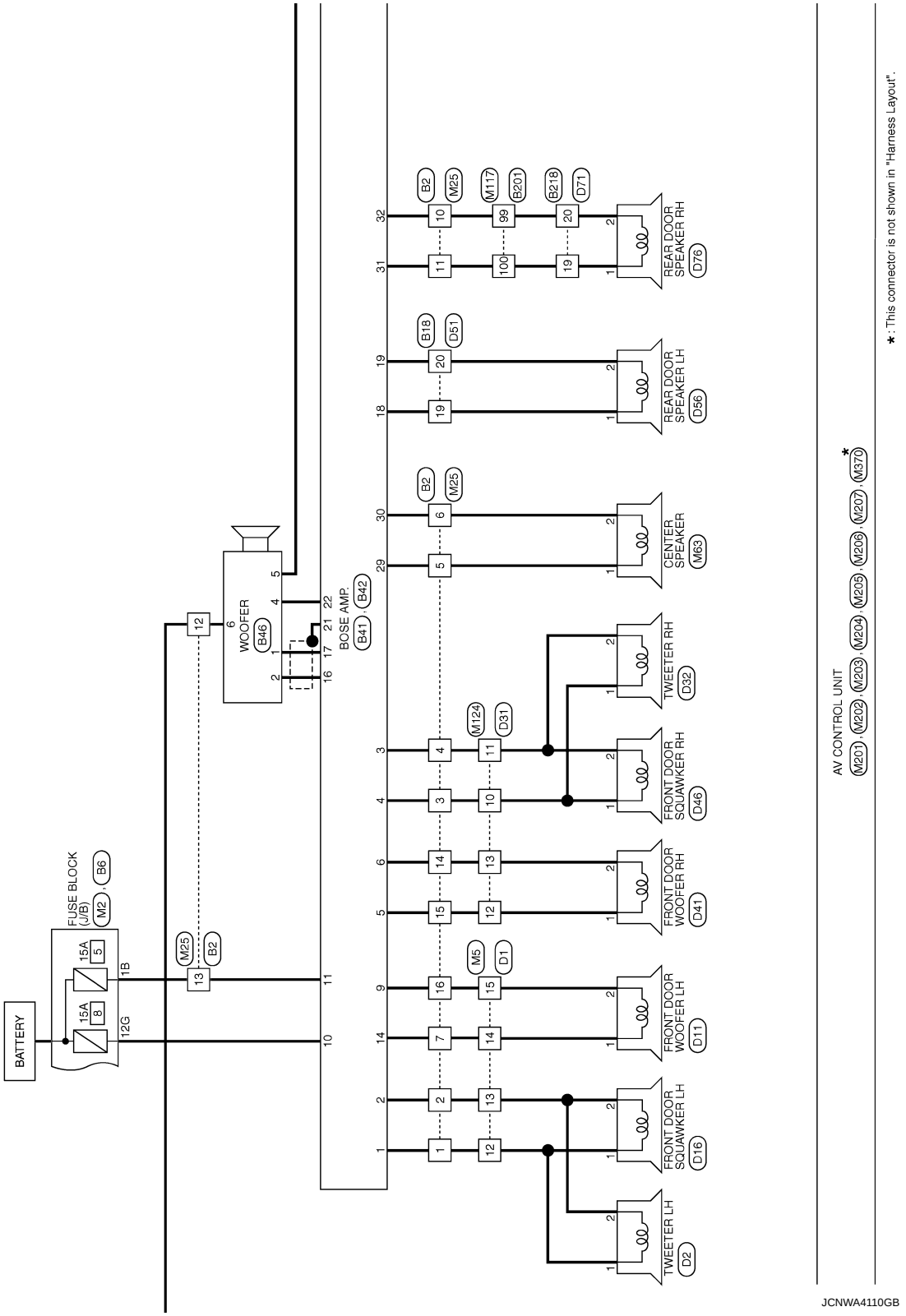
Wiring Diagram

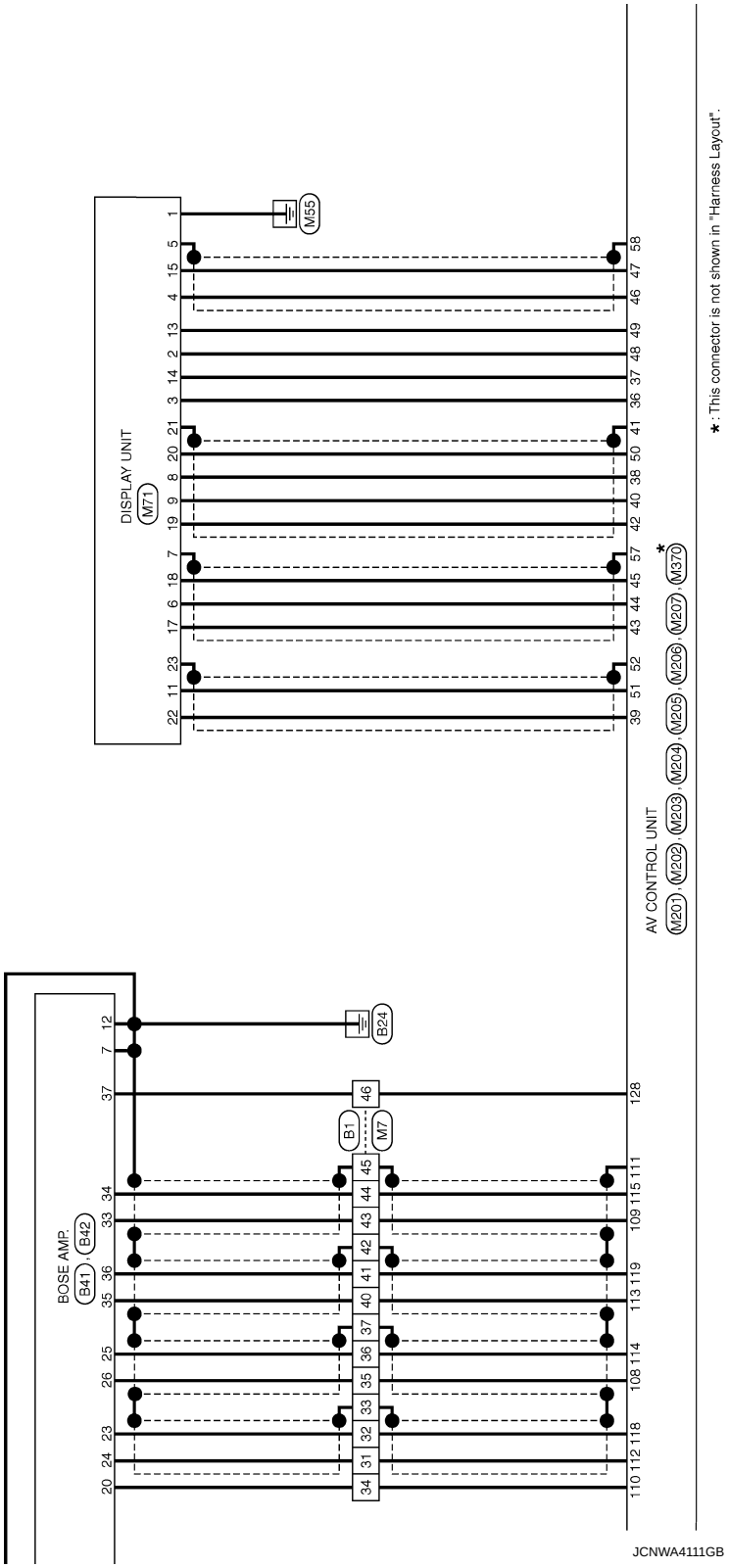
INFOID:0000000006210414

NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

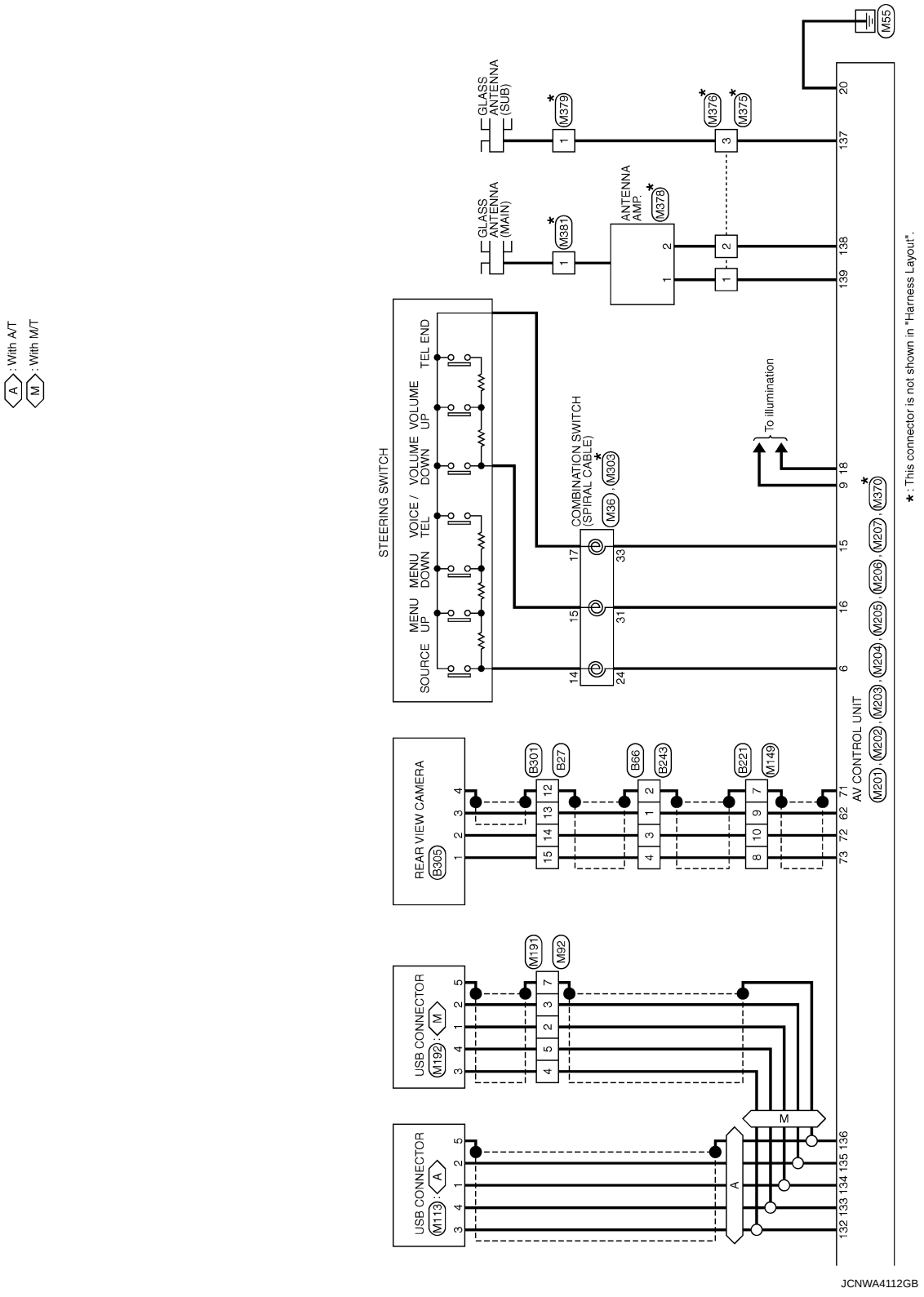



IGNITION SWITCH ON or START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E5
10A 45
25
E106
44
M6
8
STEERING ANGLE SENSOR
M37
7
M11
To CAN system
2
1
DATA LINE
DATA LINE
80
81
ECM
M107
113
114
UNIFIED METER AND A/C AMP
M66
M67
72
56
28
92
BCM (BODY CONTROL MODULE)
M122
90
91
DATA LINK CONNECTOR
M24
14
6
3
11
SONAR CONTROL UNIT
M44
19
20
M95
M55
MULTIFUNCTION SWITCH
M72
3
1
14
9
8
6
96
82
76
77
AV CONTROL UNIT
M201, M202, M203, M204, M205, M206, M207, M370*
B201
M117
50
28
DATA LINE
DATA LINE
B224
24
23
14
4
TEL ANTENNA
TEL ADAPTER UNIT*
B237, B238, B471
33
34
B201
M117
32
31
36
35
34
33
78
79
B202
5
10
9
49
47
48
86
88
87
JCNWA4109GB
*: This connector is not shown in "Harness Layout".


BATTERY
FUSE BLOCK (J/B) M2, B6
15A 5
15A 8
1B
12G
M25
B2
13
12
WOOFER B46
BOSE AMP. B42, B41
FRONT DOOR SQUAWKER LH D16
FRONT DOOR WOOFER LH D11
FRONT DOOR WOOFER RH D41
FRONT DOOR SQUAWKER RH D46
TWEETER LH D2
TWEETER RH D32
CENTER SPEAKER M63
REAR DOOR SPEAKER LH D56
REAR DOOR SPEAKER RH D76
M5
D1
M124
D31
M117
B201
B218
D71
B18
D51
AV CONTROL UNIT
M201, M202, M203, M204, M205, M206, M207, M370*
*: This connector is not shown in "Harness Layout".
JCNWA4110GB



*: This connector is not shown in "Harness Layout".


A : With A/T
M : With M/T
M55
GLASS ANTENNA (SUB)
M379
M376
M375
GLASS ANTENNA (MAIN)
M381
ANTENNA AMP.
M378
STEERING SWITCH
TEL END
VOLUME UP
VOLUME DOWN
VOICE / TEL
MENU DOWN
MENU UP
SOURCE
COMBINATION SWITCH (SPIRAL CABLE)
M303
M36
To illumination
REAR VIEW CAMERA
B305
B301
B27
B66
B243
B221
M149
AV CONTROL UNIT
M201, M202, M203, M204, M205, M206, M207, M370
USB CONNECTOR
M192
M191
M92
USB CONNECTOR
M113
★: This connector is not shown in "Harness Layout".
JCNWA4112GB

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

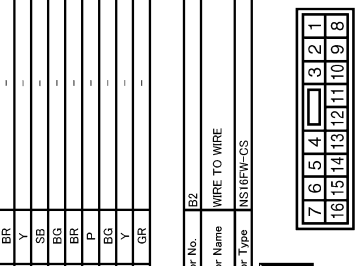
H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
2	BG	–
3	L	–
4	Y	–
6	R	–
7	P	–
8	W	–
9	LG	– [With rear anti-pinch system]
9	GR	– [Without rear anti-pinch system]
15	Y	–
16	BR	–
17	LG	–
18	BG	–
20	L	–
21	P	–
22	L	–
23	P	–
24	V	–
25	SB	–
26	G	–
27	W	–
28	R	–
31	V	–
32	SB	–
33	SHIELD	–
34	W	–
35	BR	–
36	Y	–
37	SHIELD	–
38	Y	–
39	SB	–
40	P	–
41	L	–
42	SHIELD	–
43	R	–
44	G	–
45	SHIELD	–
46	SB	–

55	BR	–
56	R	–
58	V	–
59	SB	–
60	BR	–
61	W	–
62	R	–
63	L	–
64	Y	–
65	SHIELD	–
71	BG	–
72	GR	–
73	P	–
74	L	–
81	V	–
82	B	–
84	Y	–
85	G	–
86	W	–
87	R	–
88	BR	–
89	Y	–
90	SB	–
91	BG	–
92	BR	–
93	P	–
95	BG	–
96	Y	–
100	GR	–

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–
3	V	–
4	LG	–
5	L	–
6	BG	–
7	B	–

10	Y	–
11	LG	–
12	P	–
13	GR	–
14	R	–
15	G	–
16	W	–

Connector No.	B6
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FBR-CS

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
5G	LG	–
10G	W	–
11G	W	–
12G	Y	–

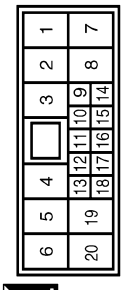
Connector No.	B14
Connector Name	PARKING BRAKE SWITCH
Connector Type	P01FB-A

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	P	–
2	LG	– [With rear anti-pinch system]
2	GR	– [Without rear anti-pinch system]
3	W	–
5	G	–
6	V	–
7	B	–
19	L	– [With BOSE system]
19	SB	– [Without BOSE system]
20	P	– [With BOSE system]
20	Y	– [Without BOSE system]

Connector No.	B27
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
2	BG	–
3	B	–
4	Y	–
5	B	–
6	W	–
11	G	–
12	SHIELD	–
13	B	–
14	W	–
15	R	–

JCNWM5252GB

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	B41
Connector Name	BOSE AMP.
Connector Type	SCA19FBR-SGA4

H.S.

37	36	35	34	33		32	31	30	29
	26	25	24	23	22	21	20	19	18	17	16
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Terminal No.	Color of Wire	Signal Name [Specification]
16	SB	SOUND SIGNAL WOOFER (+)
17	V	SOUND SIGNAL WOOFER (–)
18	L	SOUND SIGNAL REAR DOOR LH (+)
19	P	SOUND SIGNAL REAR DOOR LH (–)
20	W	AMP. ON SIGNAL
21	SHIELD	SHIELD
22	GR	WOOFER AMP. ON SIGNAL
23	SB	SOUND SIGNAL REAR LH (–)
24	V	SOUND SIGNAL REAR LH (+)
25	Y	SOUND SIGNAL REAR RH (–)
26	BR	SOUND SIGNAL REAR RH (+)
29	L	SOUND SIGNAL CENTER (+)
30	BG	SOUND SIGNAL CENTER (–)
31	LG	SOUND SIGNAL REAR DOOR RH (+)
32	Y	SOUND SIGNAL REAR DOOR RH (–)
33	R	SOUND SIGNAL FRONT RH (+)
34	G	SOUND SIGNAL FRONT RH (–)
35	P	SOUND SIGNAL FRONT LH (+)
36	L	SOUND SIGNAL FRONT LH (–)
37	SB	MODE CHANGE SIGNAL

Connector No.	B42
Connector Name	BOSE AMP.
Connector Type	SGA12FBR-SJA2

H.S.

14	12	11	10
9	7	6	5	4	3	2	1
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Terminal No.	Color of Wire	Signal Name [Specification]
1	L	SOUND SIGNAL FRONT LH (+)
2	W	SOUND SIGNAL FRONT LH (–)
3	LG	SOUND SIGNAL FRONT RH (+)
4	V	SOUND SIGNAL FRONT RH (–)
5	G	SOUND SIGNAL DOOR WOOFER RH (+)
6	R	SOUND SIGNAL DOOR WOOFER RH (–)
7	B	GND
9	W	SOUND SIGNAL FRONT DOOR WOOFER LH (–)
10	Y	BATTERY
11	GR	BATTERY
12	B	GND
14	B	SOUND SIGNAL FRONT DOOR WOOFER LH (+)

Connector No.	B46
Connector Name	WOOFER
Connector Type	NS06FBR-CS

H.S.

2		6
1		4	5
---	---	---	---

Terminal No.	Color of Wire	Signal Name [Specification]
1	V	SOUND SIGNAL WOOFER (–)
2	SB	SOUND SIGNAL WOOFER (+)
4	GR	WOOFER AMP. ON SIGNAL
5	B	GND
6	P	BATTERY

Connector No.	B66
Connector Name	WIRE TO WIRE
Connector Type	TH08MW-NH

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	–
2	SHIELD	–
3	W	–
4	R	–

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	–
3	W	–
5	P	–
6	L	–
7	V	–
9	LG	–
10	L	–
31	L	–
32	P	–
33	G	–
34	R	–
40	GR	–
41	LG	–
42	BG	–
43	R	–
45	G	–
46	SHIELD	–
47	G	–
48	Y	–
49	SHIELD	–
50	W	–
71	R	–
72	V	–
80	B/G	–
81	SHIELD	–
82	G	–
83	P	–
84	L	–
85	SHIELD	–
86	G	–
87	R	–
88	W	–
89	B	–
90	Y	–
91	V	–
92	W	– [With rear anti−pinch system]
92	R	– [Without rear anti−pinch system]
93	B/G	– [With rear anti−pinch system]
93	BR	– [Without rear anti−pinch system]
94	R	–
95	SB	–
96	G	–
97	GR	–
98	BR	–
99	P	–
100	L	–

Connector No.	B218
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10

H.S.

6	5	4		3	2	1
20	19	13	12	11	10	9	8	7
---	---	---	---	---	---	---	---	---
		18	17	16	15	14		

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	W	– [With rear anti−pinch system]
2	R	– [Without rear anti−pinch system]
3	BG	– [With rear anti−pinch system]
3	BR	– [Without rear anti−pinch system]
5	P	–
6	LG	–
7	B	–
19	L	–
20	P	–

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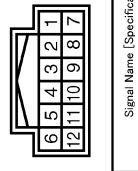
Connector No.	B221
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH

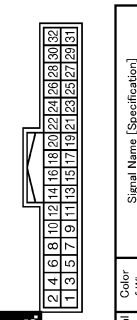


Terminal No.	Color of Wire	Signal Name [Specification]
7	SHIELD	–
8	R	–
9	B	–
10	W	–

Connector No.	B236
Connector Name	SATELLITE RADIO TUNER
Connector Type	A16FW

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	SATELLITE RADIO SOUND SIGNAL LH (–)
2	R	SATELLITE RADIO SOUND SIGNAL LH (+)
3	W	SATELLITE RADIO SOUND SIGNAL RH (–)
4	B	SATELLITE RADIO SOUND SIGNAL RH (+)
5	SHIELD	SHIELD
6	SHIELD	SHIELD
8	G	REQUEST (SAT->CONT)
9	L	COMM (SAT->CONT)
10	P	COMM (CONT->SAT)
12	Y	BATTERY
16	BG	ACC

Connector No.	B237
Connector Name	TEL ADAPTER UNIT
Connector Type	TH32FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	BATTERY
2	LG	ACC
3	BG	IGNITION
4	B	GND
5	SHIELD	SHIELD
7	R	MICROPHONE SIGNAL
8	SHIELD	MICROPHONE GND
9	Y	TEL VOICE SIGNAL (+)
10	G	TEL VOICE SIGNAL (–)
23	B	CONTROL SIGNAL
24	B	CONTROL SIGNAL
28	W	VEHICLE SPEED (8-PULSE)
29	G	MICROPHONE VCC

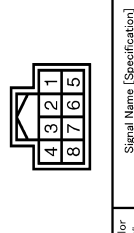
Connector No.	B238
Connector Name	TEL ADAPTER UNIT
Connector Type	TH08FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
35	SB	AV COMM (H)
36	LG	AV COMM (L)

Connector No.	B243
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-NH

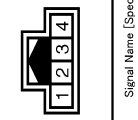
Terminal No.	Color of Wire	Signal Name [Specification]
1	B	–
2	SHIELD	–
3	W	–
4	R	–

Connector No.	B301
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
2	BG	–
3	B	–
4	G	–
5	B	–
6	W	–
11	V	–
12	SHIELD	–
13	Y	–
14	W	–
15	R	–

Connector No.	B305
Connector Name	REAR VIEW CAMERA
Connector Type	TH04MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	CAMERA ON SIGNAL
2	W	GND
3	Y	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD

Connector No.	B471
Connector Name	TEL ADAPTER UNIT
Connector Type	GT16C-1S-HU

Terminal No.	Color of Wire	Signal Name [Specification]
33	–	TEL ANTENNA
34	SHIELD	SHIELD

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Connector No.	B462
Connector Name	SATELLITE RADIO TUNER
Connector Type	FAKRA CONNECTOR

H.S.

33 34

Terminal No.	Color of Wire	Signal Name [Specification]
33	–	SATELLITE ANTENNA
34	SHIELD	SHIELD

Connector No.	B483
Connector Name	SATELLITE RADIO ANTENNA
Connector Type	GT16G-1PP-HU

H.S.

1 2

Terminal No.	Color of Wire	Signal Name [Specification]
1	–	–
2	SHIELD	–

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15

H.S.

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
49	48	47	46	45	44	43	42	41	40	39	38	37	36	35
55	54	53	52	51	50	49	48	47		33	32	31	30	29

Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	B	–
3	SB	–
4	V	–
5	GR	–
6	W	–
7	BG	–
8	L	–
9	P	–
10	LG	–
11	BR	–
12	L	–
13	W	–
14	G	–
15	R	–
16	GR	–
17	L	–
18	BR	–
19	BG	–
20	P	–
21	R	–
25	V	–
26	R	–
27	BR	–
28	W	–
29	Y	–
30	G	–
31	LG	–
32	GR	–
33	B	–
36	W	–
37	P	–
38	V	–
39	BR	–
42	G	–
43	GR	–
44	BG	–
47	V	–
48	R	–
49	SB	–
50	W	–
51	P	–
52	V	–

Connector No.	D2
Connector Name	TWEETER LH
Connector Type	TK02MBR-P

H.S.

2 1

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	D11
Connector Name	FRONT DOOR WOOFER LH
Connector Type	NS02FW-CS

H.S.

2 1

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	–
2	R	–

Connector No.	D16
Connector Name	FRONT DOOR SQUAWKER LH
Connector Type	TK02FBR

H.S.

2 1

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	D31
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15

H.S.

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
49	48	47	46	45	44	43	42	41	40	39	38	37	36	35
55	54	53	52	51	50	49	48	47		33	32	31	30	29

Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	V	–
3	B	–
7	LG	–
8	P	–
10	L	–
11	W	–
12	G	–
13	R	–
36	W	–
37	P	–
38	V	–
39	BR	–
42	L	–
43	GR	–
44	BG	–
45	G	–
47	R	–
48	SB	–
49	W	–
50	P	–
51	V	–
52	GR	–
53	BG	–
54	G	–

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BOSE AUDIO WITHOUT NAVIGATION

Connector No.	D32
Connector Name	TWEETER RH
Connector Type	TK02MBR-P

H.S.

2 1

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	D41
Connector Name	FRONT DOOR WOOFER RH
Connector Type	NS02FW-CS

H.S.

2 1

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	–
2	R	–

Connector No.	D46
Connector Name	FRONT DOOR SQUAWKER RH
Connector Type	TK02FBR

H.S.

2 1

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	D51
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10

H.S.

1	2	3		4	5	6
7	8	9	10	11	12	13
		14	15	16	17	18
					19	20

Terminal No.	Color of Wire	Signal Name [Specification]
1	V	–
2	Y	– [With rear anti-pinch system]
2	R	– [Without rear anti-pinch system]
3	W	– [With rear anti-pinch system]
3	Y	– [Without rear anti-pinch system]
5	P	–
6	BR	–
7	B	–
19	L	–
20	P	–

Connector No.	D56
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FBR-CS

H.S.

2 1

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	P	–

Connector No.	D71
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10

H.S.

1	2	3		4	5	6
7	8	9	10	11	12	13
		14	15	16	17	18
					19	20

Terminal No.	Color of Wire	Signal Name [Specification]
1	V	–
2	Y	– [With rear anti-pinch system]
2	R	– [Without rear anti-pinch system]
3	W	–
5	G	–
6	V	–
7	B	–
19	L	–
20	P	–

Connector No.	D76
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FBR-CS

H.S.

2 1

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	P	–

Connector No.	E5
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH20FW-CS12-M4-1V

H.S.

9	10	11	12	13	14	33	34	35	36	37	38
3	4	5	6	7	8	27	28	29	30	31	32
						21	22	23	24	25	26
						15	16	17	18	19	20
						1	2	3	4	35	36

Terminal No.	Color of Wire	Signal Name [Specification]
4	V	–
5	L	–
6	SB	–
7	P	–
11	W	–
12	B/W	–
13	Y	–
16	LG	–
19	R	–
25	G	–
26	Y	–
27	BG	–
28	L	–
30	GR	–
32	V	–
33	P	–
36	G	–

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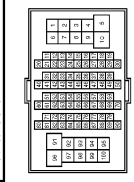
BOSE AUDIO WITHOUT NAVIGATION

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



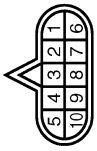
Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
3	BG	–
5	G	–
6	Y	–
7	V	–
9	R	–
10	W	–
11	V	–
12	R	–
13	L	–
14	GR	–
15	P	–
16	W	–
17	SB	–
18	BG	–
19	SB	–
20	LG	–
30	BR	–
31	L	–
32	BG	–
33	P	–
34	V	–
35	W	–
36	SB	–
37	Y	–
38	R	–
39	B	–
40	G	–
41	R	–
42	LG	–
43	G	–
44	GR	–
45	BR	–
46	LG	–
47	V	–
48	P	–
49	L	–
59	B	–

66	GR	–
67	LG	–
68	SB	–
69	P	–
70	G	–
80	R	–
81	P	–
82	G	–
83	V	–
84	L	–
85	W	–
86	L	–
87	BR	–
88	GR	–
89	V	–
91	W	–
93	GR	–
95	LG	–
97	SB	–
98	SHIELD	–
99	L	–
100	P	–

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TB01FW

Terminal No.	Color of Wire	Signal Name [Specification]
1	BG	–

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY

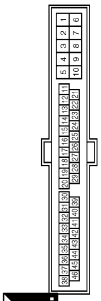


Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	BR	– [With VQ25HR engine]
2	R	– [With VQ37VHR engine]
3	L	–
4	V	–
5	B	– [With VQ25HR engine]
6	Y	– [With VQ37VHR engine]
6	G	– [With VQ25HR engine]
7	R	– [With VQ37VHR engine]
8	P	–
9	GR	–
10	B	–

Connector No.	F56
Connector Name	BACK-UP LAMP SWITCH
Connector Type	RK02FB

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	–
2	O	–

Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK36FW-NS10



Terminal No.	Color of Wire	Signal Name [Specification]
2	G	–
3	W	–
4	R	–
5	B	–
9	G	– [With VQ25HR engine]
9	Y	– [With VQ37VHR engine]
10	L	– [With VQ25HR engine]
10	GR	– [With VQ37VHR engine]
19	BG	*1 VQ25HR: engine with left and right exhaust temperature sensitive control system
19	O	*2 except for VQ25HR engine with left and right exhaust temperature sensitive control system
20	Y	–
28	B	–
29	LG	–
30	R	–
31	R	–
33	B	–
34	B	–
35	L	–
36	P	–
37	Y	–
38	G	–
41	O	–
42	BR	–
43	P	–
44	L	–
45	Y	– [With VQ25HR engine]
45	G	– [With VQ37VHR engine]
46	V	–

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BOSE AUDIO WITHOUT NAVIGATION

Connector No.	F157
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SP10FG

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	–	VIGN
2	–	BATT
3	–	CAN-H
4	–	K-LINE
5	–	GND
6	–	VIGN
7	–	REV LAMP RLY
8	–	CAN-L
9	–	STARTER RLY
10	–	GND

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1A	V	–
2A	G	–
3A	L	–
4A	P	–
5A	L	–
6A	Y	–
7A	R	–
8A	L	–

Connector No.	M2
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1B	SB	–
3B	P	–
4B	G	–
5B	BG	–
6B	Y	–
7B	P	–
8B	R	–
9B	SB	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FW-CS

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
6C	SB	–
7C	B	–
8C	W	–
9C	BG	–
10C	L	–
11C	LG	–
12C	G	–

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	B	–
3	BG	–
4	V	–
5	G	–
6	W	–
7	LG	–
8	SB	–
9	G	–
10	V	–
11	SB	–
12	L	–
13	W	–
14	B	–
15	W	–
16	R	–
17	BR	–
18	V	–
19	BG	–
20	P	–
21	W	–
25	Y	–
26	G	–
27	L	–
28	Y	–
29	G	–
30	SB	–
31	LG	–
32	W	–
33	B	–
36	W	–
37	GR	–
38	Y	–
39	B	–
42	Y	–
43	L	–
44	G	– [With automatic drive positioner]
44	L	– [Without automatic drive positioner]
47	L	–
48	GR	–
49	SB	–
50	P	–
51	LG	–
52	V	–

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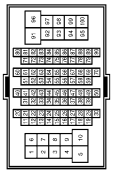
BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

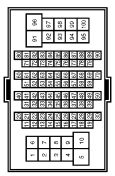


Terminal No.	Color of Wire	Signal Name [Specification]
1	BG	–
3	R	–
5	G	–
6	LG	–
7	W	–
9	G	–
10	W	–
11	V	–
12	R	–
13	L	–
14	GR	–
15	P	–
16	W	–
17	BR	–
18	P	–
19	L	–
20	L	–
30	BR	–
31	L	–
32	Y	–
33	BG	–
34	W	–
35	BR	–
36	R	–
37	Y	–
38	R	–
39	SB	–
40	G	–
41	V	–
42	LG	–
43	P	–
44	B	– [With A/T]
44	R	– [With M/T]
45	BG	–
46	G	–
47	L	–
48	P	–
49	L	–

59	B	–
66	Y	–
67	G	–
68	R	–
69	W	–
70	G	–
80	SB	–
81	B	–
82	V	–
83	W	–
84	L	–
85	GR	–
86	G	–
87	R	–
88	B	–
89	LG	–
91	W	–
93	Y	–
95	Y	–
97	GR	–
98	SHIELD	–
99	V	–
100	SB	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.



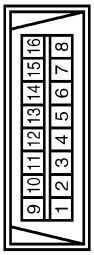
Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
2	P	–
3	SB	– [With automatic drive positioner]
3	P	– [Without automatic drive positioner]
4	Y	–
6	L	–
7	W	–
8	G	– [With rear anti-pinch system]
8	Y	– [Without rear anti-pinch system]
9	Y	– [With rear anti-pinch system]
9	G	– [Without rear anti-pinch system]
15	R	–
16	BR	–

17	P	–
18	V	–
20	L	–
21	P	–
22	L	–
23	P	–
24	V	–
25	LG	–
26	BR	–
27	BG	–
28	LG	–
31	V	–
32	LG	–
33	SHIELD	–
34	GR	–
35	BR	–
36	Y	–
37	SHIELD	–
38	SB	–
39	LG	–
40	O	–
41	W	–
42	SHIELD	–
43	R	–
44	G	–
45	SHIELD	–
46	SB	–
55	W	–
56	B	–
58	V	–
59	Y	–
60	Y	–
61	W	–
62	R	–
63	G	–
64	B	–
65	SHIELD	–
71	V	–
72	P	–
73	SB	–
74	V	–
81	W	–
82	BR	–
84	LG	–
85	BG	–
86	SB	–
87	G	–
88	GR	–
89	L	–
90	P	–
91	BG	–
92	L	–

93	P	–
95	BG	–
96	Y	–
100	P	–

Connector No.	M24
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW-P

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
3	LG	–
4	B	–
5	B	–
6	L	–
7	V	–
8	G	–
11	SB	–
14	P	–
16	R	–

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BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M25
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–
3	BR	–
4	R	–
5	L	–
6	LG	–
7	B	–
10	P	–
11	L	–
12	Y	–
13	SB	–
14	R	–
15	G	–
16	W	–

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V

H.S.

24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name [Specification]
24	P	–
25	SB	–
26	B	–
31	L	–
32	Y	–
33	B	–
34	LG	–

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH

H.S.

7	2	3	8
1	4	5	

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
7	B	GND
8	G	IGN

Connector No.	M44
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	IGN
2	SB	CANCEL SW SIGNAL
5	W	CORNER SENSOR SIGNAL REAR LH
6	Y	CORNER SENSOR SIGNAL REAR RH
7	G	CENTER SENSOR SIGNAL REAR LH
8	R	CENTER SENSOR SIGNAL REAR RH
11	B	CANCEL SW INDICATOR
12	B	SENSOR GND
13	GR	ACC
17	BG	R RANGE SIGNAL
18	V	K LINE
19	SB	AV COMM (H)
20	LG	AV COMM (L)
24	B	GND

Connector No.	M63
Connector Name	CENTER SPEAKER
Connector Type	TK02FBR

H.S.

2	1

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	LG	–

Connector No.	M66
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH40FW-NH

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name [Specification]
4	G	STOP LAMP SWITCH SIGNAL
5	L	MANUAL MODE SHIFT UP SIGNAL
6	BG	PADDLE SHIFTER UP SIGNAL
7	GR	COMMUNICATION SIGNAL (AMP.->METER)
8	L	VEHICLE SPEED SIGNAL (2-PULSE)
9	SB	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
10	W	MANUAL MODE SIGNAL
11	G	NON-MANUAL MODE SIGNAL
14	BR	COMMUNICATION SIGNAL (LCD->AMP.)
20	BR	IGN ON / OFF SIGNAL
23	Y	AT SNOW SWITCH SIGNAL
25	V	MANUAL MODE SHIFT DOWN SIGNAL
26	G	PADDLE SHIFTER DOWN SIGNAL
27	LG	COMMUNICATION SIGNAL (METER->AMP.)
28	R	VEHICLE SPEED SIGNAL (8-PULSE)
30	V	PARKING BRAKE SWITCH SIGNAL
34	Y	COMMUNICATION SIGNAL (AMP.->LCD)
38	P	BLOWER MOTOR CONTROL SIGNAL

Connector No.	M67
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH32FW-NH

H.S.

41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72

Terminal No.	Color of Wire	Signal Name [Specification]
41	L	ACC POWER SUPPLY
42	BR	FUEL LEVEL SENSOR SIGNAL
43	BR	INTAKE SENSOR SIGNAL
44	LG	IN-VEHICLE SENSOR SIGNAL
45	V	AMBIENT SENSOR SIGNAL
46	Y	SUNLOAD SENSOR SIGNAL
47	G	EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL
53	W	IGNITION POWER SUPPLY
54	SB	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CAN-H
57	LG	BRAKE FLUID LEVEL SWITCH
58	Y	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	W	IN-VEHICLE SENSOR GROUND
61	B	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	L	ION CONTROL MODE OUTPUT SIGNAL
65	BG	ECV SIGNAL
69	P	A/C LAN SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	GR	GROUND
72	P	CAN-L

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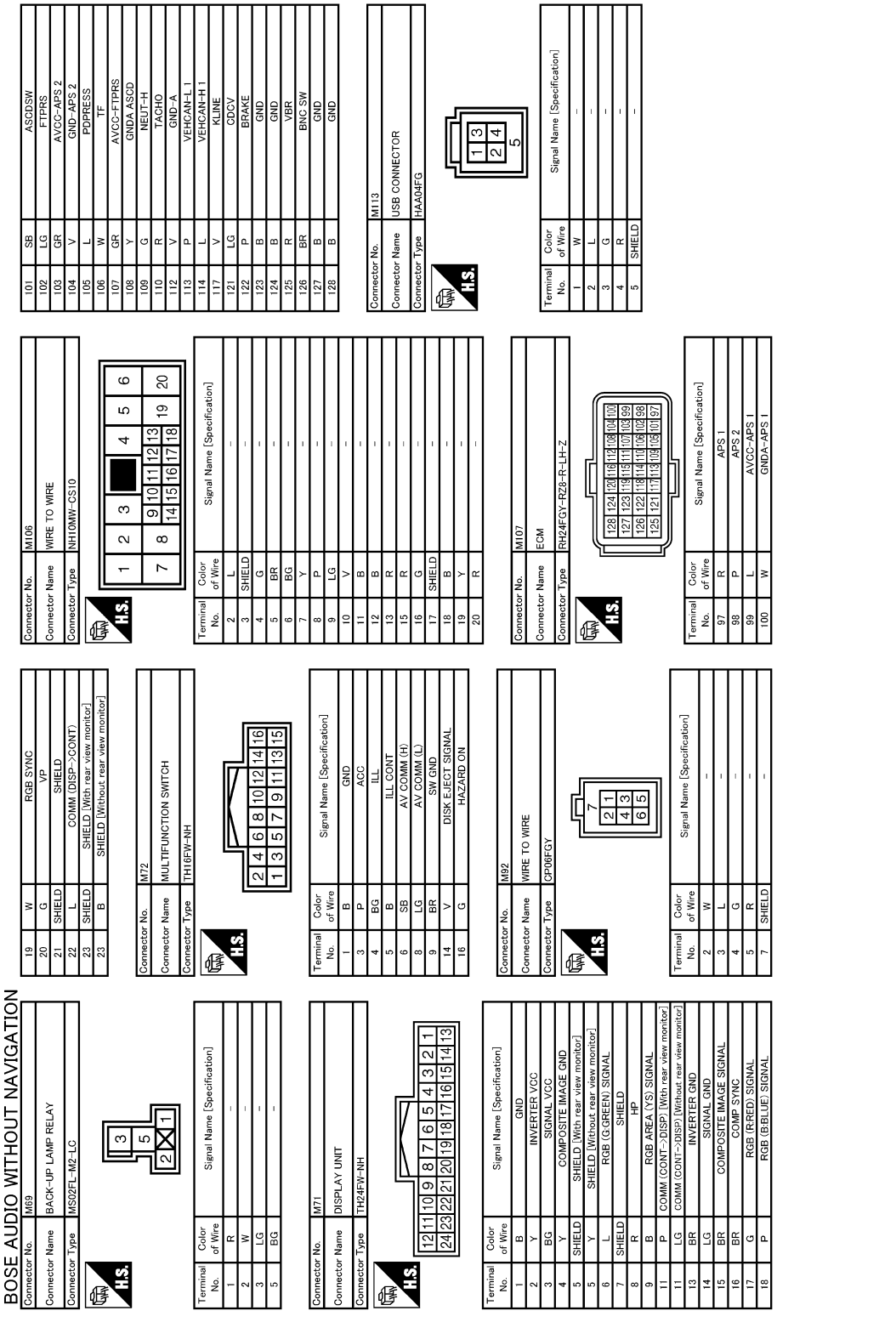

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BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M116
Connector Name	WIRE TO WIRE
Connector Type	TK36MW-NS10

Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	–
3	SB	–
5	P	–
6	G	–
7	SB	–
9	LG	–
10	L	–
31	SB	–
32	LG	–
33	SB	–
34	LG	–
40	Y	–
41	G	–
42	LG	–
43	R	–
45	G	–
46	SHIELD	–
47	P	–
48	L	–
49	SHIELD	–
50	V	–
71	R	–
72	L	–
80	W	–
81	SHIELD	–
82	P	–
83	L	–
84	G	–
85	SHIELD	–
86	W	–
87	B	–
88	R	–
89	G	–
90	Y	–
91	V	–
92	BR	– [With rear anti-pinch system]
92	LG	– [Without rear anti-pinch system]
93	V	– [With rear anti-pinch system]
93	W	– [Without rear anti-pinch system]
94	Y	–
95	G	–
96	G	–
97	R	–
98	BG	–
99	P	–
100	L	–

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

Terminal No.	Color of Wire	Signal Name [Specification]
72	R	ROOM ANT 2–
73	G	ROOM ANT 2+
74	SB	PASSENGER DOOR ANT–
75	BR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT–
77	LG	DRIVER DOOR ANT+
78	Y	ROOM ANT 1–
79	BR	ROOM ANT 1+
80	GR	NATS ANT AMP
81	W	NATS ANT AMP
82	SB	IGN RELAY (F/B) CONT
83	Y	KEYLESS ENTRY RECEIVER COMM
87	Y	COMBI SW INPUT 5
88	BG	COMBI SW INPUT 3
89	BR	PUSH SW
90	P	CAN–L
91	L	CAN–H
92	LG	KEY SLOT ILL
93	GR	ON IND
95	BG	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
97	L	S/L CONDITION 1
98	P	S/L CONDITION 2
99	R	SHIFT P [With A/T]
99	BR	ASCD CLUTCH SW [With M/T]
100	Y	PASSENGER DOOR REQUEST SW
101	P	DRIVER DOOR REQUEST SW
102	BG	BLOWER FAN MOTOR RELAY CONT
103	P	KEYLESS ENTRY RECEIVER POWER SUPPLY
106	SB	S/L UNIT POWER SUPPLY
107	LG	COMBI SW INPUT 1
108	R	COMBI SW INPUT 4
109	W	COMBI SW INPUT 2
110	G	HAZARD SW
111	Y	S/L UNIT COMM

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	GR	–
3	B	–
7	V	–
8	P	–
10	BR	–
11	R	–
12	G	–
13	R	–
36	G	–
44	W	–
45	SB	–
47	LG	–
48	P	–
49	Y	–
50	BR	–
51	SB	–
52	L	–
53	L	–
54	Y	–

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

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BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M149
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
7	SHIELD	–
8	R	–
9	W	–
10	B	–

Connector No.	M191
Connector Name	WIRE TO WIRE
Connector Type	CPD06MGY-S

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
2	W	–
3	L	–
4	G	–
5	R	–
7	SHIELD	–

Connector No.	M192
Connector Name	USB CONNECTOR
Connector Type	HAA04FG

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	L	–
3	G	–
4	R	–
5	SHIELD	–

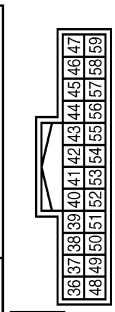
Connector No.	M201
Connector Name	AV CONTROL UNIT
Connector Type	TH16FW-CS2

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	W	SOUND SIGNAL FRONT LH (–)
4	LG	SOUND SIGNAL REAR LH (+)
5	SB	SOUND SIGNAL REAR LH (–)
6	P	STRG SW A
7	V	ACC
9	L	ILLUMINATION
11	BR	SOUND SIGNAL FRONT RH (+)
12	R	SOUND SIGNAL FRONT RH (–)
13	L	SOUND SIGNAL REAR RH (+)
14	P	SOUND SIGNAL REAR RH (–)
15	B	STRG SW GND
16	L	STRG SW B
18	G	GND
19	Y	BATTERY
20	B	GND

Connector No.	M202
Connector Name	AV CONTROL UNIT
Connector Type	TH24FW-NH

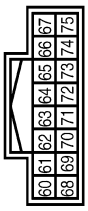
H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
36	BG	SIGNAL VCC
37	LG	SIGNAL GND
38	R	HP
39	L	COMM (DISP->CONT)
40	B	RGB AREA (YS) SIGNAL
41	SHIELD	SHIELD
42	W	RGB SYNC
43	G	RGB (R:RED) SIGNAL
44	L	RGB (G:GREEN) SIGNAL
45	P	RGB (B:BLUE) SIGNAL
46	Y	COMPOSITE IMAGE GND
47	BR	COMPOSITE IMAGE SIGNAL
48	Y	INVERTER VCC
49	BR	INVERTER GND
50	G	VP
51	P	COMM (CONT->DISP)
52	SHIELD	SHIELD
57	SHIELD	SHIELD
58	SHIELD	SHIELD

Connector No.	M203
Connector Name	AV CONTROL UNIT
Connector Type	TH16FW-NH

H.S.

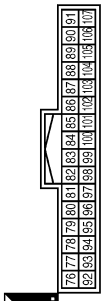


Terminal No.	Color of Wire	Signal Name [Specification]
62	W	CAMERA IMAGE SIGNAL
71	SHIELD	SHIELD
72	B	CAMERA GND

73	R	CAMERA POWER SUPPLY

Connector No.	M204
Connector Name	AV CONTROL UNIT
Connector Type	TH32FW-NH

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
76	LG	AV COMM (L)
77	SB	AV COMM (H)
78	LG	AV COMM (L)
79	SB	AV COMM (H)
80	P	CAN–L
81	L	CAN–H
82	BR	SW GND
86	SHIELD	SHIELD
87	L	TEL VOICE SIGNAL (+)
88	P	TEL VOICE SIGNAL (–)
92	R	VEHICLE SPEED (8–PULSE)
93	SB	PARKING BRAKE
94	BG	REVERSE
95	G	IGNITION
96	V	DISK EJECT SIGNAL

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BOSE AUDIO WITHOUT NAVIGATION

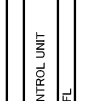
Connector No.	M205
Connector Name	AV CONTROL UNIT
Connector Type	TH12FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
108	BR	SOUND SIGNAL REAR RH (+)
109	R	SOUND SIGNAL FRONT RH (+)
110	GR	AMP. ON SIGNAL
111	B	SHIELD
112	V	SOUND SIGNAL REAR LH (+)
113	O	SOUND SIGNAL FRONT LH (+)
114	Y	SOUND SIGNAL REAR RH (-)
115	G	SOUND SIGNAL FRONT RH (-)
118	LG	SOUND SIGNAL REAR LH (-)
119	W	SOUND SIGNAL FRONT LH (-)

Connector No.	M206
Connector Name	AV CONTROL UNIT
Connector Type	A12FW

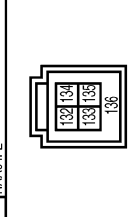
Terminal No.	Color of Wire	Signal Name [Specification]
120	B	SATELLITE SOUND SIGNAL LH (+)
121	G	SATELLITE SOUND SIGNAL RH (+)
122	L	COMM (CONT->SAT)
124	W	SATELLITE SOUND SIGNAL LH (-)
125	R	SATELLITE SOUND SIGNAL RH (-)
126	SHIELD	SHIELD
127	SHIELD	SHIELD
128	SB	MODE CHANGE SIGNAL
129	P	REQUEST (SAT->CONT)
130	G	COMM (SAT->CONT)

Connector No.	M207
Connector Name	AV CONTROL UNIT
Connector Type	HAA04FL



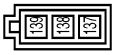
Terminal No.	Color of Wire	Signal Name [Specification]
132	G	USB GND
133	R	USB D- SIGNAL
134	W	V BUS SIGNAL
135	L	USB D+ SIGNAL
136	SHIELD	SHIELD

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY



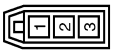
Terminal No.	Color of Wire	Signal Name [Specification]
13	R	-
14	W	-
15	L	-
16	B	-
17	BR	-
18	G	-
19	P	-
20	Y	-

Connector No.	M370
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH-2/1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
137	-	FM SUB
138	-	AM-FM MAIN
139	-	ANTENNA AMP. ON SIGNAL

Connector No.	M375
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2/1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M376
Connector Name	WIRE TO WIRE
Connector Type	GT13SGN-2/1PP-HU

Terminal No.	Color of Wire	Signal Name [Specification]

1	-	-
2	-	-
3	-	-

Connector No.	M378
Connector Name	ANTENNA AMP.
Connector Type	GT13SC-1/1S-HU

Terminal No.	Color of Wire	Signal Name [Specification]
1	-	ANTENNA AMP. ON SIGNAL
2	-	AM-FM MAIN

Connector No.	M379
Connector Name	GLASS ANTENNA (SUB)
Connector Type	P01FB-A

Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

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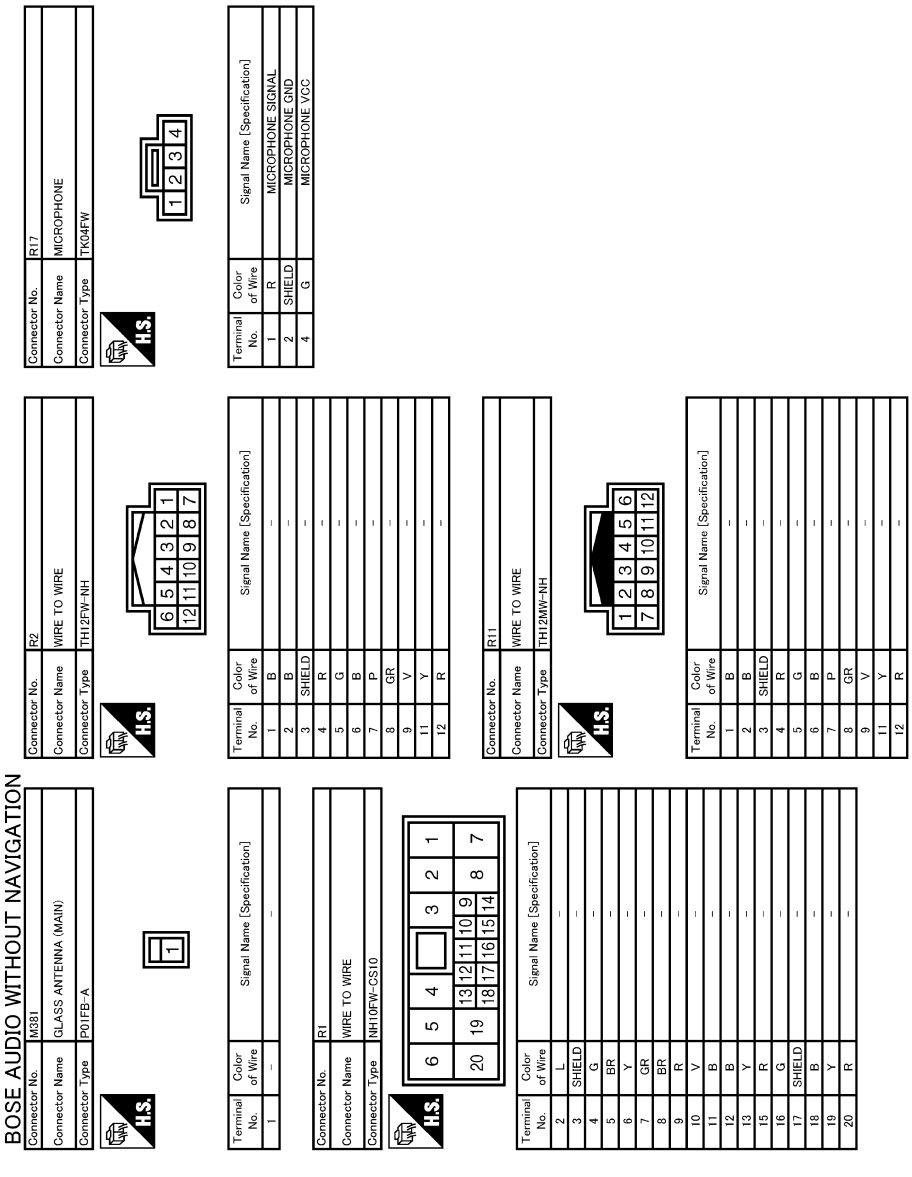

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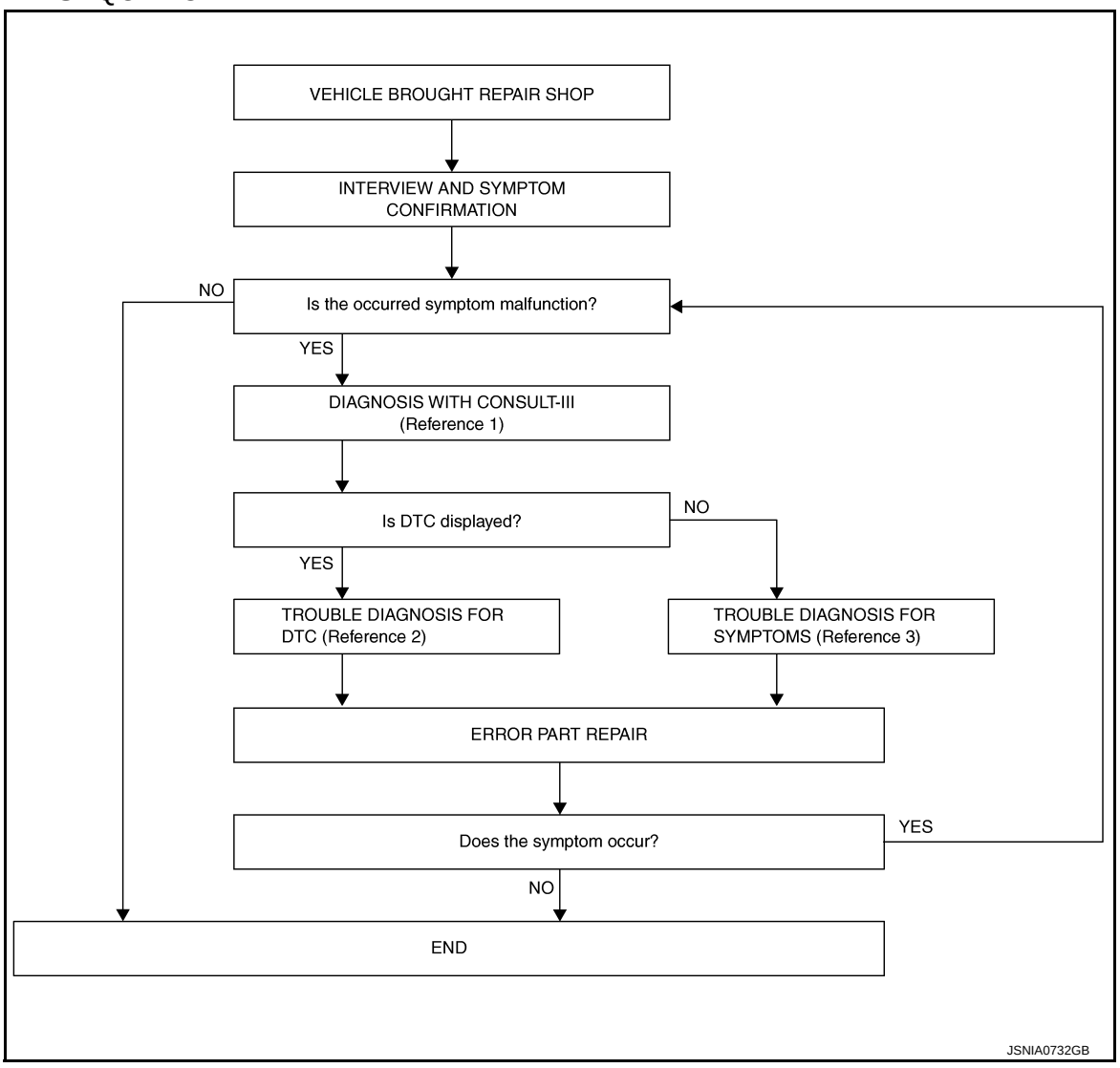
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000006210415

OVERALL SEQUENCE



- Reference 1··· Refer to AV-240, "CONSULT - III Function".
- Reference 2··· Refer to AV-251, "DTC Index".
- Reference 3··· Refer to AV-323, "Symptom Table".

DETAILED FLOW

1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.
NO >> INSPECTION END

2. DIAGNOSIS WITH CONSULT-III

1. Connect CONSULT-III and perform a self-diagnosis for “MULTI AV”. Refer to AV-240, "CONSULT - III Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “MULTI AV” is not displayed.
2. Check if any DTC is displayed in the “Self-Diagnosis Results”.

Is DTC displayed?

YES >> GO TO 3.
NO >> GO TO 4.

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the “Self-Diagnosis Results”.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-251, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-323, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “MULTI AV” with CONSULT-III.
   NOTE:
   Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the “Self-Diagnosis Results”.
3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.
NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING (AV CONTROL UNIT)

Description

INFOID:0000000006210416

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT-III configuration before replacement.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “WRITE CONFIGURATION” with CONSULT-III.

- **Complete the procedure of “WRITE CONFIGURATION” in order.**
- **If you set incorrect “WRITE CONFIGURATION”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

Work Procedure

INFOID:0000000006210417

1.SAVING VEHICLE SPECIFICATION

-CONSULT-III Configuration

Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to AV-285, "Description".

NOTE:

If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection”.

>> GO TO 2.

2.REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-329, "Exploded View".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

-CONSULT-III Configuration

Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to AV-285, "Work Procedure".

>> GO TO 4.

4.OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

CONFIGURATION (AV CONTROL UNIT)

Description

INFOID:0000000006210418

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT-III.
- Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

Work Procedure

INFOID:0000000006210419

NOTE:
If “WRITE CONFIGURATION” is unsuccessful, perform “Accessory Number Initialization”. For details, refer to AV-231, "On Board Diagnosis Function".
After performing “Accessory Number Initialization”, reboot the AV control unit to perform “WRITE CONFIGURATION”.

1. WRITING MODE SELECTION

CONSULT-III Configuration
Select “CONFIGURATION” of “MULTI AV”.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2. PERFORM “WRITE CONFIGURATION-CONFIG FILE”

CONSULT-III Configuration
Perform “WRITE CONFIGURATION-Config file”.

>> WORK END

3. PERFORM “WRITE CONFIGURATION-MANUAL SELECTION”

CONSULT-III Configuration
Select “WRITE CONFIGURATION-Manual selection” to write vehicle specifications into the AV control unit. For data to write, refer to AV-285, "Configuration List".

>> GO TO 4.

4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

Configuration List

INFOID:0000000006210420

CAUTION:
Check vehicle specifications before servicing.

MANUAL SETTING ITEM		NOTE
Items	Setting value	
STEERING	LHD	—
	RHD	—
GRADE	MODE 1	SPORT premium grade with 4WAS
	MODE 3	SPORT premium grade 2WD models without 4WAS
	MODE 2	Except for above
4WAS	WITHOUT	—
	WITH	—
SOUND SYSTEM	BASE	—
	BOSE	—

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000006210421

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-26, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000006210422

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction location
U1000	CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000006210423

1. PERFORM SELF-DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “MULTI AV”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to “LAN system”. Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI section. Refer to GI-43, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000006210424

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-329, "Exploded View".

U1200 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210425

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-329, "Exploded View".

U1216 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210426

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-329, "Exploded View".

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000006210427

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor.

Diagnosis Procedure

INFOID:0000000006210428

1.ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the predictive course line center position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement".

U1243 DISPLAY UNIT

DTC Logic

INFOID:0000000006210429

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected: • display unit power supply and ground circuit are malfunctioning. • communication circuit between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuit. • Communication circuit between AV control unit and display unit.

Diagnosis Procedure

INFOID:0000000006210430

1.CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to AV-298, "DISPLAY UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M71	11	M202	51	Existed
	22		39	

4. Check continuity between display unit harness connector and ground.

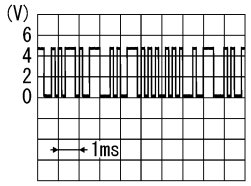
Display unit		Ground	Continuity
Connector	Terminals		
M71	11		Not existed
	22		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK COMMUNICATION SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

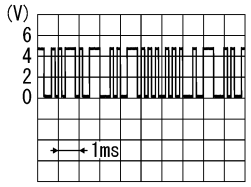
(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M71	11	Ground	When adjusting display brightness.	 PKIB5039J

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector and ground.

(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M71	22	Ground	When adjusting display brightness.	 PKIB5039J

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace display unit. Refer to AV-331, "Exploded View".

U1255 SATELLITE RADIO TUNER

DTC Logic

INFOID:0000000006210431

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.

Diagnosis Procedure

INFOID:0000000006210432

1.CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to AV-300, "SATELLITE RADIO TUNER : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT AND REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and satellite radio tuner connector.
3. Check continuity between AV control unit harness connector and satellite radio tuner harness connector.

AV control unit		Satellite radio tuner		Continuity
Connector	Terminals	Connector	Terminals	
M206	129	B236	8	Existed
	122		10	
	130		9	

4. Check continuity between AV control unit harness connector.

AV control unit			Continuity
Connector	Terminals		
M206	129	Ground	Not existed
	122		
	130		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

(+)		(–)	Reference value (Approx.)
AV control unit			
Connector	Terminals		

M206	129	Ground	7.0 V
	130	Ground	7.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

4. CHECK SATELLITE RADIO TUNER VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector.
3. Connect satellite radio tuner.
4. Turn ignition switch ON.
5. Check signal between satellite radio tuner harness connector and ground.

(+)		(–)	Reference value (Approx.)
Satellite radio tuner			
Connector	Terminal		
B236	10	Ground	7.0 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace satellite radio tuner. Refer to AV-340, "Exploded View".

U1300 AV COMM CIRCUIT

Description

INFOID:0000000006210433

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
U1300 U125C	• AV COMM CIRCUIT [U1300] • SONAR CONN [U125C]	When either one of the following items are detected: • sonar control unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and sonar control unit are malfunctioning.	• Sonar control unit power supply and ground circuits. • AV communication circuits between AV control unit and sonar control unit.
U1300 U1256	• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.
U1300 U1240 U125C U1256	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • SONAR CONN [U125C] • HAND FREE CONN [U1256]	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch.	AV communication circuits between AV control unit and multifunction switch.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210434

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. If the malfunction occurs constantly. Refer to AV-329, "Exploded View".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000006210435

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M201	19	OFF	Battery voltage
ACC power supply	M201	7	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between AV control unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors.
3. Check continuity between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M201	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000006210436

1.CHECK POWER SUPPLY CIRCUIT (DISPLAY SIDE)

Check voltage between display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Inverter VCC	M71	2	ACC	9.0 V
Signal VCC		3		

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect the harness connector between display unit and AV control unit.
3. Check continuity between display unit harness connector M71 and AV control unit harness connector.

Signal name	Display unit (M71)	AV control unit (M202)	Continuity
Inverter VCC	2	48	Existed
Signal VCC	3	36	Existed

4. Check continuity between display unit harness connector and ground.

Signal name	Display unit (M71)	—	Continuity
Inverter VCC	2	Ground	Not existed
Signal VCC	3	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK POWER SUPPLY CIRCUIT (AV CONTROL UNIT SIDE)

1. Connect the AV control unit harness connector.
2. Turn ignition switch ACC.
3. Check voltage between AV control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Inverter VCC	M202	48	ACC	9.0 V
Signal VCC		36		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replacement of AV control unit.

4.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M71	1	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

BOSE AMP.

BOSE AMP. : Diagnosis Procedure

INFOID:0000000006210437

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	5, 8

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B42	10, 11	OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between BOSE amp. and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector.
3. Check continuity between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B42	7, 12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000006210438

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between satellite radio tuner harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B236	12	OFF	Battery voltage
ACC power supply	B236	16	ACC	Battery voltage

Is the inspection result normal?

YES >> INSPECTION END
NO >> Check harness between satellite radio tuner and fuse.

TEL ADAPTER UNIT

TEL ADAPTER UNIT : Diagnosis Procedure

INFOID:0000000006210439

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between TEL adapter unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B237	1	OFF	Battery voltage
ACC power supply	B237	2	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between TEL adapter unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B237	4	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:0000000006210440

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210441

1.CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	17	M202	43	Existed

4. Check continuity between display unit harness connector and ground.

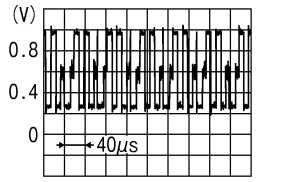
Display unit		Ground	Continuity
Connector	Terminal		
M71	17		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	17	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 JSNIA1029ZZ

Is inspection result normal?

YES >> Replace display unit. Refer to AV-331, "Exploded View".
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:0000000006210442

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210443

1. CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	6	M202	44	Existed

4. Check continuity between display unit harness connector and ground.

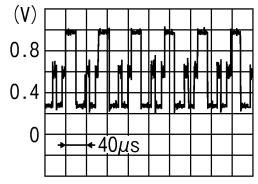
Display unit		Ground	Continuity
Connector	Terminal		
M71	6		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2. CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	6	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 JSNIA1030ZZ

Is inspection result normal?

YES >> Replace display unit. Refer to AV-331, "Exploded View".
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:0000000006210444

Transmit the image displayed with AV control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210445

1.CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	18	M202	45	Existed

4. Check continuity between display unit harness connector and ground.

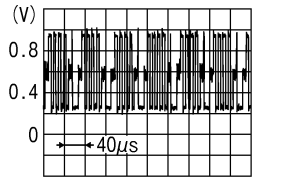
Display unit		Ground	Continuity
Connector	Terminal		
M71	18		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value
Connector	Terminal			
M71	18	Ground	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 JSNIA1031ZZ

Is inspection result normal?

YES >> Replace display unit. Refer to AV-331, "Exploded View".
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:0000000006210446

Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with AV control unit.

Diagnosis Procedure

INFOID:0000000006210447

1.CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	19	M202	42	Existed

4. Check continuity between display unit harness connector and ground.

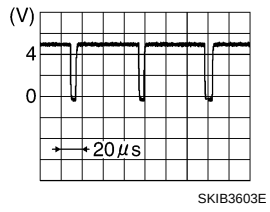
Display unit		Ground	Continuity
Connector	Terminal		
M71	19		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	19	Ground	

SKIB3603E

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-331, "Exploded View".
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:0000000006210448

Transmits the display area of RGB image displayed by AV control unit with RGB area (YS) signal to display unit.

Diagnosis Procedure

INFOID:0000000006210449

1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	9	M202	40	Existed

4. Check continuity between display unit harness connector and ground.

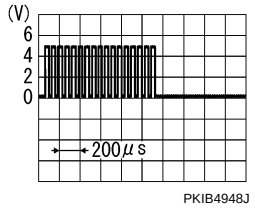
Display unit		Ground	Continuity
Connector	Terminal		
M71	9		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB AREA (YS) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+) Display unit		(–)	Condition	Reference value (Approx.)
Connector	Terminal			
M71	9	Ground	At RGB image is displayed.	5.0 V
			At camera image is displayed.	

PKIB4948J

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-331, "Exploded View".
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006210450

- AV control unit outputs camera power supply to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The AV control unit that inputs the camera image signal transmits the camera image signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210451

1.CHECK CONTINUITY CAMERA POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M203	73	B305	1	Existed

4. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M203	73		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VOLTAGE CAMERA POWER SUPPLY

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check voltage between AV control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M203	73	Ground	Shift position is “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M203	62	B305	3	Existed

4. Check continuity between AV control unit harness connector and ground.

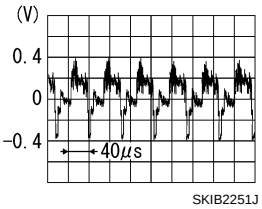
AV control unit		Ground	Continuity
Connector	Terminal		
M203	62		Not existed

Is inspection result normal?

YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check signal between AV control unit harness connector and ground.

(+)		(–)	Condition	Reference value
AV control unit				
Connector	Terminal			
M203	62	Ground	At rear view camera image is displayed.	

SKIB2251J

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-329, "Exploded View".
NO >> Replace rear view camera. Refer to AV-349, "Exploded View".

COMPOSITE IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006210452

AV control unit that inputs the camera image signal transmits the composite image signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210453

1.CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and display unit connector.
3. Check continuity between AV control unit harness connector and display unit harness connector.

AV control unit		Display unit		Continuity
Connector	Terminal	Connector	Terminal	
M202	47	M71	15	Existed

4. Check continuity between AV control unit harness connector and ground.

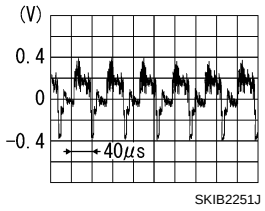
AV control unit		Ground	Continuity
Connector	Terminal		
M202	47		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK COMPOSITE IMAGE SIGNAL

1. Connect AV control unit connector and display unit connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

(+) AV control unit		(–)	Condition	Reference value
Connector	Terminal			
M202	47	Ground	At camera image is displayed.	

SKIB2251J

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-331, "Exploded View".
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:0000000006210454

In composite image (AUX image and camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:0000000006210455

1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	8	M202	38	Existed

4. Check continuity between display unit harness connector and ground.

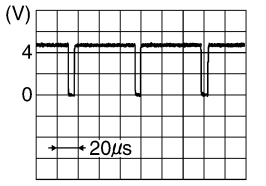
Display unit		Ground	Continuity
Connector	Terminal		
M71	8		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	8	Ground	

SKIB3601E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-329, "Exploded View".
NO >> Replace display unit. Refer to AV-331, "Exploded View".

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:0000000006210456

In composite image (AUX image and camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to AV control unit so as to synchronize the RGB images displayed with AV control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:0000000006210457

1. CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M71	20	M202	50	Existed

4. Check continuity between display unit harness connector and ground.

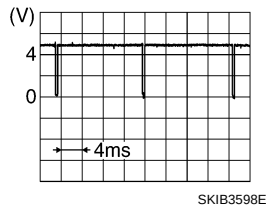
Display unit		Ground	Continuity
Connector	Terminal		
M71	20		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2. CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Reference value
Display unit			
Connector	Terminal		
M71	20	Ground	

SKIB3598E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-329, "Exploded View".
NO >> Replace display unit. Refer to AV-331, "Exploded View".

DISK EJECT SIGNAL CIRCUIT

Description

INFOID:0000000006210458

The eject signal is output to AV control unit when the eject switch of multifunction switch is pressed.

Diagnosis Procedure

INFOID:0000000006210459

1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect multifunction switch connector and AV control unit connector.
3. Check continuity between multifunction switch harness connector and AV control unit harness connector.

Multifunction switch		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M72	14	M204	96	Existed

4. Check continuity between multifunction switch harness connector and ground.

Multifunction switch		Ground	Continuity
Connector	Terminal		
M72	14		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect multifunction switch connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M204	96	Ground	Pressing the eject switch	0 V
			Except for above	3.3 V

Is the inspection result normal?

YES >> Replace preset switch. Refer to AV-343, "Exploded View".
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

MODE CHANGE SIGNAL CIRCUIT

Description

INFOID:0000000006210460

- AV control unit transmits the mode change signal to BOSE amp.
- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.

Diagnosis Procedure

INFOID:0000000006210461

1.CHECK CONTINUITY MODE CHANGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector and AV control unit connector.
3. Check continuity between BOSE amp. harness connector and AV control unit harness connector.

AV control unit		BOSE amp.		Continuity
Connector	Terminal	Connector	Terminal	
M206	128	B41	37	Existed

4. Check continuity between BOSE amp. harness connector and ground.

BOSE amp.		Ground	Continuity
Connector	Terminal		
B41	37		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK MODE CHANGE SIGNAL

1. Connect BOSE amp. connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between BOSE amp. harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
BOSE amp.				
Connector	Terminal			
B41	37	Ground	Driver's Audio Stage ON.	0 V
			Driver's Audio Stage OFF.	8.5 V

Is the inspection result normal?

YES >> Replace BOSE amp. Refer to AV-338, "Exploded View".
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000006210462

Supply power from TEL adapter unit to microphone. The microphone transmits the sound/voice to the microphone.

Diagnosis Procedure

INFOID:0000000006210463

1.CHECK CONTINUITY BETWEEN TEL ADAPTER UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector and microphone connector.
3. Check continuity between TEL adapter unit harness connector and microphone harness connector.

TEL adapter unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
B237	7	R17	1	Existed
	8		2	
	29		4	

4. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminals		
M237	7		Not existed
	29		

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VOLTAGE MICROPHONE VCC

1. Connect TEL adapter unit connector.
2. Turn ignition switch ON.
3. Check voltage between TEL adapter unit harness connector.

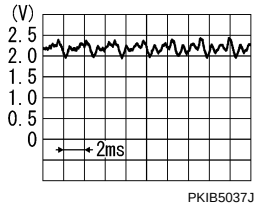
(+)		(–)		Voltage (Approx.)
TEL adapter unit		TEL adapter unit		
Connector	Terminal	Connector	Terminal	
B237	29	B237	8	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace TEL adapter unit. Refer to AV-348, "Exploded View".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between TEL adapter unit harness connector.

(+)		(–)		Condition	Reference value
TEL adapter unit		TEL adapter unit			
Connector	Terminal	Connector	Terminal		
B237	7	B237	8	give a voice.	

PKIB5037J

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-348, "Exploded View".
NO >> Replace microphone. Refer to AV-346, "Exploded View".

CONTROL SIGNAL CIRCUIT

Description

INFOID:0000000006210464

TEL adapter unit identifies the vehicle model according to the control signal and performs the control.

Diagnosis Procedure

INFOID:0000000006210465

1.CHECK CONTINUITY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminals		
B237	23		Existed
	24		

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-348, "Exploded View".
NO >> Repair harness or connector.

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000006210466

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210467

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	6	M36	24	Existed

3. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M201	6		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M201	6	M201	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-317, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View".

Component Inspection

INFOID:0000000006210468

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

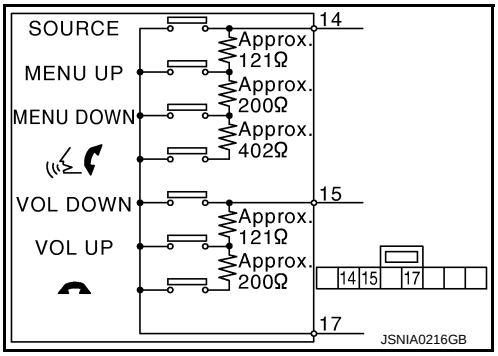
Standard

Between terminals 14 and 17

switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000006210469

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210470

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	16	M36	31	Existed

3. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M201	16		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M201	16	M201	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-319, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View".

Component Inspection

INFOID:0000000006210471

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

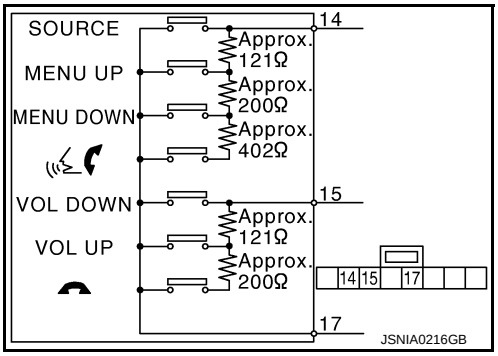
Standard

Between terminals 14 and 17

switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



STEERING SWITCH GROUND CIRCUIT

Description

INFOID:0000000006210472

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210473

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	15	M36	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK GROUND CIRCUIT

1. Connect AV control unit connector.
2. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M201	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-329, "Exploded View".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-321, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View".

Component Inspection

INFOID:0000000006210474

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

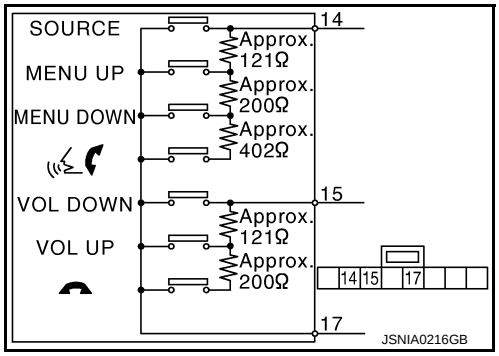
Standard

Between terminals 14 and 17

switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000006210475

OPERATION

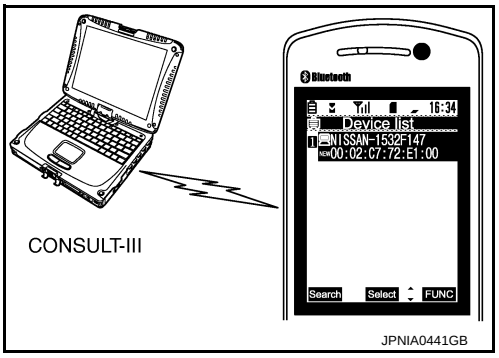
Symptoms	Check items	Possible malfunction location / Action to take
Multifunction switch and preset switch operation does not work.	• All switches cannot be operated. • “MULTI AV” is displayed on system selection screen when the CONSULT-III is started.	• Multifunction switch power supply and ground circuit. • AV communication circuit between AV control unit and multifunction switch. Perform “Self diagnosis Result” of “MULTI AV” with CONSULT-III. Refer to AV-240, "CONSULT - III Function".
	• All switches cannot be operated. • “MULTI AV” is not displayed on system selection screen when the CONSULT-III is initialized.	AV control unit power supply and ground circuit malfunction. Refer to AV-298, "AV CONTROL UNIT : Diagnosis Procedure".
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to AV-231, "On Board Diagnosis Function".
Fuel economy display, vehicle setting operation is abnormal.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-240, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-251, "DTC Index".
	There is no malfunction in the self-diagnosis results. Refer to AV-240, "CONSULT - III Function".	Ignition signal circuit malfunction. (AV control unit)

RELATED TO HANDS-FREE PHONE

Simple Check for Bluetooth™ Communication

If cellular phone and AV control unit cannot be connected with Bluetooth™ communication, following procedure allows the technician to judge which device has malfunction.

1. Turn on a cellular phone, not connecting Bluetooth™ communication.
2. Start CONSULT-III, then start Windows®.
3. Set CONSULT-III near a cellular phone.
4. When operated Bluetooth™ registration by cellular phone, check if CONSULT-III* would be displayed on the device name. (If other Bluetooth™ device is located near cellular phone, a name of the device would be displayed also.)
   NOTE:
   *:Displayed device name is “NISSAN-********”.



- If no device name is displayed, cellular phone is malfunctioning. Repair the cellular phone first, then perform diagnosis.
- If CONSULT-III is displayed on device name, cellular phone is normal. Perform diagnosis as per the following table.

Trouble Diagnosis Chart by Symptom

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	TEL adapter unit malfunction. Refer to AV-348, "Exploded View".
Hands-free phone cannot be established.	Both the reception and the speech cannot be performed	• Perform “Self diagnosis Result” of “MULTI AV” with CONSULT-III. Refer to AV-240, "CONSULT - III Function". • No malfunction. TEL adapter unit malfunction. Refer to AV-348, "Exploded View". • Malfunction is detected. Perform detected DTC diagnosis. Refer to AV-251, "DTC Index".
The other party's voice cannot be heard by hands-free phone.	The operation of the “ ” switch can be performed.	TEL voice signal circuit malfunction between TEL adapter unit and AV control unit.
	The operation of the “ ” switch cannot be performed.	Control signal circuit. Refer to AV-316, "Diagnosis Procedure".
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	TEL adapter unit. Refer to AV-348, "Exploded View".
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-314, "Diagnosis Procedure".
The system cannot be operated.	“SOURCE”, “MENU UP”, and “MENU DOWN” switches are operated. But “ ” switch is not operated.	• Check steering switch. Refer to AV-317, "Component Inspection". • Malfunction is detected. Replace steering switch. Refer to AV-344, "Exploded View".
	“SOURCE”, “MENU UP”, “MENU DOWN” and “ ” switches are not operated.	Steering switch signal A circuit malfunction. Refer to AV-317, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-321, "Diagnosis Procedure".

RELATED TO RGB IMAGE

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-240, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-251, "DTC Index".
	There is no malfunction in CONSULT-III self-diagnosis results. Refer to AV-240, "CONSULT - III Function".	Vertical synchronizing (VP) signal circuit. Refer to AV-311, "Diagnosis Procedure".
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to AV-302, "Diagnosis Procedure".
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to AV-303, "Diagnosis Procedure".
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to AV-304, "Diagnosis Procedure".
RGB screen is rolling.	—	RGB synchronizing signal circuit. Refer to AV-305, "Diagnosis Procedure".

RELATED TO AUDIO

Symptoms	Check items	Possible malfunction location / Action to take
The disk cannot be removed.	—	Disk eject signal circuit. Refer to AV-312, "Diagnosis Procedure".
Audio sound is not heard.	No sound from all speakers.	• Amp. ON signal circuit malfunction. • BOSE amp. power supply and ground circuits malfunction. Refer to AV-299, "BOSE AMP. : Diagnosis Procedure".
	Sound is not heard from rear woofer.	• Sound signal woofer circuit between BOSE amp. and rear woofer. • Woofer amp. ON signal circuit between BOSE amp. and rear woofer.
	Sound is heard only from specific places.	Sound signals circuit of suspect system.
Satellite radio is not received.	There is no malfunction in CONSULT-III self-diagnosis results. Refer to AV-240, "CONSULT - III Function".	Perform the following inspection procedure. 1. Check satellite radio antenna mounting nut for looseness. **NOTE:** Tightening torque: 6.5 N·m (0.66 kg-m, 58 in-lb.) 2. Visually check for satellite radio antenna feeder.
	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-240, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-251, "DTC Index".
The sound of satellite radio is not heard.	Other audio sounds are normal.	Satellite radio sound signal circuit between AV control unit and satellite radio tuner.
It does not change to satellite radio mode.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-240, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-251, "DTC Index".
AM/FM radio is not received.	Other audio sounds are normal.	• Antenna amp. ON signal circuit. • Antenna feeder.

RELATED TO USB

NOTE:

Check that there is no malfunction of USB equipment main body before performing a diagnosis.

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	• USB harness malfunction. • USB connector malfunction.

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to AV-321, "Diagnosis Procedure".
Only specified switch cannot be operated.	• Check steering switch. Refer to AV-317, "Component Inspection". • Malfunction is detected. Replace steering switch. Refer to AV-344, "Exploded View".
"SOURCE", "MENU UP", "MENU DOWN" and " " switches are not operated.	Steering switch signal A circuit. Refer to AV-317, "Diagnosis Procedure".
"VOL UP", "VOL DOWN" and " " switches are not operated.	Steering switch signal B circuit. Refer to AV-319, "Diagnosis Procedure".

RELATED TO CAMERA

Trouble Diagnosis Chart by Symptom

Symptoms	Check items	Probable malfunction location
Camera image is not shown. (Vehicle width and possible route line is displayed.)	—	• Camera image signal circuit. Refer to AV-307, "Diagnosis Procedure". • Composite image signal circuit. Refer to AV-309, "Diagnosis Procedure".
Camera image does not switch.	“Reverse” is not turned ON on “Vehicle Signals” screen of “Confirmation/Adjustment”.	Reverse signal circuit malfunction.
	“Reverse” is turned ON on “Vehicle Signals” screen of “Confirmation/Adjustment”.	AV control unit malfunction. Replace AV control unit. Refer to AV-329, "Exploded View".

NORMAL OPERATING CONDITION

Description

INFOID:0000000006210476

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press “DISC-AUX” to change the mode.
	The display is turned off.	Press “☀/☽ OFF” to turn on the display.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the multi AV system.

RELATED TO VOICE RECOGNITION

Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

Symptom	Solution
System fails to interpret the command correctly.	1. Ensure that the command is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). **NOTE:** If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.
	5. If more than one command was said at a time, try saying the commands separately.
	6. If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. See “Speaker adaptation (SA) mode” earlier in this section. Refer to “OWNER’S MANUAL”.
The system consistently selects the wrong voicetag	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the “List Names” command.
	2. Replace one of the names being confused with a new name.

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and then determine the cause.

NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA, AAC, M4A) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the “red book” Compact Disc Standard and may not play.

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC/M4A files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than “.MP3”, “.WMA”, “.AAC”, “.M4A”, “.mp3”, “.wma”, “.aac” or “.m4a” cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA/AAC/M4A writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the CD is protected by copyright.
	Discs recorded in live file system format are not supported. (For Microsoft Windows Vista, check the settings.)
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA/AAC/M4A CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA/AAC/M4A file has been given an extension of “.MP3”, “.WMA”, “.AAC”, “.M4A”, “.mp3”, “.wma”, “.aac” or “.m4a” or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

Noise resulting from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources, is not a malfunction.

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000006210477

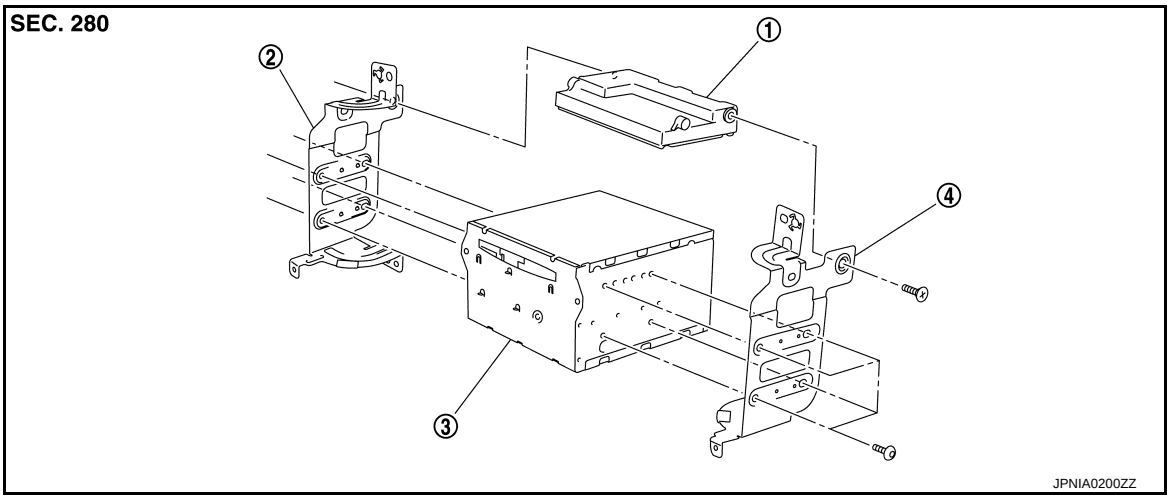
CAUTION:
- **Before replacing AV control unit, perform “READ CONFIGURATION” to save or print current vehicle specification. For details, refer to AV-284, "Description".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF**

NOTE:
After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Unified meter and A/C amp.
2. Bracket LH
3. AV control unit
4. Bracket RH

Removal and Installation

INFOID:0000000006210478

REMOVAL

CAUTION:
- **Before replacing AV control unit, perform “READ CONFIGURATION” to save or print current vehicle specification. For details, refer to AV-284, "Description".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF**

NOTE:
After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

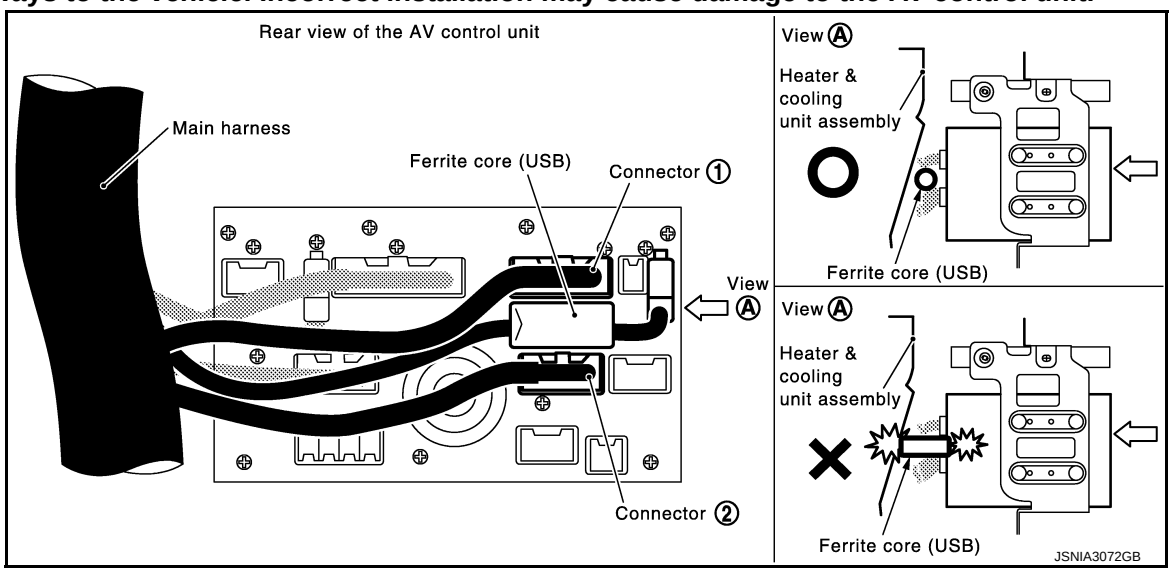
1. Remove display unit. Refer to AV-331, "Exploded View".
2. Remove AV control unit with a unified meter and A/C amp. as a single unit from the body.
3. Remove bracket screws, and then remove AV control unit.

INSTALLATION

Installation is the reverse order of removal.

CAUTION:
- **Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.**

- **Be sure to perform "WRITE CONFIGURATION" when replacing AV control unit.**
- **Install AV control unit between connector (1) and connector (2) with the ferrite core (USB) orientated sideways to the vehicle. Incorrect installation may cause damage to the AV control unit.**



DISPLAY UNIT

Exploded View

INFOID:0000000006210479

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

Removal and Installation

INFOID:0000000006210480

REMOVAL

1. Remove cluster lid D. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove display unit with bracket as a single unit.

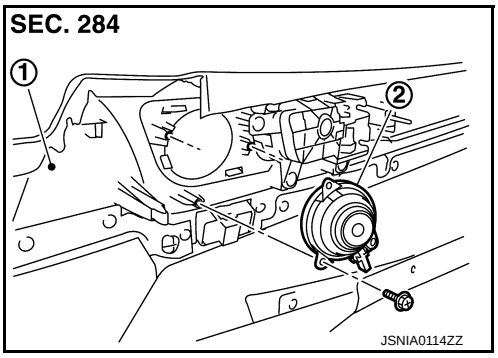
INSTALLATION

Installation is the reverse order of removal.

FRONT DOOR SQUAWKER

Exploded View

INFOID:0000000006210481



1. Door finisher
2. Front door squawker

Removal and Installation

INFOID:0000000006210482

REMOVAL

1. Remove front door finisher. Refer to INT-12, "Exploded View".
2. Remove front door squawker from door finisher.

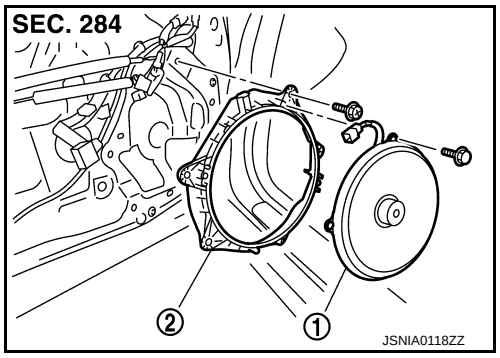
INSTALLATION

Installation is the reverse order of removal.

FRONT DOOR WOOFER

Exploded View

INFOID:0000000006210483



1. Front door woofer
2. Woofer bracket

Removal and Installation

INFOID:0000000006210484

REMOVAL

1. Remove front door finisher. Refer to INT-12, "Exploded View".
2. Remove front door woofer from woofer bracket.

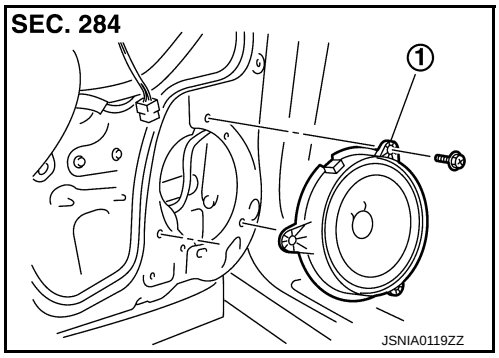
INSTALLATION

Installation is the reverse order of removal.

REAR DOOR SPEAKER

Exploded View

INFOID:0000000006210485



1. Rear door speaker

Removal and Installation

INFOID:0000000006210486

REMOVAL

1. Remove rear door finisher. Refer to INT-12, "Exploded View".
2. Remove rear door speaker from rear door.

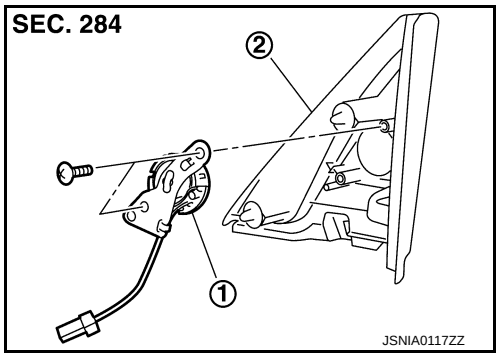
INSTALLATION

Installation is the reverse order of removal.

TWEETER

Exploded View

INFOID:0000000006210487



1. Tweeter
2. Corner cover inner

Removal and Installation

INFOID:0000000006210488

REMOVAL

1. Remove front door finisher, and then remove corner cover inner. Refer to INT-12, "Exploded View".
2. Remove tweeter from corner cover inner.

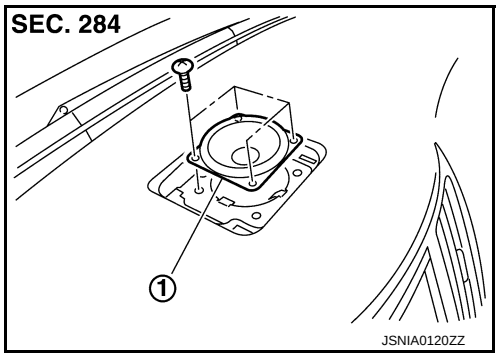
INSTALLATION

Installation is the reverse order of removal.

CENTER SPEAKER

Exploded View

INFOID:0000000006210489



1. Center speaker

Removal and Installation

INFOID:0000000006210490

REMOVAL

1. Remove upper grille, and then remove center speaker. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

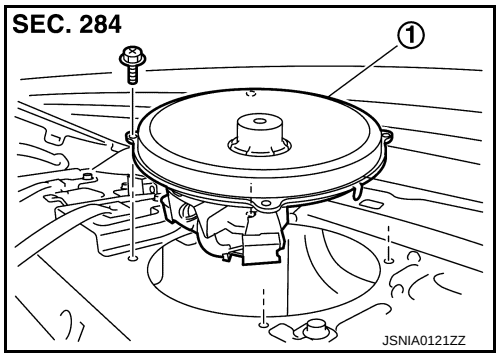
INSTALLATION

Installation is the reverse order of removal.

REAR WOOFER

Exploded View

INFOID:0000000006210491



1. Rear woofer

Removal and Installation

INFOID:0000000006210492

REMOVAL

1. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
2. Remove rear woofer from rear parcel shelf.

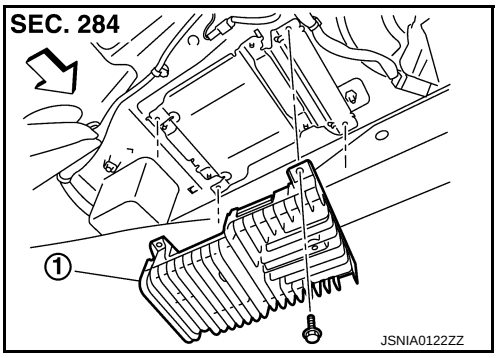
INSTALLATION

Installation is the reverse order of removal.

BOSE AMP.

Exploded View

INFOID:0000000006210493



1. BOSE amp.

⇦: Vehicle front

Removal and Installation

INFOID:0000000006210494

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove BOSE amp. from rear parcel shelf.

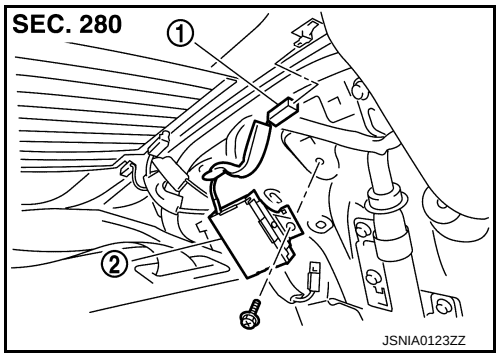
INSTALLATION

Installation is the reverse order of removal.

ANTENNA AMP.

Exploded View

INFOID:0000000006210495



1. AM-FM main connector
2. Antenna amp.

Removal and Installation

INFOID:0000000006210496

REMOVAL

1. Remove rear pillar finisher LH. Refer to INT-15, "Exploded View".
2. Remove antenna amp. from rear pillar LH.

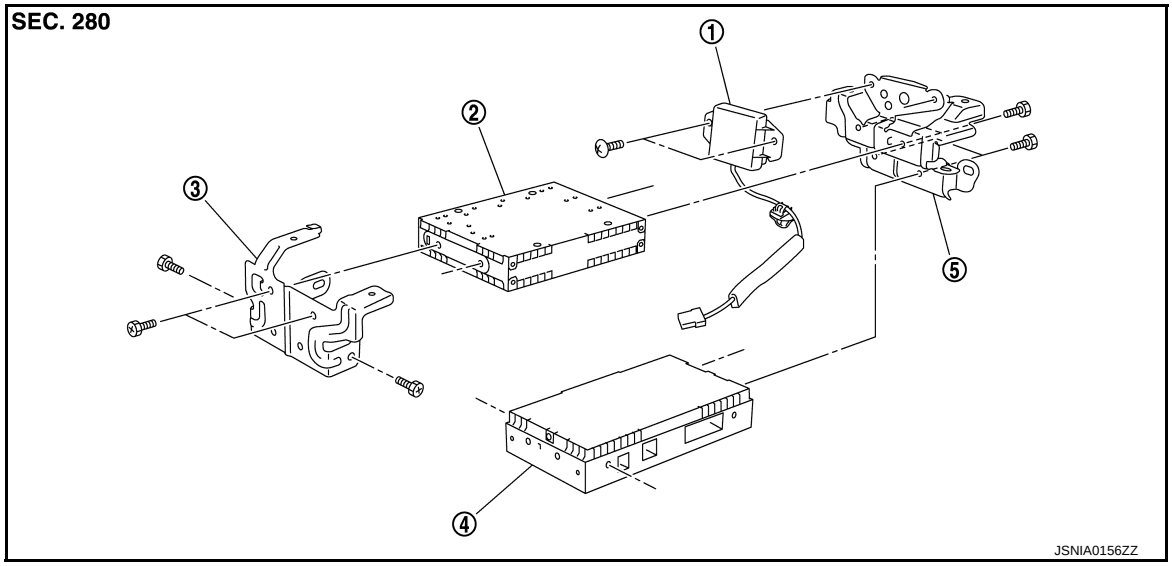
INSTALLATION

Installation is the reverse order of removal.

SATELLITE RADIO TUNER

Exploded View

INFOID:0000000006210497



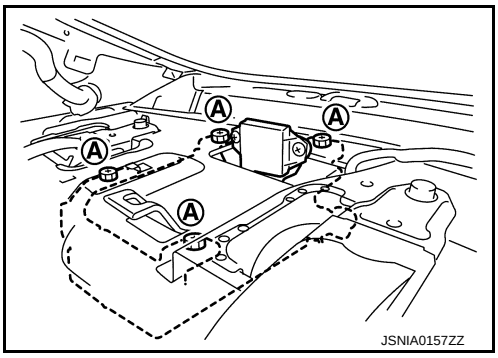
1. TEL antenna
2. Satellite radio tuner
3. Bracket (front)
4. TEL adapter unit
5. Bracket (rear)

Removal and Installation

INFOID:0000000006210498

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
3. Remove screws (A) from inside the cabin, and remove TEL adapter unit and TEL antenna as a single unit from trunk room side.
4. Remove bracket screws and remove TEL adapter unit and satellite radio tuner.



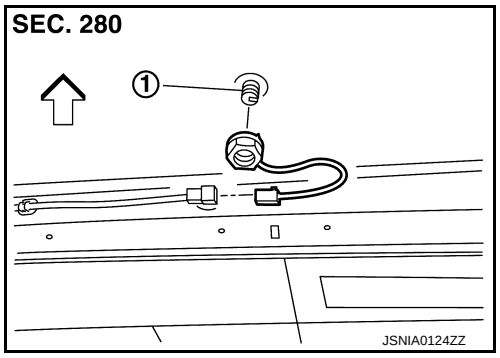
INSTALLATION

Installation is the reverse order of removal.

SATELLITE RADIO ANTENNA

Exploded View

INFOID:0000000006210499



1. Satellite radio antenna

⇦ : Vehicle front

Removal and Installation

INFOID:0000000006210500

REMOVAL

1. Remove head lining assembly (rear) to secure work space between vehicle and headlining. Refer to INT-24, "NORMAL ROOF : Exploded View" (normal roof models) or INT-27, "SUNROOF : Exploded View" (sunroof models).
2. Remove nut, and then remove satellite radio antenna from roof panel.

INSTALLATION

Installation is the reverse order of removal.

Satellite radio antenna mounting nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

CAUTION:

Be careful about tightening torque. Antenna sensitivity becomes poor, and when it is excessive, roof panel may be deformed, when satellite radio antenna mounting nut tightening torque is loose.

MULTIFUNCTION SWITCH

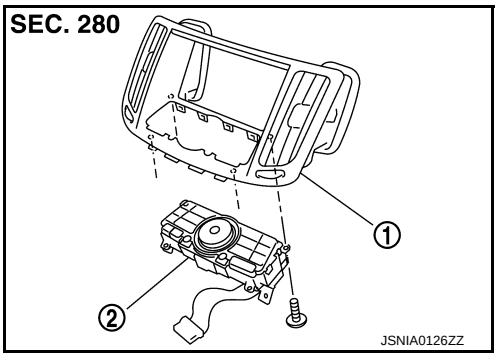
Exploded View

INFOID:0000000006210501

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Center ventilator grille
2. Multifunction switch

Removal and Installation

INFOID:0000000006210502

REMOVAL

1. Remove cluster lid D. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove multi function switch with center ventilator grille as a single unit.
3. Remove multi function switch from center ventilator.

INSTALLATION

Installation is the reverse order of removal.

PRESET SWITCH

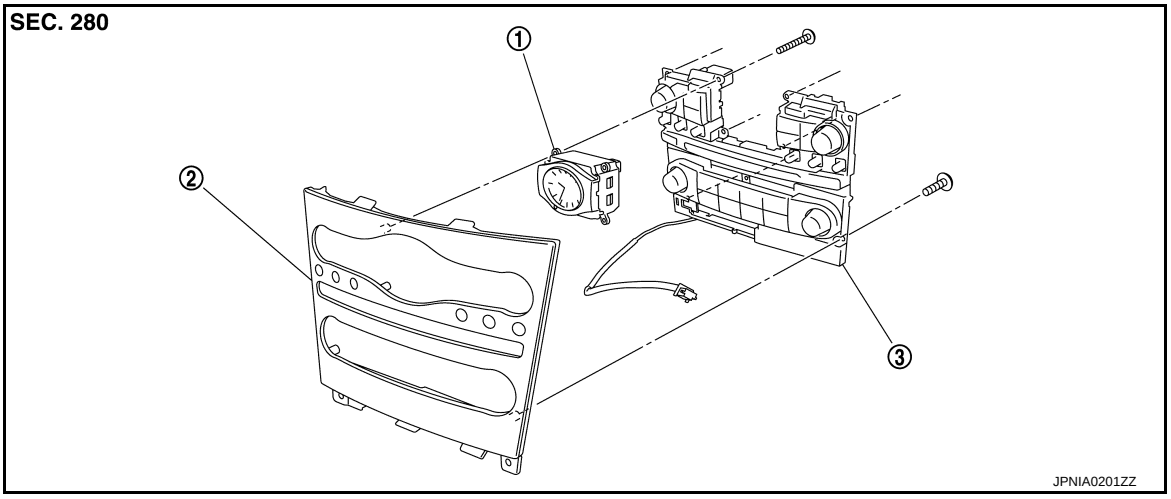
Exploded View

INFOID:0000000006210503

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Clock
2. Cluster lid C
3. Preset switch

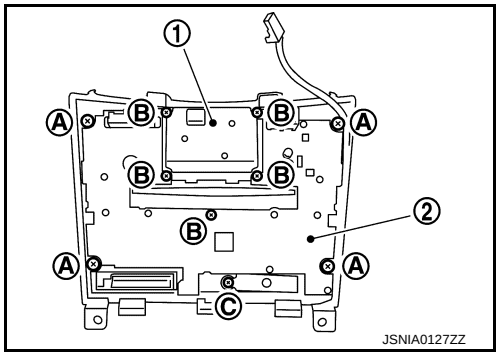
Removal and Installation

INFOID:0000000006210504

REMOVAL

1. Remove cluster lid C. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove preset switch screws (A), (B), and (C), and then remove preset switch (2) from cluster lid C.

1. Clock



INSTALLATION

Installation is the reverse order of removal.

NOTE:

When installing preset switch, do not allow the print wire that connects preset switch and multifunction switch to get caught in between AV control unit and preset switch.

STEERING SWITCH

Exploded View

INFOID:0000000006210505

Refer to ST-17, "Exploded View".

Removal and Installation

INFOID:0000000006210506

REMOVAL

Refer to ST-17, "Removal and Installation".

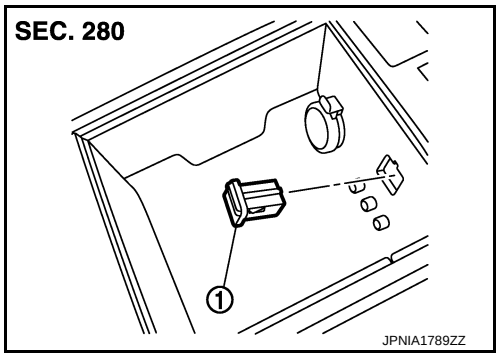
INSTALLATION

Installation is the reverse order of removal.

USB CONNECTOR

Exploded View

INFOID:0000000006210507



1. USB connector

Removal and Installation

INFOID:0000000006210508

REMOVAL

1. Remove center console. Refer to IP-34, "A/T MODELS : Exploded View" (A/T models) or IP-39, "M/T MODELS : Exploded View" (M/T models).
2. Push the pawl from the back of center console to remove USB connector.

INSTALLATION

Install in the reverse order of removal.

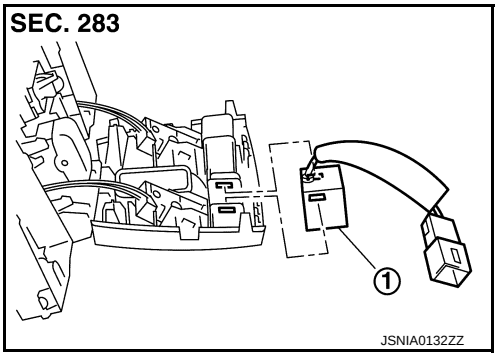
MICROPHONE

Exploded View

INFOID:0000000006210509

REMOVAL
Refer to INL-109, "Exploded View".

DISASSEMBLY



1. Microphone

Removal and Installation

INFOID:0000000006210510

REMOVAL

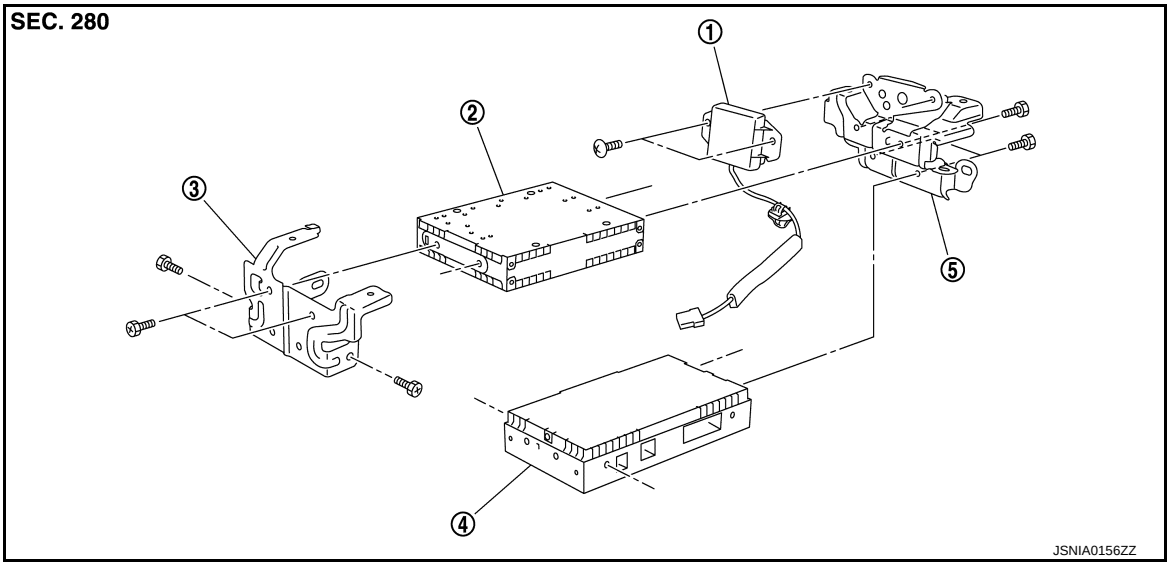
1. Remove map lamp. Refer to INL-109, "Exploded View".
2. Remove microphone from map lamp.

INSTALLATION
Installation is the reverse order of removal.

TEL ANTENNA

Exploded View

INFOID:0000000006210511



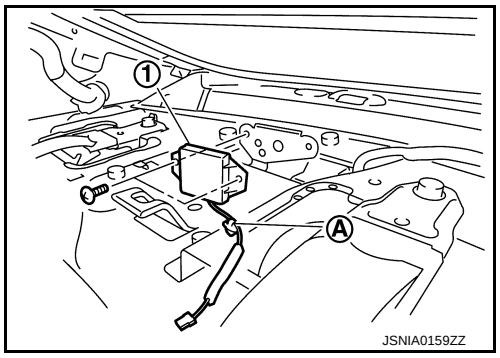
1. TEL antenna
2. Satellite radio tuner
3. Bracket (front)
4. TEL adapter unit
5. Bracket (rear)

Removal and Installation

INFOID:0000000006210512

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
3. Remove screws and clip (A) from inside the cabin and remove TEL antenna (1) connector from trunk room side.



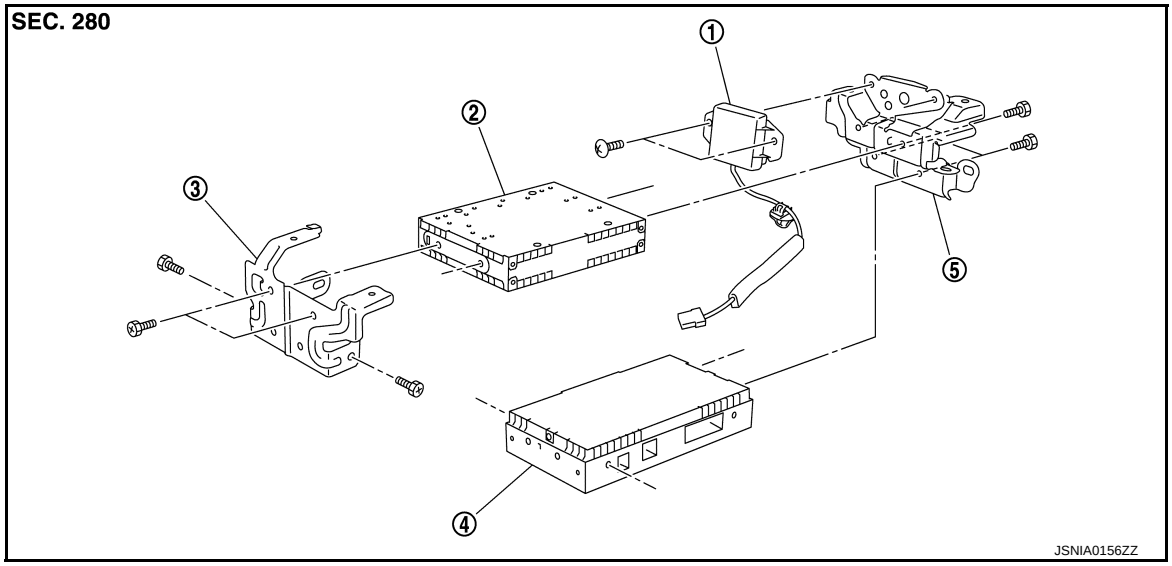
INSTALLATION

Installation is the reverse order of removal.

TEL ADAPTER UNIT

Exploded View

INFOID:0000000006210513



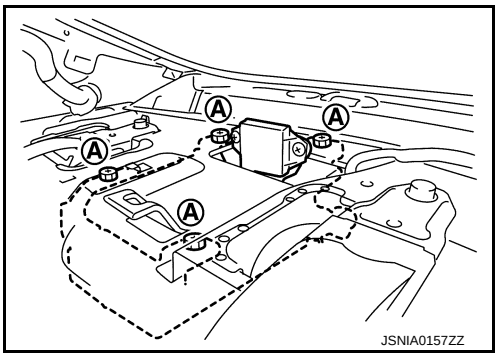
1. TEL antenna
2. Satellite radio tuner
3. Bracket (front)
4. TEL adapter unit
5. Bracket (rear)

Removal and Installation

INFOID:0000000006210514

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
3. Remove screws (A) from inside the cabin, and remove TEL adapter unit and TEL antenna as a single unit from trunk room side.
4. Remove bracket screws and remove TEL adapter unit and satellite radio tuner.



INSTALLATION

Installation is the reverse order of removal.

REAR VIEW CAMERA

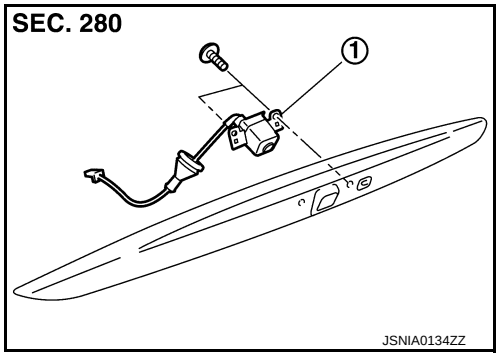
Exploded View

INFOID:0000000006210515

REMOVAL

Refer to EXT-41, "Exploded View".

DISASSEMBLY



1. Rear view camera

Removal and Installation

INFOID:0000000006210516

REMOVAL

1. Remove trunk lid finisher outer. Refer to EXT-41, "Exploded View".
2. Remove rear view camera from trunk lid finisher outer.

INSTALLATION

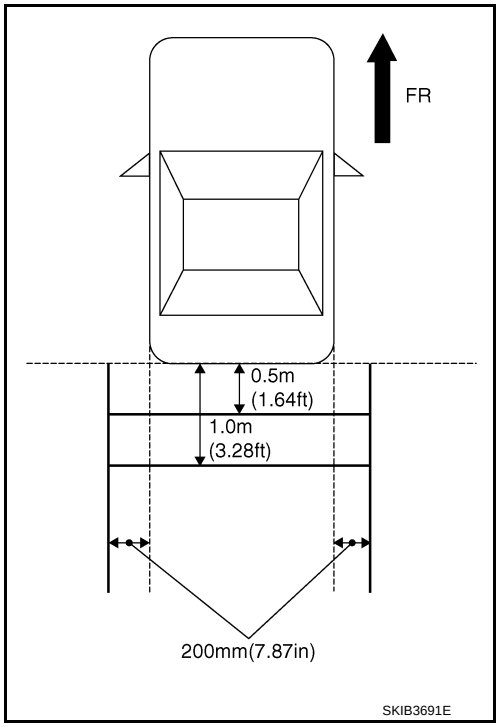
Installation is the reverse order of removal.

Adjustment

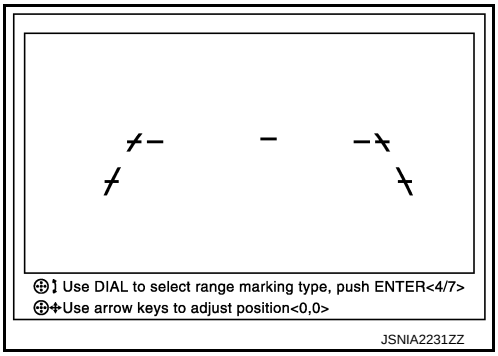
INFOID:0000000006210517

Adjust the guide line position if the guide line position is shifted after installing the rear view camera.

1. Draw lines on rearward area of the vehicle passing through the following points: 200 mm (7.87 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1.0 m (3.28 ft) from the rear end of the bumper.
2. Set into “Adjust Guide Lines” mode of “Confirmation/Adjustment” mode.



3. Rotate the center dial, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.



Selected pattern : 7

4. Make fine adjustment to the correction line of the rear of the vehicle with up/down/left/right switches so that its position is aligned with the guiding line. Press “OK” switch and record the adjusted guiding line position to the AV control unit.

Up/Down adjustment range : 20° to 20°

Left/Right adjustment range : 20° to 20°

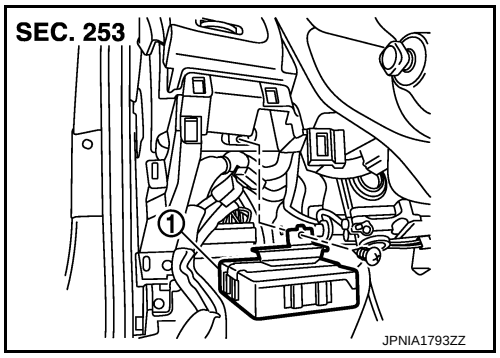
CAUTION:

After the adjustment, never perform other operations for one minute.

SONAR CONTROL UNIT

Exploded View

INFOID:0000000006210518



1. Sonar control unit

Removal and Installation

INFOID:0000000006210519

REMOVAL

1. Remove the instrument finisher A. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove sonar control unit screw, then disconnect sonar control unit connector and remove the sonar control unit.

INSTALLATION

Install in the reverse order of removal.

STEERING ANGLE SENSOR

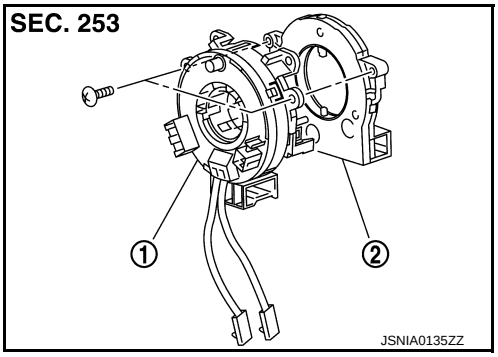
Exploded View

INFOID:0000000006210520

REMOVAL

Refer to SR-14, "Exploded View".

DISASSEMBLY



1. Spiral cable
2. Steering angle sensor

Removal and Installation

INFOID:0000000006210521

REMOVAL

1. Remove spiral cable. Refer to SR-14, "Exploded View".
2. Remove steering angle sensor from spiral cable.

INSTALLATION

Installation is the reverse order of removal.

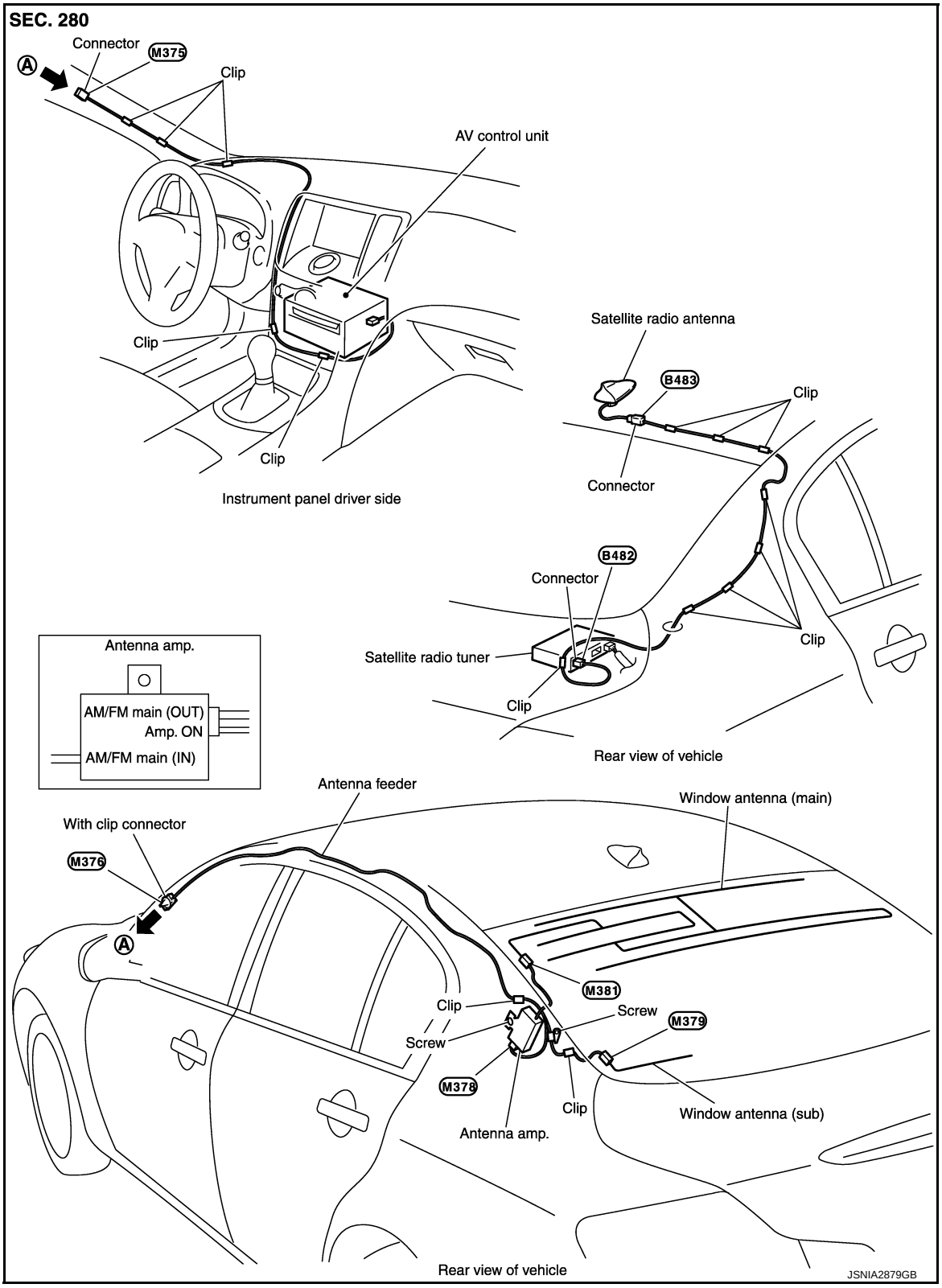
CAUTION:

After work, make sure to adjust neutral position of steering angle sensor. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description".

ANTENNA FEEDER

Feeder Layout

INFOID:0000000006210522



PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000006210523

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)

INFOID:0000000007933559

CAUTION:

Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000006210524

AV COMMUNICATION SYSTEM

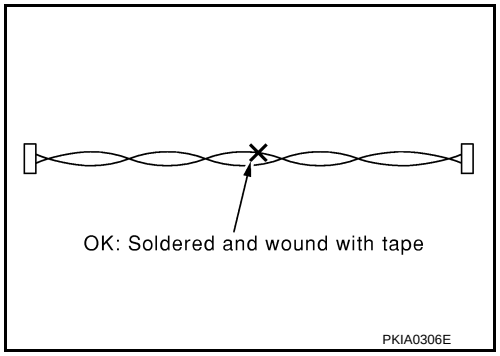
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

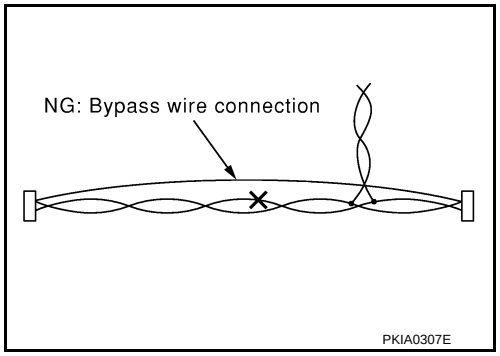
INFOID:0000000006210525

AV COMMUNICATION SYSTEM

- Solder the repaired parts, and wrap with tape. [Frays of twisted line must be within 110 mm (4.33 in).]



- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

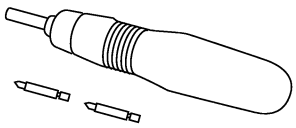


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000006210526

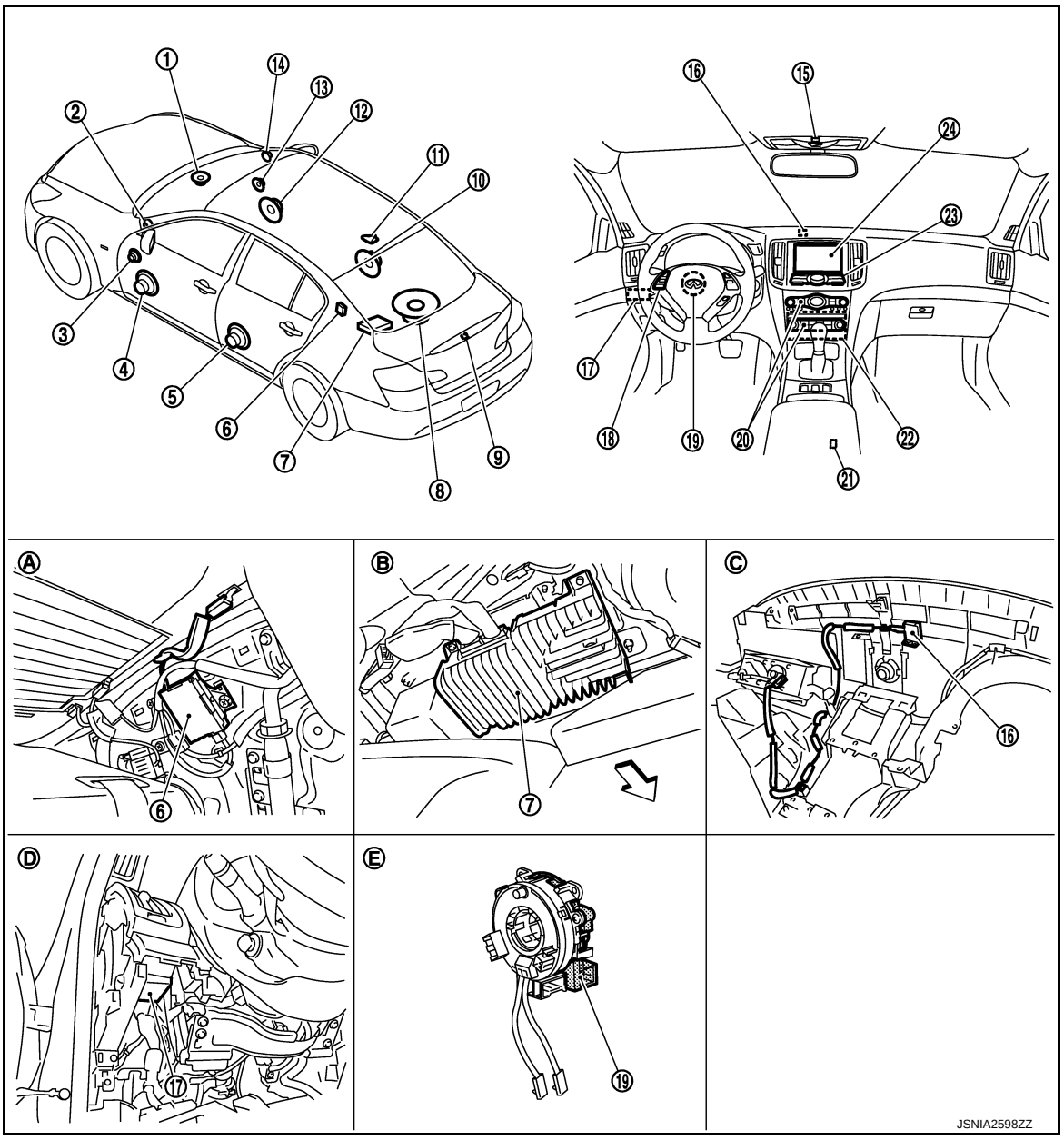
Tool	Description
Power tool  PBIC0191E	Loosening screws

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000006210527



1. Center speaker
2. Tweeter LH
3. Front door squawker LH
4. Front door woofer LH
5. Rear door speaker LH
6. Antenna amp.
7. BOSE amp.
8. Rear woofer
9. Rear view camera
10. Rear door speaker RH
11. Satellite radio antenna
12. Front door woofer RH
13. Front door squawker RH
14. Tweeter RH
15. Microphone
16. GPS antenna
17. Sonar control unit
18. Steering switch
19. Steering angle sensor
20. Preset switch
21. USB connector
22. AV control unit
23. Multifunction switch
24. Display unit

A. Within rear pillar finisher LH
B. Lower part of rear parcel shelf
C. Instrument panel rear side

D. Instrument driver lower panel removed condition
E. Spiral cable removed condition
⇦: Vehicle front

Component Description

INFOID:0000000006210528

Part name	Description
AV control unit	• Integrates hard disk drive (HDD) allowing map data and music data to be stored. • It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit. • The AV control unit includes the audio, hands-free phone, voice control, navigation, USB connection, DVD play, satellite radio and vehicle information functions. • It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function. • It is connected to the steering angle sensor and receives the steering angle sensor signal via CAN communication. • It inputs the illumination signals that are required for the display dimming control. • It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake). • The RGB digital image signal and composite image signal are output to display unit. • Amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. • Update of map data is performed with the DVD-ROM.
Display unit	• Display image is controlled by the serial communication from AV control unit. • RGB digital image signal is input from AV control unit. • Composite image signal is input from AV control unit. • Camera image signal is input from rear view camera. • Touch panel function can be operated for each system by touching a display directly.
BOSE amp.	• Inputs sound signal from AV control unit, and outputs sound signal to each speaker. • Input mode change signal from AV control unit.
Front door woofer	• Outputs sound signal from BOSE amp. • Outputs low range sound.
Front door squawker	• Outputs sound signal from BOSE amp. • Outputs mid range sound.
Rear door speaker	• Outputs sound signal from BOSE amp. • Outputs high, mid and low range sounds.
Tweeter	• Outputs sound signal from BOSE amp. • Outputs high range sound.
Center speaker	• Outputs sound signal from BOSE amp. • Outputs high, mid and low range sounds.
Rear woofer	• Outputs sound signal from BOSE amp. • Outputs low-pitched sound. • Power (woofer amp. ON signal) is supplied from BOSE amp.
Multifunction switch	• Operation panel is equipped with the centralized switch where audio, auxiliary input and navigation, etc. operations are integrated. • Connected with preset switch via cable, and operation signal is transmitted to AV control unit via AV communication.
Preset switch	• Operation panel is equipped with the centralized switch where audio and air conditioner, etc. operations are integrated. • Connected with multifunction switch via cable, and operation signal is transmitted to AV control unit via AV communication. • The disk ejection operating signal is performed by hardwire.
Rear view camera	• Camera power supply is input from AV control unit. • The image of vehicle rear view is transmitted to display unit.
Steering angle sensor	It is connected to the AV control unit and transmits the steering angle sensor signal via CAN communication.

Part name	Description
Sonar control unit	• Controlled by AV communication transmitted from AV control unit. • Trouble diagnosis is supported with CONSULT-III (K-LINE).
Steering switch	• Operations for audio, hands-free phone, voice control and navigation, etc. are possible. • Steering switch signal (operation signal) is output to AV control unit.
Microphone	• Used for hands-free phone operation and voice recognition. • Microphone signal is transmitted to AV control unit. • Power (Microphone VCC) is supplied from AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Antenna amp.	• Radio signal received by glass antenna is amplified and transmitted to AV control unit. • Power (antenna amp. ON signal) is supplied from AV control unit.
Satellite radio antenna	Satellite radio signal is received and transmitted to AV control unit.
USB connector	Image signal*1 and sound signal of USB input is transmitted to AV control unit.

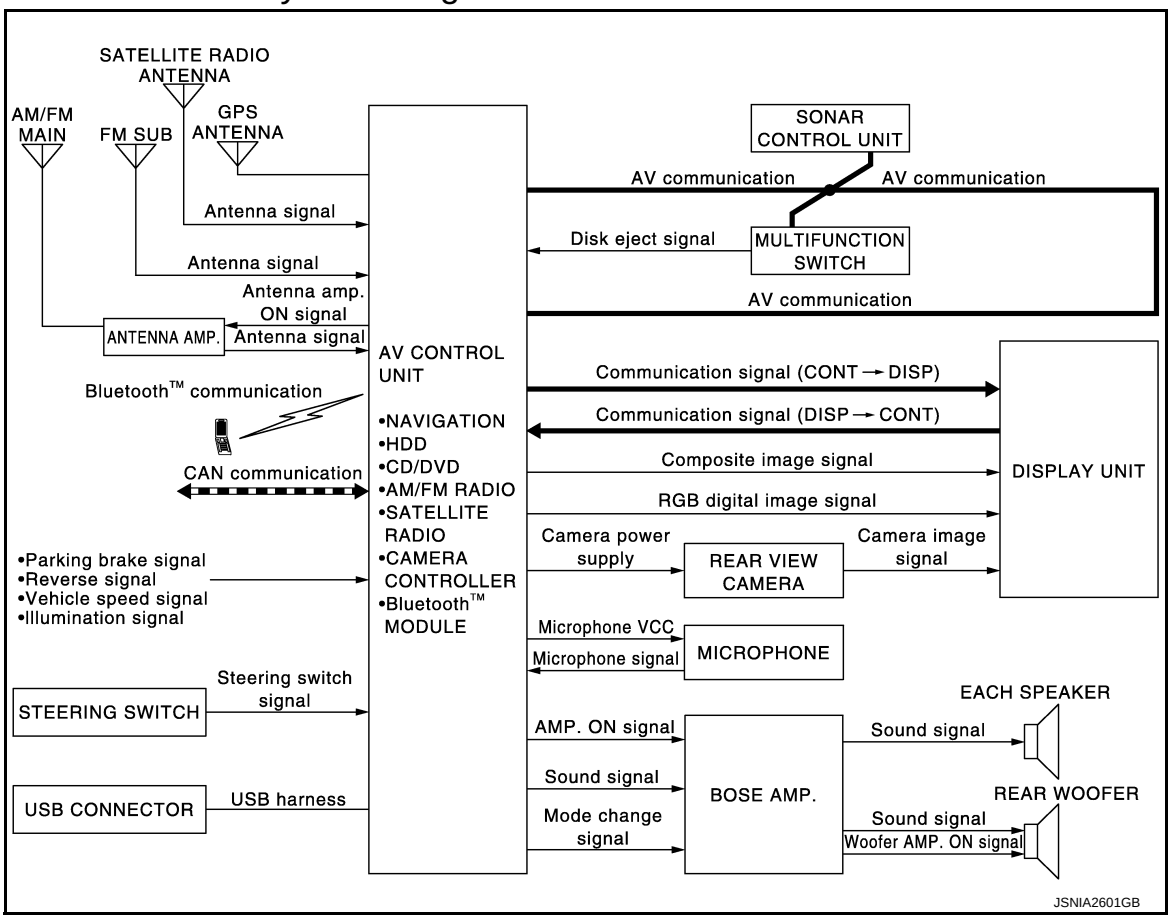
*1: Image signals cannot be received from iPod®.

SYSTEM

MULTI AV SYSTEM

MULTI AV SYSTEM : System Diagram

INFOID:0000000006210529



NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

MULTI AV SYSTEM : System Description

INFOID:0000000006210530

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Navigation system function
Audio function
DVD play function
Hands-free phone function
USB connection function
Voice recognition function
Touch panel function
Rear view monitor function
Sonar system
Vehicle information function

COMMUNICATION SIGNAL

- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected by CAN communication, and it receives data signal from ECM, unified meter and A/C amp. It computes and displays fuel economy information value with the obtained information.
- AV control unit is connected with display and serial communication, and it transmits the required signal of display and display control and receives the response signal from display.

NAVIGATION SYSTEM FUNCTION

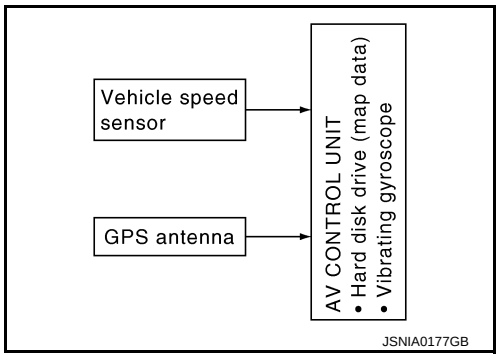
Description

- The AV control unit controls navigation function while GPS tuner has built-in map data, GYRO (angle speed sensor), on the HDD (Hard Disk Drive).
- The AV control unit inputs operation signal with communication signal, through display (touch panel) and multifunction switch and steering switch.
- Guide sound is output to front speaker through BOSE amp. from AV control unit when operating navigation system.
- A vehicle position is calculated with the GYRO (angle speed sensor), vehicle sensor, signal from GPS satellite and map data stored on HDD (Hard Disk Drive), and transmits the map image signal (RGB image, RGB area, RGB image synchronizing) to the display.

Position Detection Principle

The navigation system periodically calculates the current vehicle position according to the following three types of signals.

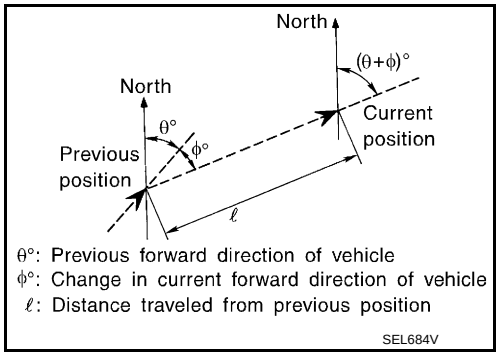
- Travel distance of the vehicle as determined by the vehicle speed sensor
- Vehicle turning angle determined by the gyroscope (angular speed sensor)
- The travel direction of the vehicle determined by the GPS antenna (GPS information)



The current position of the vehicle is then identified by comparing the calculated vehicle position with map data, which is stored in the HDD (Hard Disk Drive) (map-matching), and indicated on the screen with a current location mark. More accurate data is used by comparing position detection results from GPS to the map-matching.

The current position is calculated by detecting the travel distance from the previous calculation point, and its direction change.

- Travel distance
  The travel distance is generated from the vehicle speed sensor input signal. The automatic distance correction function is adopted for preventing a miss-detection of the travel distance because of tire wear etc.
- Travel direction
  The gyroscope (angular velocity sensor) and GPS antenna (GPS information) generate the change of the travel direction. Both have advantages and disadvantages as per the following descriptions.

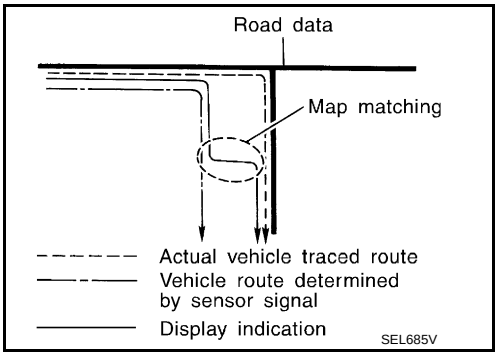


Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	The turning angle is precisely detected.	Errors are accumulated when driving a long distance without stopping.
GPS antenna (GPS information)	The travel direction (North/South/East/West) is detected.	The travel direction is not precisely detected when driving slowly.

Input signals are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

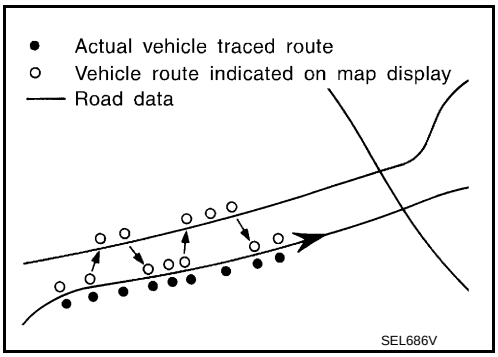
Map-matching

Map-matching repositions the vehicle on the road map when a new location is judged to be more accurate. This is done by comparing the current vehicle position (calculated by the normal position detection method) from the map data stored in the HDD (Hard Disk Drive).

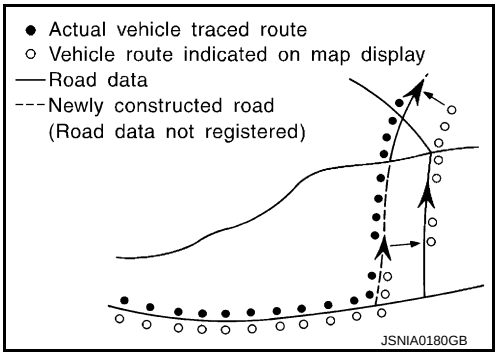


There is a possibility that the vehicle position may not be corrected in the following case, and when vehicle is driven over a certain distance or time in which GPS information is hard to receive. Correct manually the current location mark on the screen.

- In map-matching, several alternative routes are prepared and prioritized in addition to the road judged as currently driving on.
  Therefore, due to errors in the distance and/or direction, an incorrect road may be prioritized, and the current location mark may be repositioned to the incorrect road.
  If two roads are running in parallel, they are of the same priority. Therefore, the current location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road, etc.



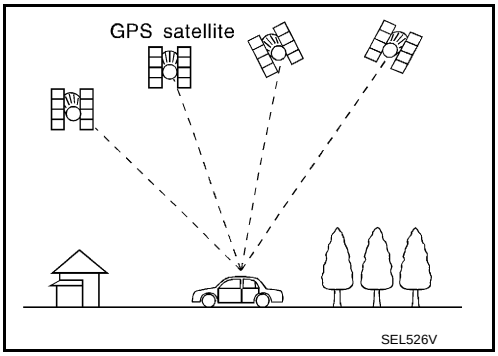
- Map-matching does not function correctly when road on which the vehicle is driving is new, etc. and not recorded in the map data. Also, map-matching does not function correctly when road pattern stored in the map data and the actual road pattern are different due to repair, etc.
  Therefore, the map-matching function judges other road as a currently driving road if the road is not in the map, and displays the current location mark on it. Later, the current location mark may be repositioned to the road if the correct road is detected.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (Global Positioning System)

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).

The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.

- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

NOTE:

- The detection result has an error of approximately 10 m (32.81 ft) even with a high-precision three dimensional positioning.
- There may be cases when the accuracy is lowered and radio waves are stopped intentionally because the GPS satellite signal is controlled by the US trace control center.

AUDIO FUNCTION

The audio system is equipped with the following functions. Each function is operated with multifunction switch, preset switch, touch panel, steering switch or audio recognition. Operation status of audio is indicated at display.

FUNCTION
AM/FM radio
Satellite radio
CD
Bluetooth™ audio
Music Box (Hard Disk Drive)
Driver's Audio Stage

Operating Signal

Audio system operation can be performed with multifunction switch, preset switch, steering switch, touch panel function or voice recognition function.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch. The disk ejection operating signal is performed by hardwire.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.

Screen Display

Switching of display is performed with serial communication between display unit and AV control unit.

AM/FM Radio Mode

- AM/FM radio tuner is built into AV control unit.
- Audio signal is received by glass antenna, next it is amplified by antenna amp, and finally it is input to AV control unit. Audio signal is input to BOSE amp., and BOSE amp. outputs to each speaker.

Satellite Radio Mode

- Satellite radio tuner is built into AV control unit.
- Audio signal (satellite radio) is received by satellite antenna, and it is input to AV control unit. AV control unit outputs audio signal to BOSE amp. The signal is also outputted from BOSE amp. to both woofer and each speaker.

CD Mode

- CD function is built into AV control unit.
- AV control unit outputs audio signal to BOSE amp., and BOSE amp. outputs to each speaker when CD is inserted to AV control unit.

Bluetooth™ Audio Mode

- Bluetooth™ audio function is built into AV control unit.
- Bluetooth™ audio can play music data in the portable audio by means of Bluetooth™ communications between the portable audio and the AV control unit.
- AV control unit outputs audio signal to BOSE amp., and BOSE amp. outputs to each speaker.

Music Box Mode

- Music CD data is stored on HDD that is built into AV control unit, and it can be played.
- AV control unit outputs music (sound signal) that is stored on HDD to BOSE amp., and BOSE amp. outputs to each speaker.

Driver's Audio Stage

- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.
- ON/OFF signals of Driver's Audio Stage are transmitted from AV control unit to BOSE amp. using mode change signal.

DVD PLAY FUNCTION

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the display unit and DVD sound signals are transmitted to each speaker via BOSE amp.

HANDS-FREE PHONE FUNCTION

- AV control unit includes hands-free phone function.
- Hands-free communication can be operated by connecting using Bluetooth™ communication with cellular phone.
- Operation is performed by steering switch, and operating condition is indicated on display.
- Guide sound that is heard during operation is input from AV control unit to BOSE amp., and is output from front speaker.

When A Call Is Originated

Spoken voice sound output from the microphone (microphone signal) is input to AV control unit. AV control unit outputs to cellular phone with Bluetooth™ communication as a TEL voice signal. Voice sound is then heard at the other party.

When Receiving A Call

Voice sound is input to own cellular phone from the other party. TEL voice signal is output to door speaker, and the signal is input to BOSE amp. via AV control unit by establishing Bluetooth™ communication from cellular phone.

USB CONNECTION FUNCTION

- Connecting iPod® or USB memory allows the driver to play iPod® music files or USB memory-stored music files, video data, and image viewer data.
- Sound signals of music files stored in iPod® or USB memory are transmitted from the USB connector to the AV control unit. The AV control unit transmits the sound signals to the each speaker via BOSE amp.
- Video signals and image viewer file signals are transmitted from the USB connector to the AV control unit. The data and files are displayed on the display unit screen.
- iPod® is recharged when connected to USB connector.
- Only files that meet the following conditions will be played.

	Music file	Video file	Image viewer file
File format	“MP3”, “WMA”, “AAC”, “M4A”	“DivX”, “MPEG4 (ASF)”	“JPEG”
File extension	“.mp3”, “.wma”, “.aac”, “.m4a”	“.divx”, “.afs”, “.avi”	“.jpg”, “.jpeg”
Maximum file size	2 GB	2 GB	2 MB

NOTE:

- iPod® is a trademark of Apple inc., registered in the U.S. and other countries.
- Image signals cannot be received from iPod®.
- Use the enclosed USB harness when connecting iPod® to USB connector.

VOICE RECOGNITION FUNCTION

- Each operation of multi AV system can be performed by inputting sound to microphone.
- Start of sound recognition system can be performed by steering switch.

TOUCH PANEL SYSTEM

Each operation of multi AV system can be performed by directly touching a display.

REAR VIEW MONITOR FUNCTION

- The AV control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the display unit when power is supplied from the AV control unit.

- The AV control unit transmits a warning message, fixed guide lines, and predictive course lines to the display unit by RGB digital image signal. Rear view monitor images are displayed by combining the RGB digital image signal and the camera image signals from the rear view camera.
- Predictive course lines are controlled by a steering angle sensor signal received the AV control unit via CAN communication.

SONAR SYSTEM

For further information about the sonar system, refer to SN-7, "System Description".

VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy, maintenance and navigation are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM, unified meter and A/C amp.
- AV control unit is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function.

MULTI AV SYSTEM : Fail-Safe

INFOID:0000000006210531

When the ambiance temperature becomes extremely low or extremely high, AV control unit displays the message and limits the AV control unit function.

FAIL-SAFE CONDITIONS

When the ambiance temperature is –20°C (–4°F) or lower, or when it is 70°C (158°F) or higher

Display

The messages displayed on fail-safe conditions are as shown below:

Fail-safe mode	Display (display of the fail-safe condition)
When HDD temperature is low	HDD system is experiencing problems due to extreme low temperature. Normal operation will resume when temperature rises.
When HDD temperature is high	HDD system is experiencing problems due to extreme high temperature. Normal operation will resume when temperature drops.

DESCRIPTION OF CONTROLS

Function		When Fail-safe Function is activated
Air conditioner	Operation	Only multifunction switch (preset switch) can be operated.
	Display	• LED of multifunction switch (preset switch) illuminates. • Aimed temperature, blow angle, and flow rate are displayed in simplified mode.
Audio	Operation	Only ON/OFF and volume control operations by multifunction switch (preset switch) are possible.
	Display	No display (“Fail-safe mode” is displayed)
Camera	Operation	Image tone cannot be controlled.
	Display	Cannot be superimposed. (warning display, tone control display)
Hands-free phone	Operation	Cannot be operated.
Navigation	Operation	Cannot be operated.
Self diagnosis		The display in simplified mode of fail-safe condition
CONSULT-III diagnosis		Cannot be operated.

Ability Operation Mode

There is an ability operation mode for Fail-safes due to low or high ambiance temperature.
If HDD data can be read, fail-safe is shown, then normal displays are displayed only for functions which can be operated.

RELEASE CONDITIONS OF FAIL-SAFE

Fail-safe is released on following conditions and normal mode is restored.

When The Temperature of HDD Is Low or High

If the ambient temperature becomes out of fail-safe condition range, normal mode is restored.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000006210532

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT-III diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function, etc.

On Board Diagnosis Function

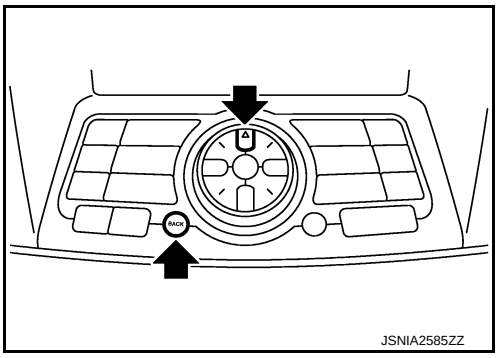
INFOID:0000000006210533

MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 8-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.
  NOTE:
  The hazard switch and disk eject switch cannot be checked.



Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning the ignition switch OFF.

ON BOARD DIAGNOSIS ITEM

Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- The self-diagnosis mode performs diagnoses on the AV control unit, connections between system components as well as connections between AV control unit and GPS antenna. Then it displays the diagnosis results on the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

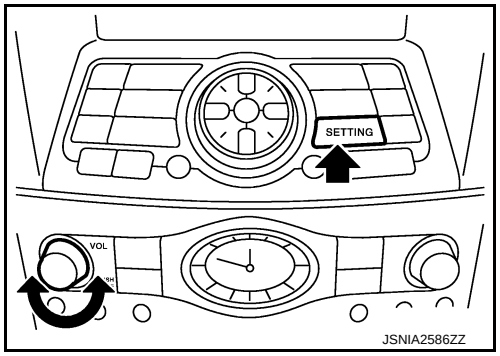
On Board Diagnosis Item

Mode	Description
Self Diagnosis	• AV control unit diagnosis. • Diagnoses the connections across system components, between AV control unit and GPS antenna.

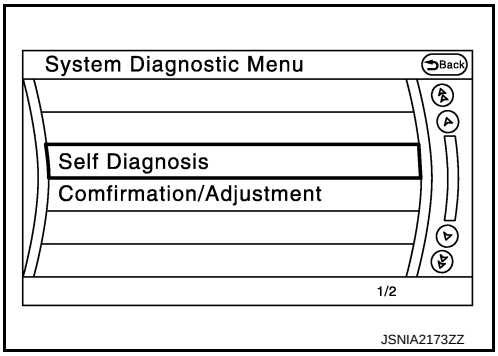
Mode			Description
Confirmation/ Adjustment	Display Diagnosis		The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display and touch panel calibration response check.
	Vehicle Signals		Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition, reverse, side view switch and room lamp.
	Climate Control		Start auto air conditioner system self-diagnosis.
	Navigation	Steering Angle Adjustment	When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.
		Speed Calibration	When there is a difference between the current location mark and the actual location, it can be adjusted.
		XM SAT Subscription Status	The XM NavTraffic subscription status can be checked.
	Error History		The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Synchronizer FES Clock		–
	Speaker Test		The connection of a speaker can be confirmed by test tone.
	Vehicle CAN Diagnosis		The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis		The communication condition of each unit of Multi AV system can be monitored.
	Hands-free Phone		The received volume adjustment of hands-free phone, microphone speaker check, and erase memory can be performed.
	Camera Cont.		The signal connected to camera control unit can be checked and the guiding line position that overlaps rear view camera image can be adjusted.
	XM	XM NaviTrffic	Change Channel • Any necessary channels required to receive traffic information from the satellite radio system can be set. Change Application ID • Any application ID'-s required to receive traffic information from the satellite radio system can be set.
		XM NavWeather	
		XM CGS	
		Diag	
	Delete Unit Connection Log		Erase the connection history of unit and error history.
	Initialize Settings		Initializes the AV control unit memory.
	Version Information		Version information of the AV control unit is displayed.

METHOD OF STARTING

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   • Shifting from current screen to previous screen is performed by pressing “BACK” button.



4. The trouble diagnosis initial screen is displayed, and then the items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected.



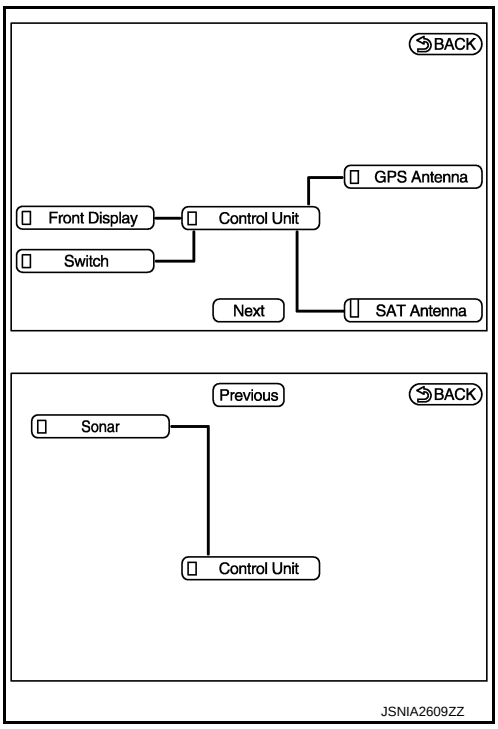
SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select “Self Diagnosis”.
- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

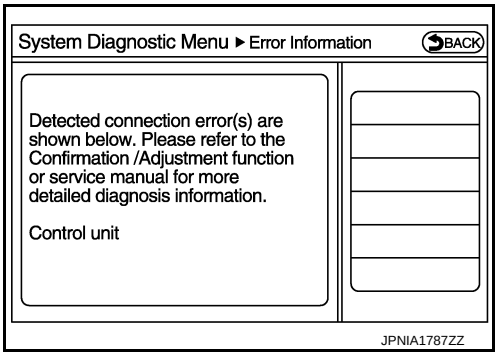
2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

NOTE:
Control unit (AV control unit) is displayed in red.
- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error. Refer to AV-477, "Exploded View".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.



- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



Detection Range of Self-diagnosis Mode
- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between AV control unit and each unit and the internal operation of the AV control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the communication circuit between AV control unit and multifunction switch.

SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

Only Unit Part Is Displayed In Red.

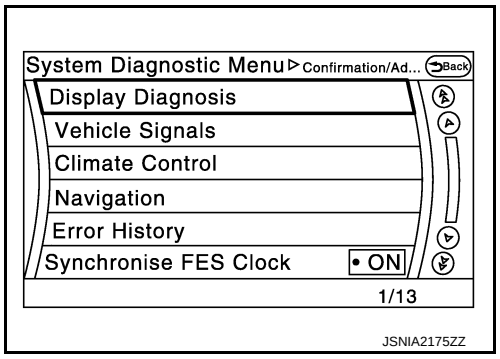
Screen switch	Description	Possible malfunction location / Action to take
Control Unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit.

A Connecting Cable Between Units Is Displayed In Yellow.

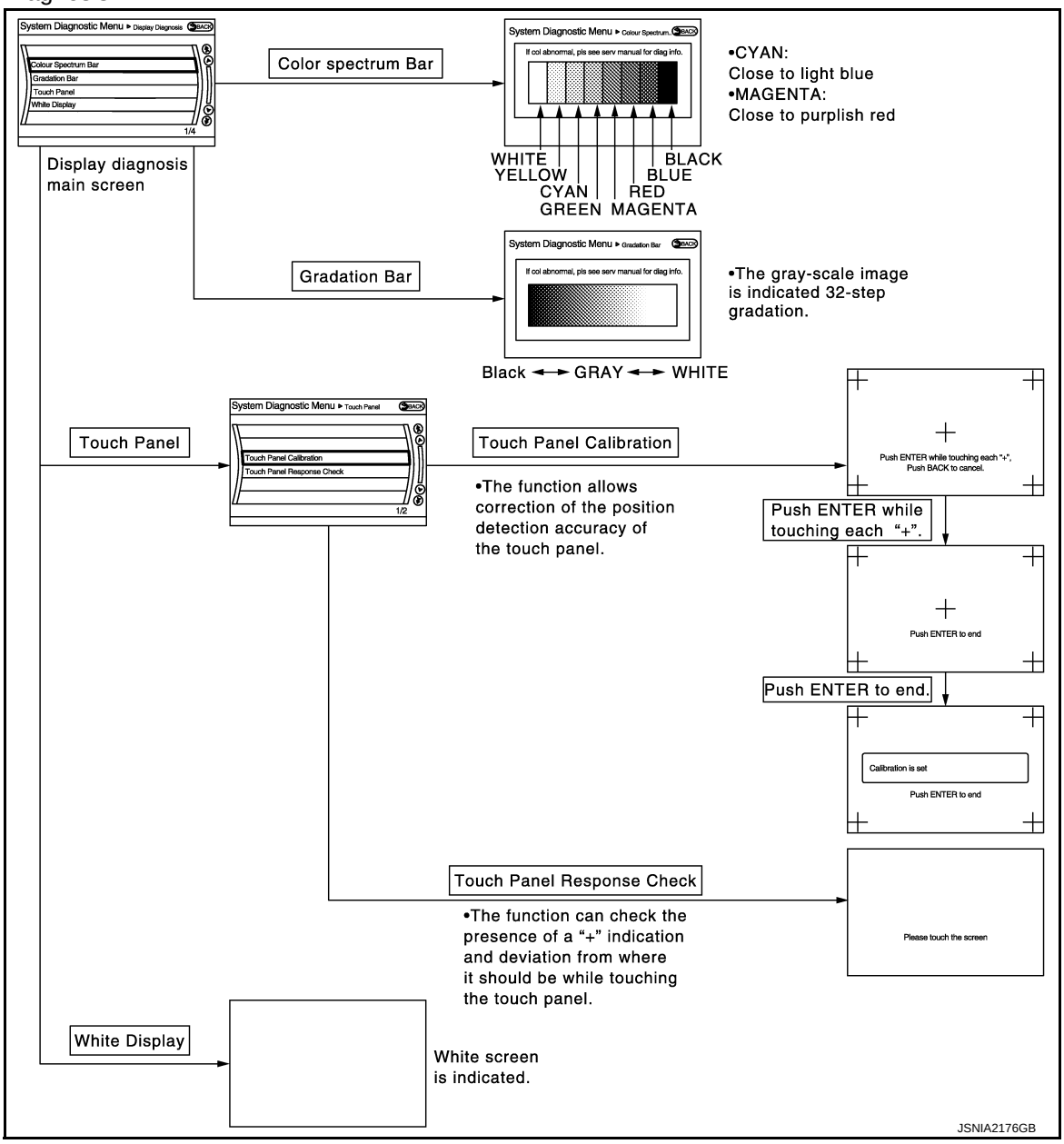
Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ⇔ Front Display	Malfunction is detected in serial communication circuits between AV control unit and display unit.	Serial communication circuits between AV control unit and display unit.
Control unit ⇔ GPS Antenna	GPS antenna connection malfunctions detected.	GPS antenna
Control unit ⇔ SAT Antenna	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection
Control unit ⇔ Sonar	When either one of the following items are detected: • sonar control unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and sonar control unit are malfunctioning.	• Sonar control unit power supply and ground circuits. • AV communication circuits between AV control unit and sonar control unit.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the “Confirmation/Adjustment Mode” screen to display the relevant trouble diagnosis screen. Press the “Back” switch to return to the initial Confirmation/Adjustment Mode screen.

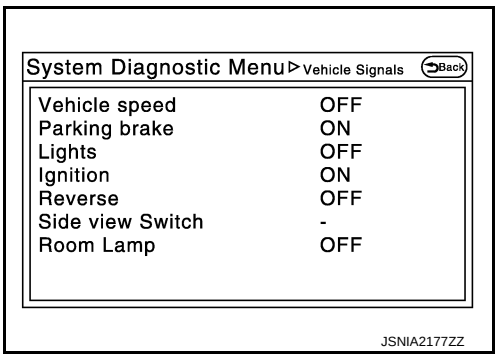


Display Diagnosis



Vehicle Signals

A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	—
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
Reverse	ON	Shift the selector lever to “R” position	Changes in indication may be delayed. This is normal.
	OFF	Shift the selector lever other than “R” position	
SIDE VIEW SW	—	—	This item is displayed, but cannot be monitored.
ROOM LAMP	OFF	—	This item is displayed, but cannot be monitored.

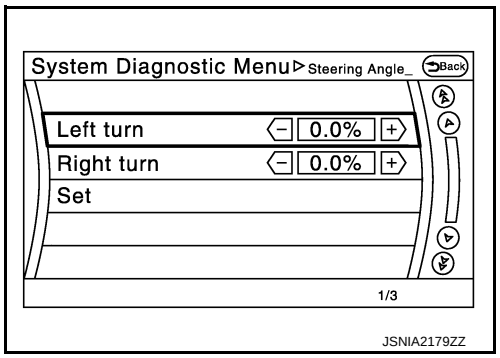
Climate Control

Refer to “HEATER & AIR CONDITIONING CONTROL SYSTEM” for details.

Navigation

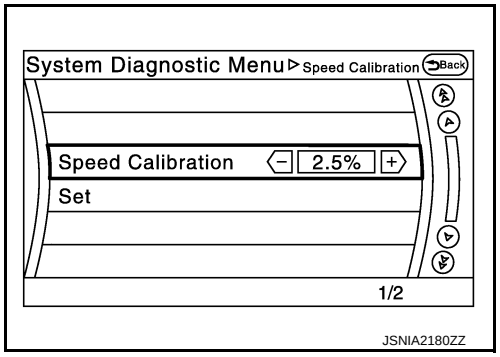
STEERING ANGLE ADJUSTMENT

The steering angle output value detected with the gyroscope is adjusted.



SPEED CALIBRATION

During normal driving, distance error caused by tire wear and tire pressure change is automatically adjusted for by the automatic distance correction function. This function, on the other hand, is for immediate adjustment, in cases such as driving with tire chain fitted on tires.



XM SAT SUBSCRIPTION STATUS

The XM NavTraffic subscription status can be checked.

Error History

The self-diagnosis results are judged depending on whether any error occurs from when “Self-diagnosis” is selected until the self-diagnosis results are displayed.

However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self-diagnosis start. Check the “Error Record” to detect any error that may have occurred before the self-diagnosis start because of this situation.

The error record displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- If there is a malfunction with the GPS antenna circuit board in the AV control unit, the correct date and time of occurrence may not be able to be displayed.
- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark has deviated from the correct position, then the place of the error occurrence cannot be located correctly.
- The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

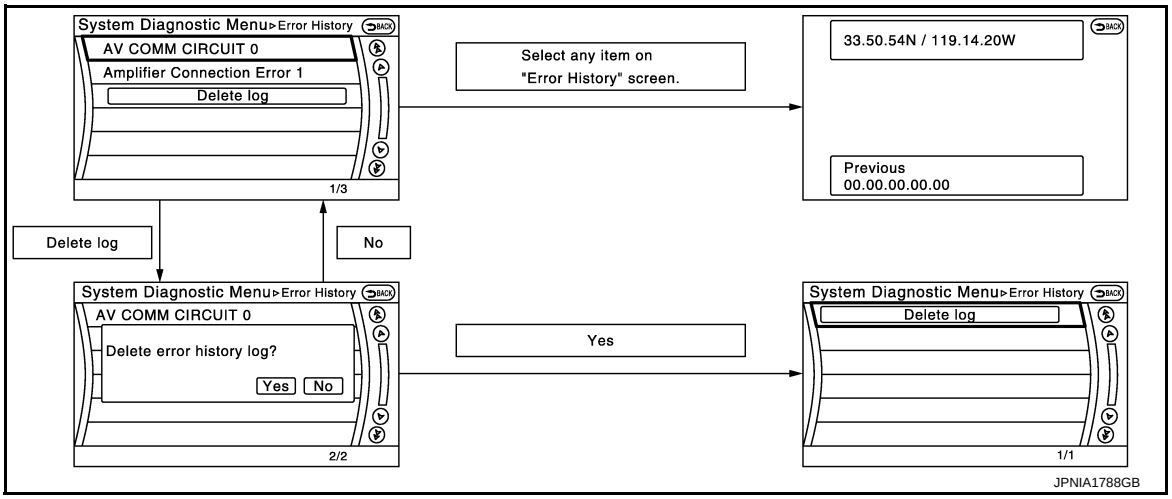
Count up method A

- The counter resets to 0 if an error occurs when ignition switch is turned ON. The counter increases by 1 if the condition is normal at a next ignition ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored.“ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT-III.

Count up method B

- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. “ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT-III.

Display type of occurrence frequency	Error history display item
Count up method A	CAN communication line, control unit (CAN), AV communication line, control unit (AV)
Count up method B	Other than the above



Error item

Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

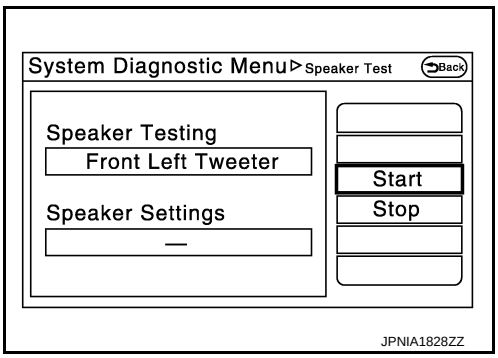
Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-378, "CONSULT - III Function".

Error item	Description	Possible malfunction factor/Action to take
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
Connection Of Gyro		
Connection of G Sensor		
CAN Controller Memory Error		
Bluetooth Module Connection Error		
Sub CPU Connection Error		
iPod authentification chip error		
Audio connection error		
DSP Connection Error	AV control unit malfunction is detected.	• If a disc can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
DSP Communication Error		
HDD Connection Error	AV control unit malfunction is detected.	• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
HDD Read Error		
HDD Write Error		
HDD Communication Error		
HDD Access Error		
GPS Communication Error	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
GPS ROM Error		
GPS RAM Error		
GPS RTC Error		
Unfinished configuration	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III. Refer to AV-378, "CONSULT - III Function".
USB Controller Communication Error	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DVD Mechanism Communication Error	AV control unit malfunction is detected.	• If DVD can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
Steer. Angle Sensor Calibration	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to AV-378, "CONSULT - III Function".
Front Display Connection Error	When either one of the following items are detected: • display unit power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuits. • Communication circuits between AV control unit and display unit.
GPS Antenna Error	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.
XM Antenna Connection Error	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.

Error item	Description	Possible malfunction factor/Action to take
USB electric current Error	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.
AM/FM antenna amplifier short to ground	Radio antenna amp. ON signal circuit malfunction is detected.	Radio antenna amp. ON signal circuit between AV control unit and antenna amp.
AM/FM antenna amplifier open		
Ext_Amp_ON output terminal short to ground	BOSE amp. ON signal circuit malfunction is detected.	BOSE amp. ON signal circuit between AV control unit and BOSE amp.
Ext_Amp_ON output terminal :open		
• AV COMM CIRCUIT • Switches Connection Error	When either one of the following items are detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
• AV COMM CIRCUIT • Sonar Connection Error	When either one of the following items are detected: • sonar control unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and sonar control unit are malfunctioning.	• Sonar control unit power supply and ground circuits. • AV communication circuits between AV control unit and sonar control unit.
• AV COMM CIRCUIT • Switches Connection Error • Sonar Connection Error	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

Speaker Test

Select “SPEAKER DIAGNOSIS” to display the Speaker Diagnosis screen. Press “Start” to generate a test tone in a speaker. Press “Start” to generate a test tone in the next speaker. Press “Stop” to stop the test tones.



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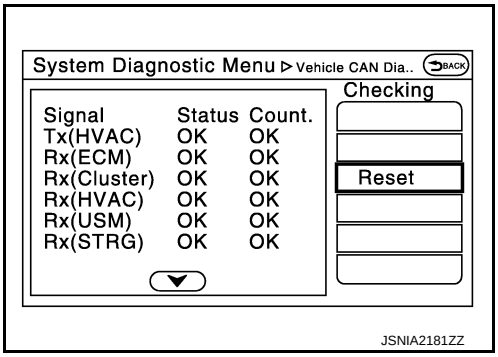
Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.



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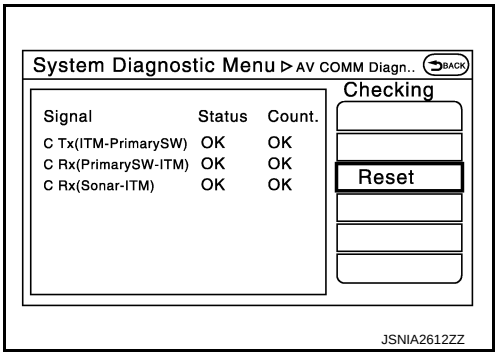
Items	Display (Current)	Malfunction counter (Past)
Tx(HVAC)	OK / ???	OK / 0 – 39
Rx(ECM)	OK / ???	OK / 0 – 39
Rx(Cluster)	OK / ???	OK / 0 – 39
Rx(HVAC)	OK / ???	OK / 0 – 39
Rx(USM)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

AV COMM Diagnosis

- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

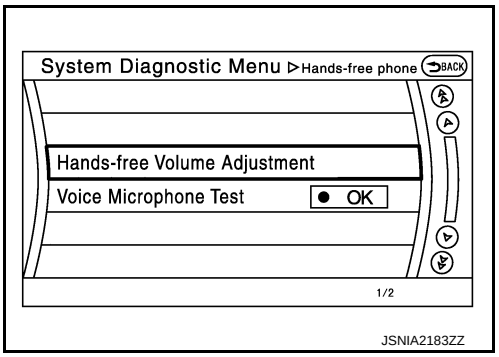


Items	Status (Current)	Counter (Past)
C Tx(ITM–PrimarySW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW–ITM)	OK / ???	OK / 0 – 39
C Rx(Sonar–ITM)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN

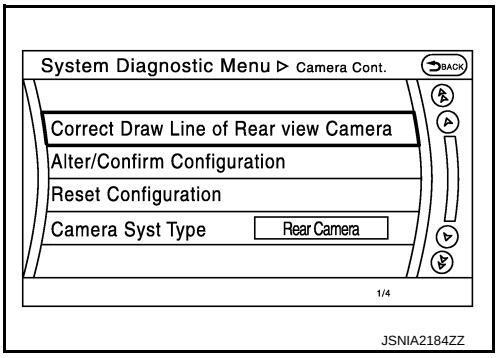
Hands-Free Phone

The hands-free phone reception volume adjustment and microphone and speaker test functions are also available.



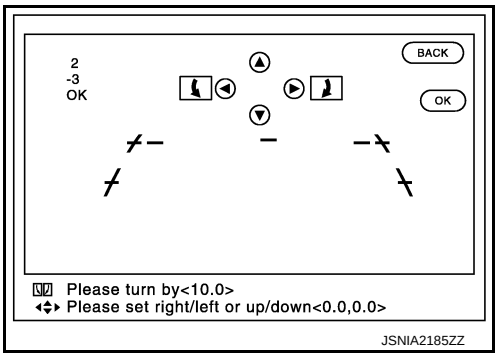
Camera Cont.

The four functions of “Correct Draw Line of Rear view Camera”, “Alter/Confirm Configuration”, “Reset Configuration” and “Camera Syst Type” are available.



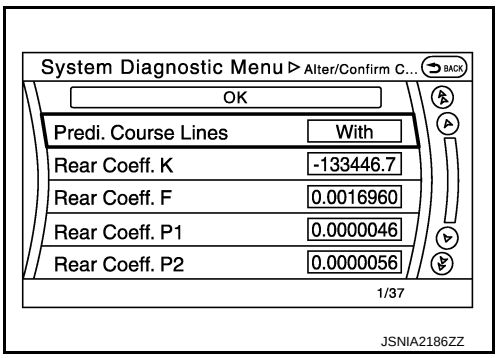
Correct Draw Line of Rear view Camera

- Use this mode to adjust the guide line display position of the rear view monitor if necessary after removing the rear view monitor camera.



Alter/Confirm Configuration

• Configuration stored in the AV control unit can be checked and modified.



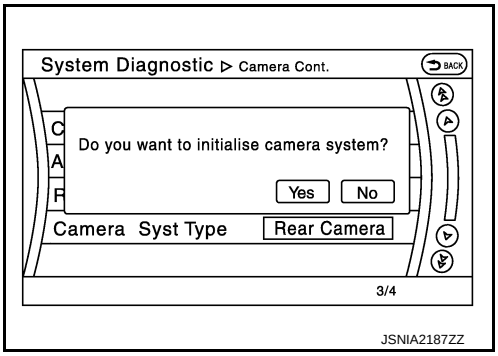
Configuration list

Setting item	Setting	Setting item	Setting
Predi. Course Lines	With	Wheelbase	2.8499999
Rear Coeff. K	-38009.06	Total Length	0.0000000
Rear Coeff. F	0.0014620	Steering Gear Ratio	13.715999*1
Rear Coeff. P1	0.0000062		14.939999*2
Rear Coeff. P2	0.0000056		16.884000*3
Rear Coeff. C1	823.00000	Side Coeff. K	0.0000000
Rear Coeff. C2	480.00000	Side Coeff. F	0.0000000
Rear Coeff. D1	800.00000	Side Coeff. P1	0.0000000
Rear Coeff. D2	494.00000	Side Coeff. P2	0.0000000
Car Width	1.7729000	Side Coeff. C1	0.0000000
Rear Offset	0.0000000	Side Coeff. C2	0.0000000
Rear Height	1.0200800	Side Coeff. D1	0.0000000
Rear L/R Angle	0.0000000	Side Coeff. D2	0.0000000
Rear Up/Dn Angle	46.330001	Side Offset	0.0000000
Rear Roll Angle	0.0000000	Overall Height	0.0000000
Bumper Rear Dist.	0.1384900	Side L/R Angle	0.0000000
Bumper Rear Ax Dist	1.0918000	Side Up/Dn Angle	0.0000000
Steer. Max Angle	457.84008*1	Side Roll Angle	0.0000000
	498.69720*2	Side Front End Dist	0.0000000
	563.58789*3	Total Width	0.0000000
Min. Turning Red.	5.5000000	—	—

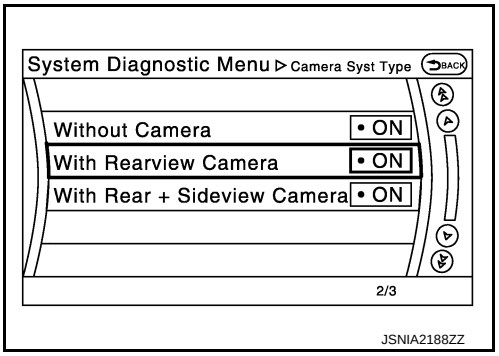
- *1: SPORT premium grade with 4WAS
- *2: SPORT premium grade 2WD models without 4WAS
- *3: Except for above.

Reset Configuration

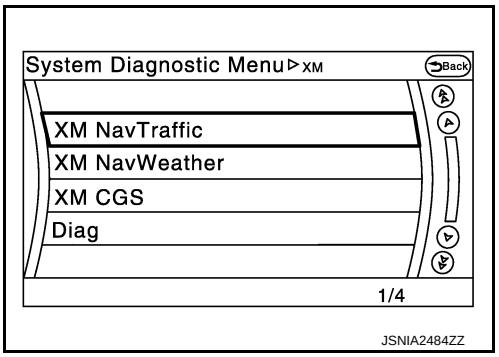
• Configuration stored in the AV control unit can be initialized.



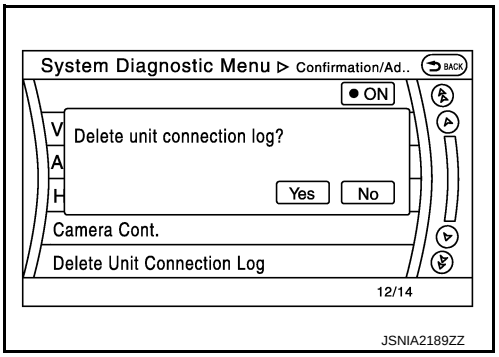
Camera Syst Type
• Type of camera system is selectable.



XM
• Change Channel
- Any necessary channels required to receive traffic information from the satellite radio system can be set.
• Change Application ID
- Any application ID'-s required to receive traffic information from the satellite radio system can be set.

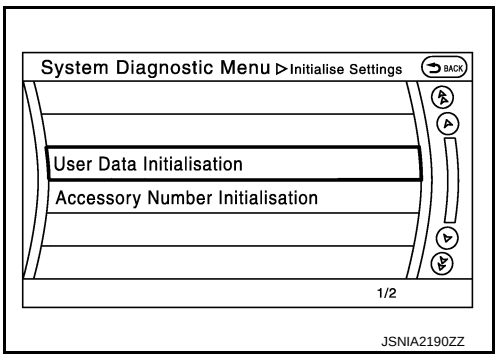


Delete Unit Connection Log
Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)



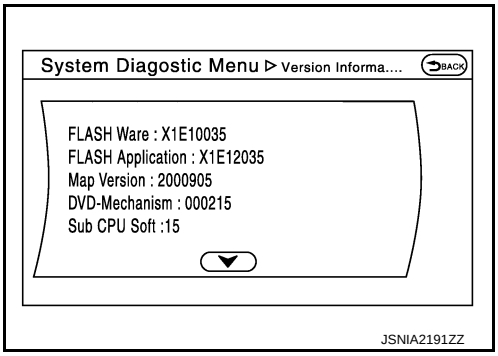
Initialize Settings
"User Data Initialization" and "Accessory Number Initialization" are possible.

CAUTION:
- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to AV-415, "Description".**



Version Information

Version information of the AV control unit is displayed.



CONSULT - III Function

INFOID:0000000006210534

APPLICATION ITEMS

CONSULT-III performs the following functions via the communication with the AV control unit.

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing AV control unit.

AV communication

When “AV communication” of “CAN Diag Support Monitor” is selected, the following function will be performed.

AV communication	AV&NAVI C/U	Displays the communication status from AV control unit to each unit as well as the error counter.
	AUDIO	Displays the AV control unit communication status and the error counter.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSIS RESULT

- In CONSULT-III self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- The timing is displayed as “0” if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis Results Display Item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to AV-417, "Diagnosis Procedure".

Error item	Description	Possible malfunction factor/Action to take
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
GYRO NO CONN [U1201]		
G-SENSOR NO CONN [U1202]		
CAN CONT [U1216]		
BLUETOOTH MODULE [U1217]		
SUB CPU CONN [U1228]		
iPod CERTIFICATION [U1229]		
Built-in AUDIO CONN [U122E]		
HDD CONN [U1218]	AV control unit malfunction is detected.	• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
HDD READ [U1219]		
HDD WRITE [U121A]		
HDD COMM [U121B]		
HDD ACCESS [U121C]		
GPS COMM [U1204]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
GPS ROM [U1205]		
GPS RAM [U1206]		
GPS RTC [U1207]		
USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DSP CONN [U121D]	AV control unit malfunction is detected.	• If a disc can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
DSP COMM [U121E]		
DVD COMM [U1227]	AV control unit malfunction is detected.	• If DVD can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".
CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III. Refer to AV-415, "Description".
ST ANGLE SEN CALIB [U1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement".
FRONT DISP CONN [U1243]	When either one of the following items are detected: • display unit power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuits. • Communication circuits between AV control unit and display unit.
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.

Error item	Description	Possible malfunction factor/Action to take
XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.
USB OVERCURRENT [U1263]	Detection of overcurrent in USB connecter.	Check USB harness between the AV control unit and USB connector.
ANTENNA AMP TERMINAL [OPEN or SHORT] [U1264]	Radio antenna amp. ON signal circuit malfunction is detected.	Radio antenna amp. ON signal circuit between AV control unit and antenna amp.
AMP ON TERMINAL [GND-SHORT or VB-SHORT] [U1265]	BOSE amp. ON signal circuit malfunction is detected.	BOSE amp. ON signal circuit between AV control unit and BOSE amp.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items are detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
• AV COMM CIRCUIT [U1300] • SONAR CONN [U125C]	When either one of the following items are detected: • sonar control unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and sonar control unit are malfunctioning.	• Sonar control unit power supply and ground circuits. • AV communication circuits between AV control unit and sonar control unit.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • SONAR CONN [U125C]	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

DATA MONITOR

ALL SIGNALS
- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed = 0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light SW is ON.	—
	Off	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	On	Ignition switch ON	
	Off	Ignition switch in ACC position	
REV SIG	On	Selector lever in R position	Changes in indication may be delayed. This is normal.
	Off	Selector lever in any position other than R	
SIDE VIEW SW	Off	—	This item is displayed, but cannot be monitored.
ROOM LAMP	Off	—	This item is displayed, but cannot be monitored.

SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

Item to be selected	Description
VHCL SPD SIG	The same as when “ALL SIGNALS” is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	
SIDE VIEW SW	
ROOM LAMP	

WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

CAUTION:

For vehicles with VDC, adjust the steering angle sensor neutral position on the ABS actuator control unit side.

Item	Description
ST ANGLE SENSOR ADJUSTMENT	Adjusts the neutral position of the steering angle sensor.

CONFIGURATION

Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:0000000006210535

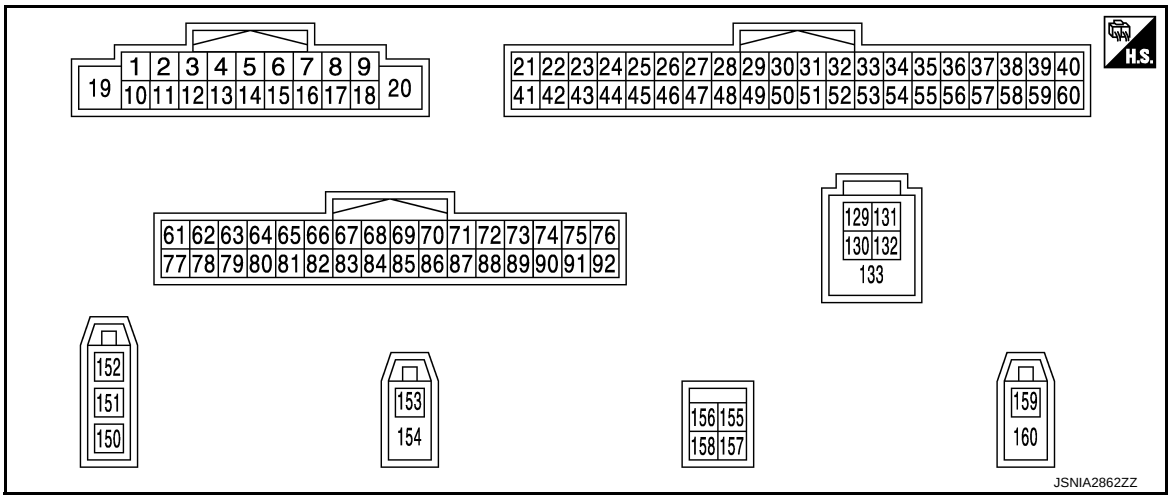
VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

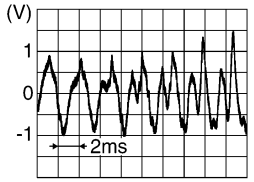
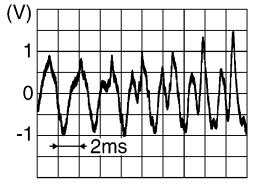
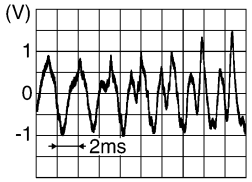
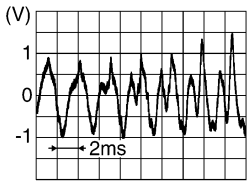
Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Light switch ON	On
		Light switch OFF	Off
IGN SIG	Ignition switch ON	—	On
	Ignition switch ACC	—	Off
REV SIG	Ignition switch ON	Selector lever in R position	On
		Selector lever in any position other than R	Off
SIDE VIEW SW*	Ignition switch ON	—	Off
ROOM LAMP*	Ignition switch ON	—	Off

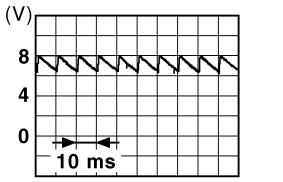
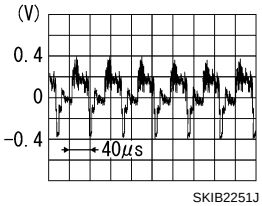
*: This item is displayed, but cannot be monitored.

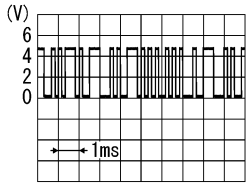
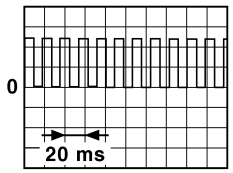
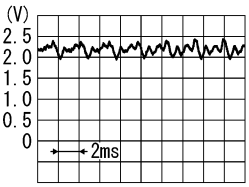
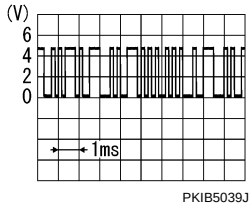
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (GR)	Ground	Amp. ON signal	Output	Ignition switch ON	—	10.0 V
2 (O)	3 (W)	Sound signal front LH	Output	Ignition switch ON	Sound output	 SKIB3609E
4 (V)	5 (LG)	Sound signal rear LH	Output	Ignition switch ON	Sound output	 SKIB3609E
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	1.0 V
					Keep pressing MENU DOWN switch.	2.0 V
					Keep pressing switch	3.0 V
					Keep pressing ENTER switch.	4.0 V
					Except for above.	5.0 V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
10	—	Shield	—	—	—	—
11 (R)	12 (G)	Sound signal front RH	Output	Ignition switch ON	Sound output	 SKIB3609E
13 (BR)	14 (Y)	Sound signal rear RH	Output	Ignition switch ON	Sound output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	1.0 V
					Keep pressing switch.	2.0 V
					Keep pressing switch.	3.0 V
					Except for above.	5.0 V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
22 (R)	Ground	Camera power supply	Output	Ignition switch ON	At rear view camera image is displayed.	6.0 V
					Except for above.	0 V
29 (V)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	5.0 V
30 (SB)	Ground	Mode change signal	Output	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V
42 (W)	Ground	Camera ground	—	Ignition switch ON	—	0 V
49 (BR)	Ground	Switch ground	—	Ignition switch ON	—	0 V
65 (SB)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	0 V
					Parking brake is OFF.	 JSNIA0007GB
67 (P)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
68 (L)	Ground	Composite image signal	Output	Ignition switch ON	At DVD image is displayed.	 SKIB2251J
72 (G)	Ground	Microphone VCC	Output	Ignition switch ON	—	5.0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
73 (LG)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
74 (P)	—	CAN–L	Input/ Output	—	—	—
75 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
79 (L)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
80 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
81 (BG)	Ground	Reverse signal	Input	Ignition switch ON	R position	12.0 V
					Other than R position	0 V
82 (R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
83	—	Shield	—	—	—	—
87 (R)	71	Microphone signal	Input	Ignition switch ON	Give a voice	 PKIB5037J
88 (B)	—	Shield	—	—	—	—
89 (L)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
90 (L)	—	CAN–H	Input/ Output	—	—	—
91 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
92 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
129 (G)	—	USB ground	—	—	—	—
130 (R)	—	USB D– signal	—	—	—	—
131 (W)	—	V BUS signal	—	—	—	—
132 (L)	—	USB D+ signal	—	—	—	—
133	—	Shield	—	—	—	—
150	—	FM sub	Input	—	—	—
151	—	AM-FM main	Input	—	—	—
152	Ground	Antenna amp. ON signal	Input	Ignition switch ON	—	12.0 V
153	Ground	GPS antenna signal	Input	Ignition switch ON	Not connected GPS antenna connector.	5.0 V
154	—	Shield	—	—	—	—
157	Ground	RGB digital image signal (–)	Output	Ignition switch ON	Not connected connector.	1.3 V
158	Ground	RGB digital image signal (+)	Output	Ignition switch ON	Not connected connector.	1.3 V
159	Ground	Satellite antenna signal	Input	Ignition switch ON	Not connected satellite antenna connector.	5.0 V
160	—	Shield	—	—	—	—

Fail-Safe

INFOID:0000000006210536

When the ambiance temperature becomes extremely low or extremely high, AV control unit displays the message and limits the AV control unit function.

FAIL-SAFE CONDITIONS

When the ambiance temperature is –20°C (–4°F) or lower, or when it is 70°C (158°F) or higher

Display

The messages displayed on fail-safe conditions are as shown below:

Fail-safe mode	Display (display of the fail-safe condition)
When HDD temperature is low	HDD system is experiencing problems due to extreme low temperature. Normal operation will resume when temperature rises.
When HDD temperature is high	HDD system is experiencing problems due to extreme high temperature. Normal operation will resume when temperature drops.

DESCRIPTION OF CONTROLS

Function		When Fail-safe Function is activated
Air conditioner	Operation	Only multifunction switch (preset switch) can be operated.
	Display	• LED of multifunction switch (preset switch) illuminates. • Aimed temperature, blow angle, and flow rate are displayed in simplified mode.
Audio	Operation	Only ON/OFF and volume control operations by multifunction switch (preset switch) are possible.
	Display	No display (“Fail-safe mode” is displayed)
Camera	Operation	Image tone cannot be controlled.
	Display	Cannot be superimposed. (warning display, tone control display)
Hands-free phone	Operation	Cannot be operated.
Navigation	Operation	Cannot be operated.
Self diagnosis		The display in simplified mode of fail-safe condition
CONSULT-III diagnosis		Cannot be operated.

Ability Operation Mode

There is an ability operation mode for Fail-safes due to low or high ambiance temperature.
If HDD data can be read, fail-safe is shown, then normal displays are displayed only for functions which can be operated.

RELEASE CONDITIONS OF FAIL-SAFE

Fail-safe is released on following conditions and normal mode is restored.

When The Temperature of HDD Is Low or High

If the ambient temperature becomes out of fail-safe condition range, normal mode is restored.

DTC Index

INFOID:0000000006210537

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-417, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [1010]	AV-418, "DTC Logic"
U1200	Cont Unit [U1200]	AV-419, "DTC Logic"
U1201	GYRO NO CONN [U1201]	AV-420, "DTC Logic"
U1202	G-SENSOR NO CONN [U1202]	AV-421, "DTC Logic"
U1204	GPS COMM [U1204]	AV-422, "Diagnosis Procedure"
U1205	GPS ROM [U1205]	AV-423, "Diagnosis Procedure"
U1206	GPS RAM [U1206]	AV-424, "Diagnosis Procedure"
U1207	GPS RTC [U1207]	AV-425, "Diagnosis Procedure"
U1216	CAN CONT [U1216]	AV-426, "DTC Logic"
U1217	BLUETOOTH MODULE [U1217]	AV-427, "DTC Logic"
U1218	HDD CONN [U1218]	AV-428, "Diagnosis Procedure"
U1219	HDD READ [U1219]	AV-429, "Diagnosis Procedure"
U121A	HDD WRITE [U121A]	AV-430, "Diagnosis Procedure"
U121B	HDD COMM [U121B]	AV-431, "Diagnosis Procedure"
U121C	HDD ACCESS [U121C]	AV-432, "Diagnosis Procedure"
U121D	DSP CONN [U121D]	AV-433, "Diagnosis Procedure"
U121E	DSP COMM [U121E]	AV-434, "Diagnosis Procedure"
U1225	USB CONTROLLER [U1225]	AV-435, "DTC Logic"
U1227	DVD COMM [U1227]	AV-436, "Diagnosis Procedure"
U1228	SUB CPU CONN [U1228]	AV-437, "DTC Logic"

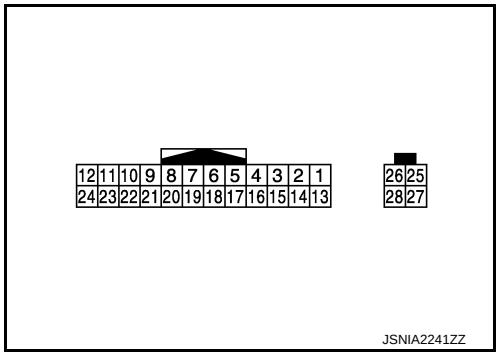
DTC	Display item	Refer to
U1229	iPod CERTIFICATION [U1229]	AV-438, "DTC Logic"
U122A	CONFIG UNFINISH [U122A]	AV-439, "Diagnosis Procedure"
U122E	Built-in AUDIO CONN [U122E]	AV-440, "DTC Logic"
U1232	ST ANGLE SEN CALIB [1232]	AV-441, "Diagnosis Procedure"
U1243	FRONT DISP CONN [U1243]	AV-442, "Diagnosis Procedure"
U1244	GPS ANTENNA CONN [U1244]	AV-444, "Diagnosis Procedure"
U1258	XM ANTENNA CONN [U1258]	AV-445, "Diagnosis Procedure"
U1263	USB OVERCURRENT [U1263]	AV-446, "Diagnosis Procedure"
U1264	ANTENNA AMP TERMINAL [OPEN or SHORT] [U1264]	AV-447, "Diagnosis Procedure"
U1265	AMP ON TERMINAL [GND-SHORT or VB-SHORT] [U1265]	AV-448, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-450, "DTC Logic"
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	AV-449, "Description"
U1300 U125C	• AV COMM CIRCUIT [U1300] • SONAR CONN [U125C]	AV-449, "Description"
U1300 U1240 U125C	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • SONAR CONN [U125C]	AV-449, "Description"

DISPLAY UNIT

Reference Value

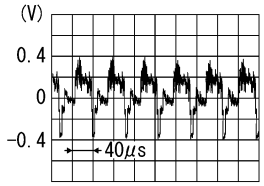
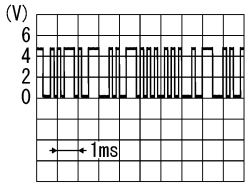
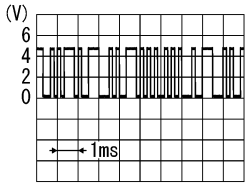
INFOID:0000000006210538

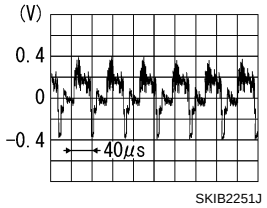
TERMINAL LAYOUT



JSNIA2241ZZ

PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
6	—	Shield	—	—	—	—
7 (B)	—	Shield	—	—	—	—
8 (G)	Ground	Camera image signal	Input	Ignition switch ON	At rear view camera image is displayed.	 SKIB2251J
9 (L)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
10 (LG)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
11 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

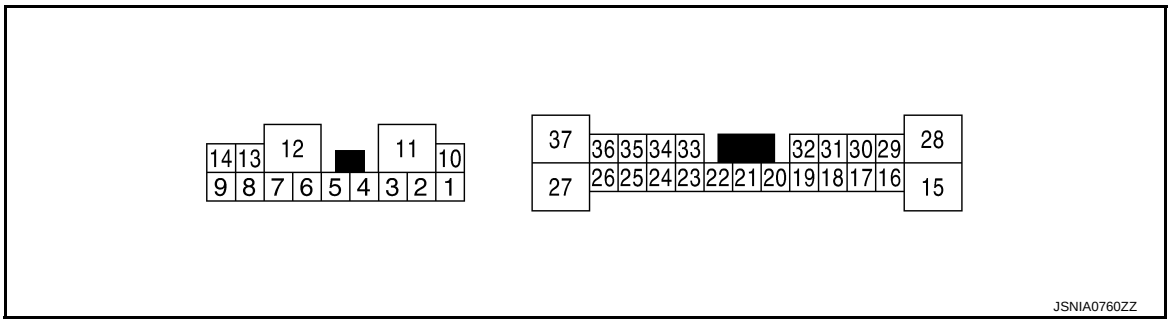
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
18 (L)	Ground	Composite image signal	Input	Ignition switch ON	At DVD image is displayed.	 SKIB2251J
19 (P)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
22 (B)	—	Shield	—	—	—	—
23 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
27	—	RGB digital image signal (–)	Input	—	—	—
28	—	RGB digital image signal (+)	Input	—	—	—

BOSE AMP.

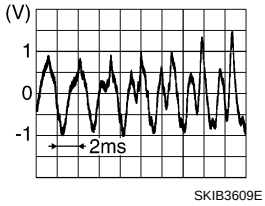
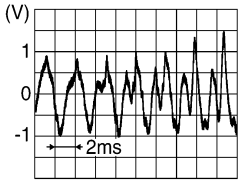
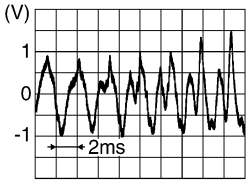
Reference Value

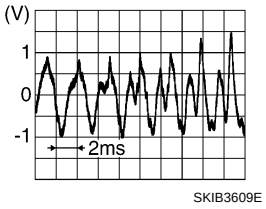
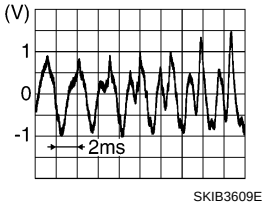
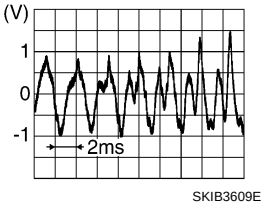
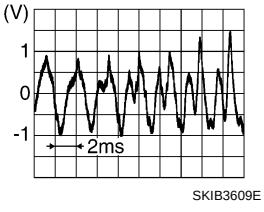
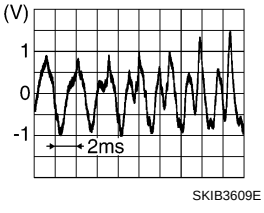
INFOID:0000000006210539

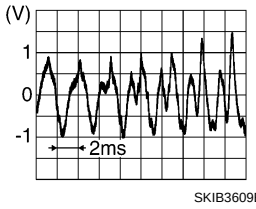
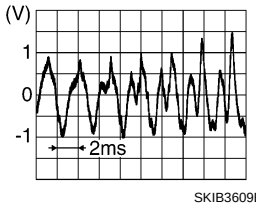
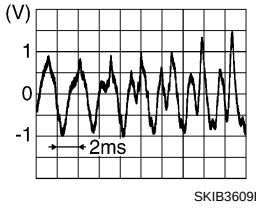
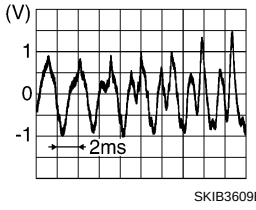
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (L)	2 (W)	Sound signal front LH	Output	Ignition switch ON	Sound output	 SKIB3609E
4 (V)	3 (LG)	Sound signal front RH	Output	Ignition switch ON	Sound output	 SKIB3609E
5 (G)	6 (R)	Sound signal door woofer RH	Output	Ignition switch ON	Sound output	 SKIB3609E
7 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
10 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
11 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
14 (B)	9 (W)	Sound signal front door woofer LH	Output	Ignition switch ON	Sound output	 SKIB3609E
16 (SB)	17 (V)	Sound signal woofer	Output	Ignition switch ON	Sound output	 SKIB3609E
18 (L)	19 (P)	Sound signal rear door speaker LH	Output	Ignition switch ON	Sound output	 SKIB3609E
20 (W)	Ground	Amp. ON signal	Input	Ignition switch ACC	—	10.0 V
21	—	Shield	—	—	—	—
22 (GR)	Ground	Woofer Amp. ON signal	Output	Ignition switch ACC	—	10.0 V
24 (V)	23 (SB)	Sound signal rear LH	Input	Ignition switch ON	Sound output	 SKIB3609E
26 (BR)	25 (Y)	Sound signal rear RH	Input	Ignition switch ON	Sound output	 SKIB3609E

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
29 (L)	30 (BG)	Sound signal center speaker	Output	Ignition switch ON	Sound output	 SKIB3609E
31 (LG)	32 (Y)	Sound signal rear door speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
33 (R)	34 (G)	Sound signal front RH	Input	Ignition switch ON	Sound output	 SKIB3609E
35 (P)	36 (L)	Sound signal front LH	Input	Ignition switch ON	Sound output	 SKIB3609E
37 (SB)	Ground	Mode change signal	Input	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V

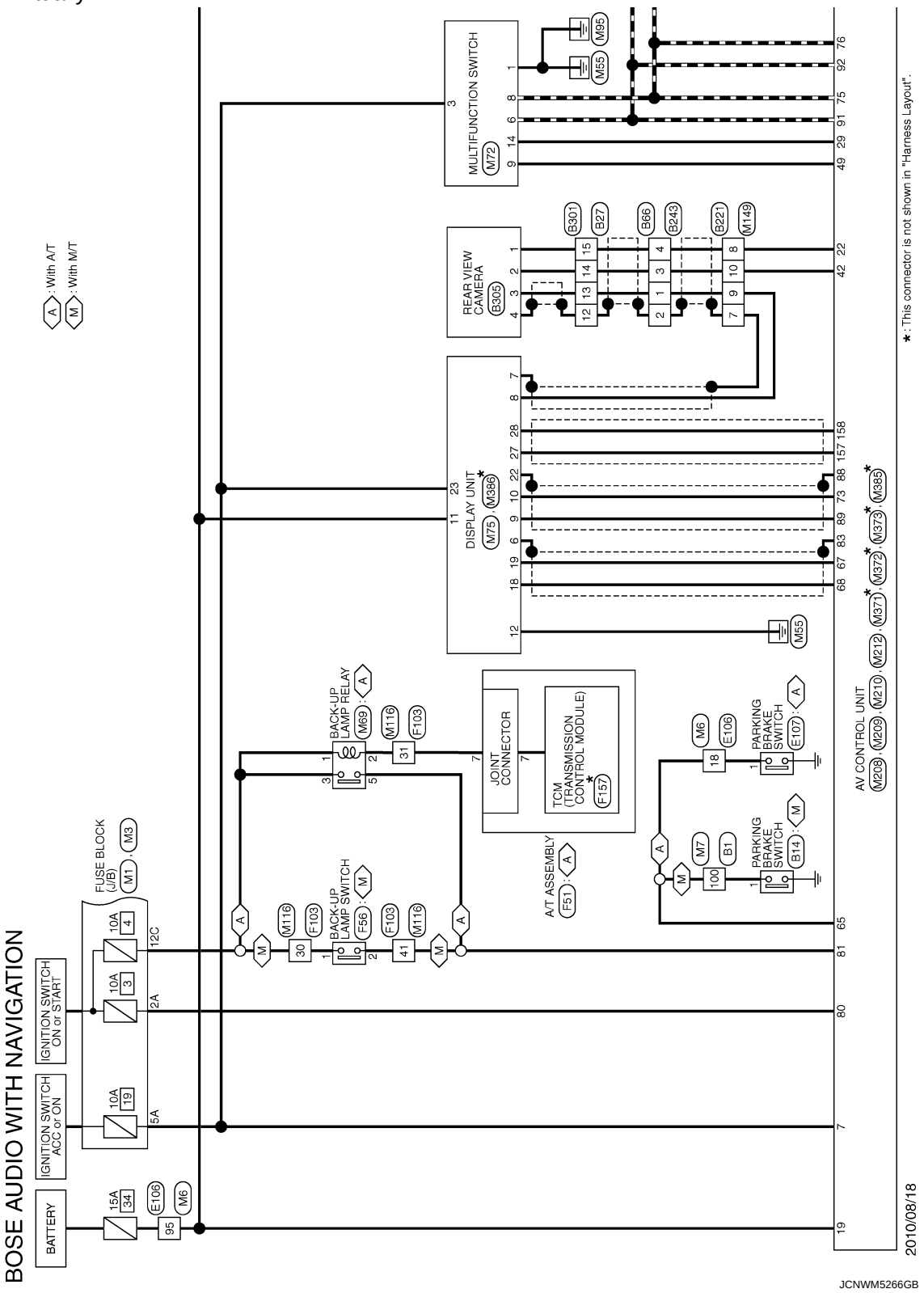
WIRING DIAGRAM

BOSE AUDIO WITH NAVIGATION

Wiring Diagram

INFOID:0000000006210540

NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.



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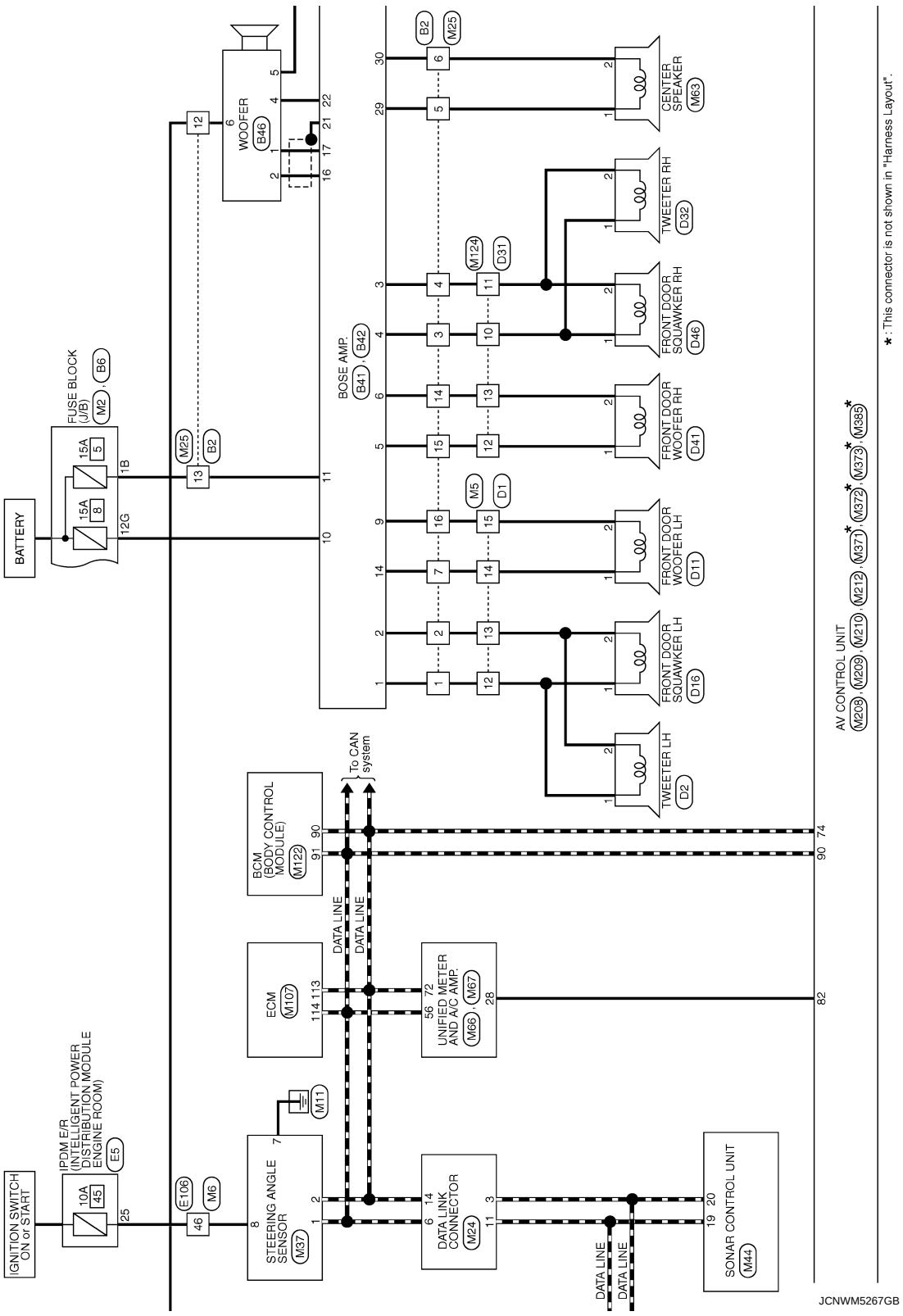
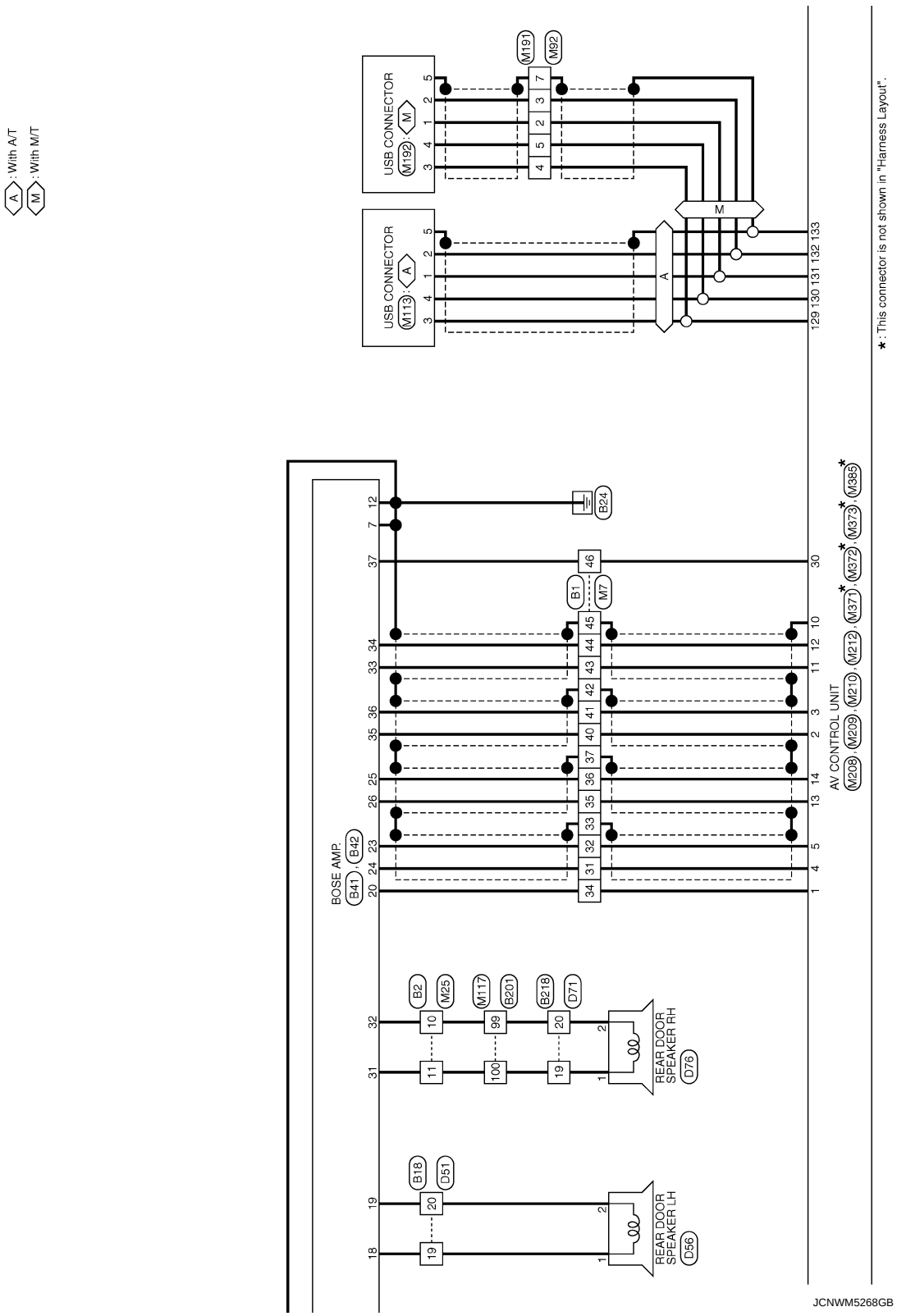
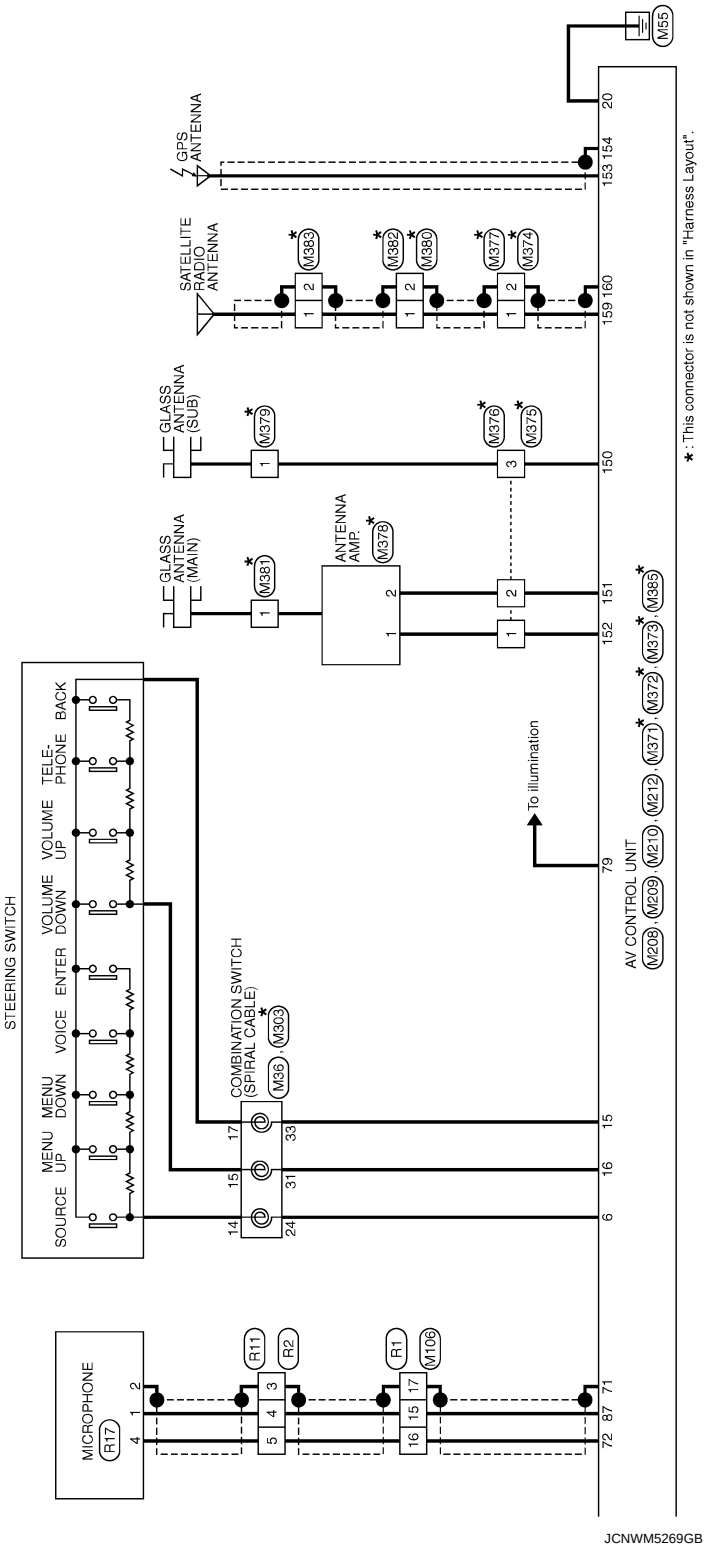

BATTERY
FUSE BLOCK (J/B) M2, B6
15A 5
15A 8
1B
12G
IGNITION SWITCH ON or START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E5
10A 45
25
E106
M6
46
STEERING ANGLE SENSOR M37
M11
7
8
1 2
ECM M107
114 113
DATA LINE
DATA LINE
UNIFIED METER AND A/C AMP. M66, M67
56 72
28
82
BCM (BODY CONTROL MODULE) M122
91 90
To CAN system
90 74
DATA LINE
DATA LINE
DATA LINE
DATA LINE
DATA LINK CONNECTOR M24
6 14
11 3
SONAR CONTROL UNIT M44
19 20
AV CONTROL UNIT M208, M209, M210, M212, *M371, *M372, *M379, *M385
*: This connector is not shown in "Harness Layout".
12
13
M25
B2
6 WOOFER B46
1 2
4 5
16 17 21 22
BOSE AMP. B41, B42
1 2 14 9 5 6 4 3
1 2 7 16 15 14 13 12
12 13 14 15 12 13 10 11
M124
D31
M5
D1
B2
M25
30 29
6 5
CENTER SPEAKER M63
TWEETER RH D32
FRONT DOOR SQUAWKER RH D46
FRONT DOOR WOOFER RH D41
FRONT DOOR WOOFER LH D11
FRONT DOOR SQUAWKER LH D16
TWEETER LH D2
JCNWM5267GB


A : With A/T
M : With M/T
USB CONNECTOR
M192 : M
M113 : A
M191
M92
M
A
129 130 131 132 133
★ : This connector is not shown in "Harness Layout".
B24
B1
M7
46
45 44 43 42 41 40 37 36 35 33 32 31
30
12 11 10 3 2 14 13 5 4 1
AV CONTROL UNIT
M209 : M209 : M210 : M212 : M371 : M372 : M373 : M385
BOSE AMP.
B41 : B42
34 33 36 35 25 26 23 24 20
12 7 37
B2
M25
M117
B201
B218
D71
10
11
99
100
20
19
2
1
REAR DOOR SPEAKER RH
D76
B18
D51
20
19
REAR DOOR SPEAKER LH
D56
JCNWM5268GB


M55
20
GPS ANTENNA
153 154
SATELLITE RADIO ANTENNA
M383
M382
M380
M377
M374
159 160
GLASS ANTENNA (SUB)
M379
M376
M375
150
GLASS ANTENNA (MAIN)
M381
ANTENNA AMP.
M378
151
152
M385
M373
M372
M371
M212
M210
M209
M208
AV CONTROL UNIT
79
To illumination
STEERING SWITCH
BACK
TELE-PHONE
VOLUME UP
VOLUME DOWN
ENTER
VOICE
MENU DOWN
MENU UP
SOURCE
COMBINATION SWITCH (SPIRAL CABLE)
M36
M303
17
15
14
33
31
24
15
16
6
MICROPHONE
R17
R11
R2
R1
M106
71
87
72
* : This connector is not shown in "Harness Layout".
JCNWM5269GB

BOSE AUDIO WITH NAVIGATION

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
2	BG	–
3	L	–
4	Y	–
6	R	–
7	P	–
8	W	–
9	LG	– [With rear anti-pinch system]
9	GR	– [Without rear anti-pinch system]
15	Y	–
16	BR	–
17	LG	–
18	BG	–
20	L	–
21	P	–
22	L	–
23	P	–
24	V	–
25	SB	–
26	G	–
27	W	–
28	R	–
31	V	–
32	SB	–
33	SHIELD	–
34	W	–
35	BR	–
36	Y	–
37	SHIELD	–
38	Y	–
39	SB	–
40	P	–
41	L	–
42	SHIELD	–
43	R	–
44	G	–
45	SHIELD	–
46	SB	–

55	BR	–
56	R	–
58	V	–
59	SB	–
60	BR	–
61	W	–
62	R	–
63	L	–
64	Y	–
65	SHIELD	–
71	BG	–
72	GR	–
73	P	–
74	L	–
81	V	–
82	B	–
84	Y	–
85	G	–
86	W	–
87	R	–
88	BR	–
89	Y	–
90	SB	–
91	BG	–
92	BR	–
93	P	–
95	BG	–
96	Y	–
100	GR	–

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–
3	V	–
4	LG	–
5	L	–
6	BG	–
7	B	–

10	Y	–
11	LG	–
12	P	–
13	GR	–
14	R	–
15	G	–
16	W	–

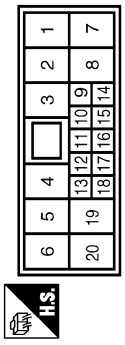
Connector No.	B6
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FBR-CS

Terminal No.	Color of Wire	Signal Name [Specification]
5G	LG	–
10G	W	–
11G	W	–
12G	Y	–

Connector No.	B14
Connector Name	PARKING BRAKE SWITCH
Connector Type	P01FB-A

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10

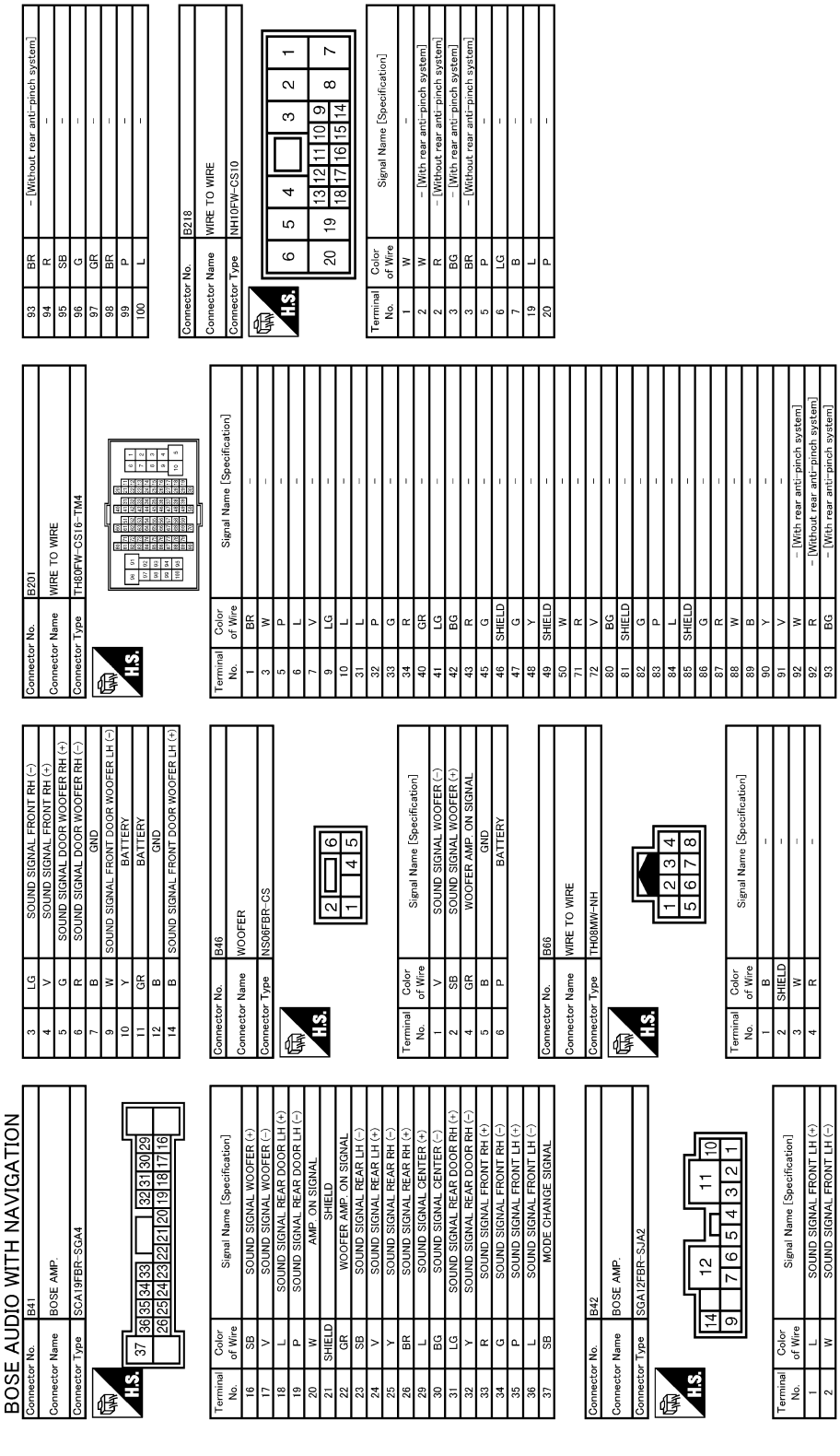


Terminal No.	Color of Wire	Signal Name [Specification]
1	P	–
2	LG	– [With rear anti-pinch system]
2	GR	– [Without rear anti-pinch system]
3	W	–
5	G	–
6	V	–
7	B	–
19	L	– [With BOSE system]
19	SB	– [Without BOSE system]
20	P	– [With BOSE system]
20	Y	– [Without BOSE system]

Connector No.	B27
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
2	BG	–
3	B	–
4	Y	–
5	B	–
6	W	–
11	G	–
12	SHIELD	–
13	B	–
14	W	–
15	R	–

JCNWM5270GB



JCNWM5271GB

BOSE AUDIO WITH NAVIGATION

Connector No.	B221
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
7	SHIELD	–
8	R	–
9	B	–
10	W	–

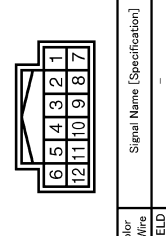
Connector No.	B243
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	–
2	SHIELD	–
3	W	–
4	R	–

Connector No.	B301
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
2	BG	–
3	B	–
4	G	–
5	B	–
6	W	–
11	V	–
12	SHIELD	–
13	Y	–
14	W	–
15	R	–

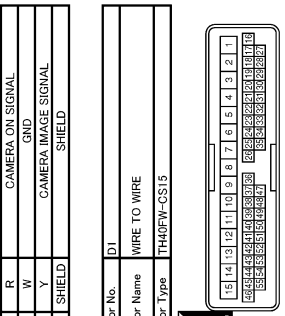
Connector No.	B305
Connector Name	REAR VIEW CAMERA
Connector Type	TH04MW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	CAMERA ON SIGNAL
2	W	GND
3	Y	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	B	–
3	SB	–
4	V	–

5	GR	–
6	W	–
7	BG	–
8	L	–
9	P	–
10	LG	–
11	BR	–
12	L	–
13	W	–
14	G	–
15	R	–
16	GR	–
17	L	–
18	BR	–
19	BG	–
20	P	–
21	R	–
25	V	–
26	R	–
27	BR	–
28	W	–
29	Y	–
30	G	–
31	LG	–
32	GR	–
33	B	–
36	W	–
37	P	–
38	V	–
39	BR	–
42	G	–
43	GR	–
44	BG	–
47	V	–
48	R	–
49	SB	–
50	W	–
51	P	–
52	V	–

Connector No.	D2
Connector Name	TWEETER LH
Connector Type	TK02MBR-P

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

Connector No.	D11
Connector Name	FRONT DOOR WOOFER LH
Connector Type	NS02FW-CS

H.S.

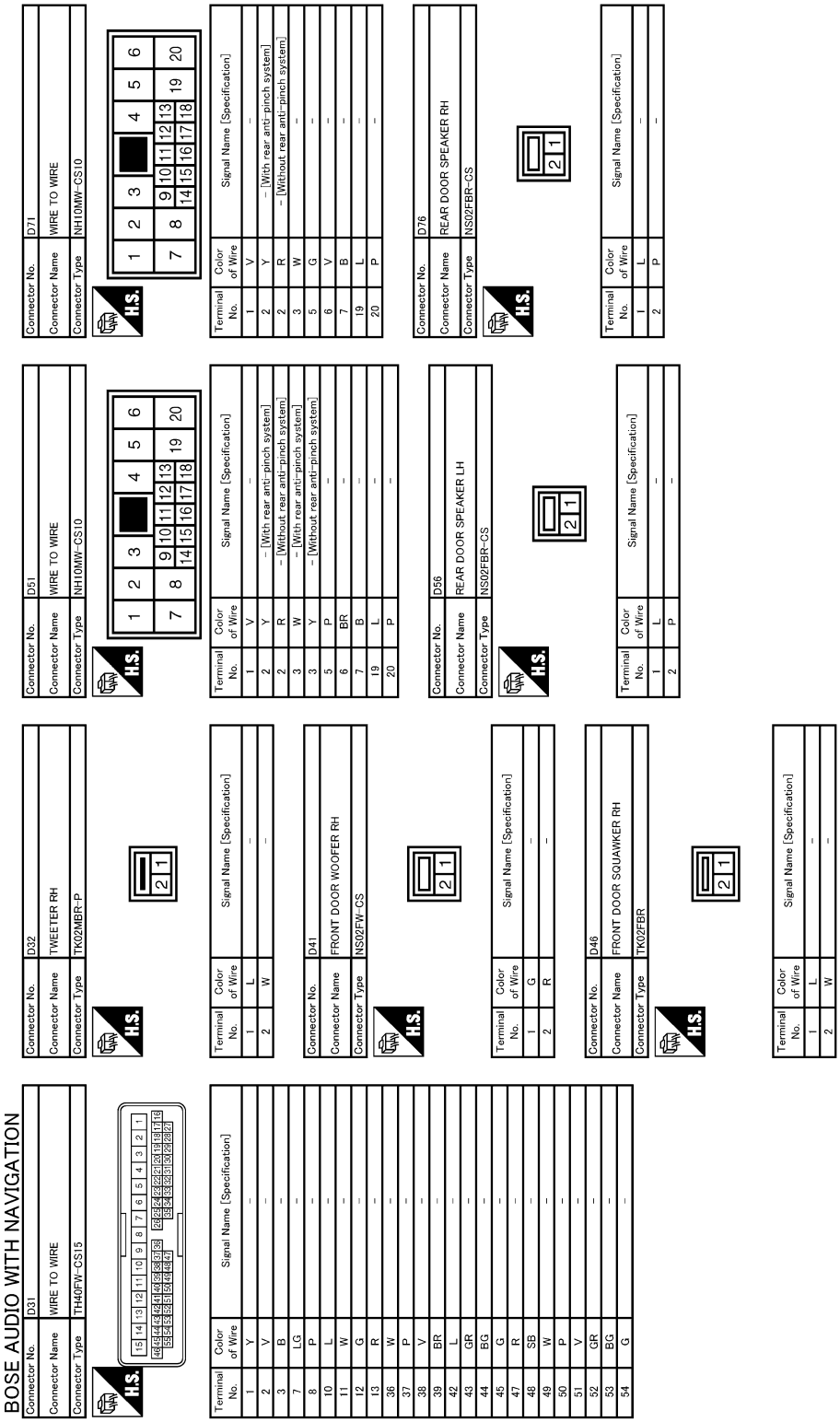
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	–
2	R	–

Connector No.	D16
Connector Name	FRONT DOOR SQUAWKER LH
Connector Type	TK02FBR

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–

JCNWM5272GB



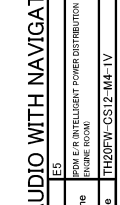
JCNWM5273GB

BOSE AUDIO WITH NAVIGATION

Connector No.	E5
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH20FW-CS12-M4-1V

Terminal No.	Color of Wire	Signal Name [Specification]
4	V	–
5	L	–
6	SB	–
7	P	–
11	W	–
12	B/W	–
13	Y	–
16	LG	–
19	R	–
25	G	–
26	Y	–
27	BG	–
28	L	–
30	GR	–
32	V	–
33	P	–
36	G	–

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

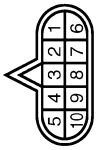


Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
3	BG	–
5	G	–
6	Y	–
7	V	–
9	R	–
10	W	–
11	V	–
12	R	–
13	L	–
14	GR	–
15	P	–
16	W	–
17	SB	–
18	BG	–
19	SB	–
20	LG	–
30	BR	–
31	L	–
32	BG	–
33	P	–
34	V	–
35	W	–
36	SB	–
37	Y	–
38	R	–
39	B	–
40	G	–
41	R	–
42	LG	–
43	G	–
44	GR	–
45	BR	–
46	LG	–
47	V	–
48	P	–
49	L	–
59	B	–
66	GR	–
67	LG	–
68	SB	–
69	P	–
70	G	–
80	R	–
81	P	–
82	G	–
83	V	–
84	L	–
85	W	–
86	L	–
87	BR	–
88	GR	–
89	V	–
91	W	–
93	GR	–
95	LG	–
97	SB	–
98	SHIELD	–
99	L	–
100	P	–

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TB01FW

Terminal No.	Color of Wire	Signal Name [Specification]
1	BG	–

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	BR	– [With VQ25HR engine]
2	R	– [With VQ37VHR engine]
3	L	–
4	V	–
5	B	–
6	Y	– [With VQ25HR engine]
6	G	– [With VQ37VHR engine]
7	R	–
8	P	–
9	GR	–
10	B	–

Connector No.	F56
Connector Name	BACK-UP LAMP SWITCH
Connector Type	RK02FB

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	–
2	O	–

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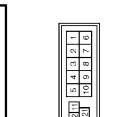
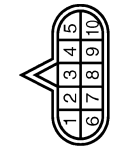
Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK36FW-NS10



Terminal No.	Color of Wire	Signal Name [Specification]
2	G	–
3	W	–
4	R	–
5	B	–
9	G	– [With VQ25HR engine]
9	Y	– [With VQ37VHR engine]
10	L	– [With VQ25HR engine]
10	GR	– [With VQ37VHR engine]
19	BG	[VQ25HR: engine with left and right ventilation temperature independent control system] [Except for VQ25HR: engine with left and right ventilation temperature independent control system]
19	O	
20	Y	–
28	B	–
29	LG	–
30	R	–
31	R	–
33	B	–
34	B	–
35	L	–
36	P	–
37	Y	–
38	G	–
41	O	–
42	BR	–
43	P	–
44	L	–
45	Y	– [With VQ25HR engine]
45	G	– [With VQ37VHR engine]
46	V	–

Connector No.	F157
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SP10FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	–	VIGN
2	–	BATT
3	–	CAN-H
4	–	K-LINE
5	–	GND
6	–	VIGN
7	–	REV LAMP RLY
8	–	CAN-L
9	–	STARTER RLY
10	–	GND

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2

Terminal No.	Color of Wire	Signal Name [Specification]
1A	V	–
2A	G	–
3A	L	–
4A	P	–
5A	L	–
6A	Y	–
7A	R	–
8A	L	–

Connector No.	M2
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
1B	SB	–
3B	P	–
4B	G	–
5B	BG	–
6B	Y	–
7B	P	–
8B	R	–
9B	SB	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FW-CS

Terminal No.	Color of Wire	Signal Name [Specification]
6C	SB	–
7C	B	–
8C	W	–
9C	BG	–
10C	L	–
11C	LG	–
12C	G	–

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BOSE AUDIO WITH NAVIGATION

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	–
2	B	–
3	BG	–
4	V	–
5	G	–
6	W	–
7	LG	–
8	SB	–
9	G	–
10	V	–
11	SB	–
12	L	–
13	W	–
14	B	–
15	W	–
16	R	–
17	BR	–
18	V	–
19	BG	–
20	P	–
21	W	–
25	Y	–
26	G	–
27	L	–
28	Y	–
29	G	–
30	SB	–
31	LG	–
32	W	–
33	B	–
36	W	–
37	GR	–
38	Y	–
39	B	–
42	Y	–
43	L	– [With automatic drive positioner]
44	G	– [Without automatic drive positioner]
44	L	–
47	L	–
48	GR	–
49	SB	–
50	P	–
51	LG	–
52	V	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	BG	–
3	R	–
5	G	–
6	LG	–
7	W	–
9	G	–
10	W	–
11	V	–
12	R	–
13	L	–
14	GR	–
15	P	–
16	W	–
17	BR	–
18	P	–
19	L	–
20	L	–
30	BR	–
31	L	–
32	Y	–
33	BG	–
34	W	–
35	BR	–
36	R	–
37	Y	–
38	R	–
39	SB	–
40	G	–
41	V	–
42	LG	–
43	P	–
44	B	– [With A/T]
44	R	– [With M/T]
45	BG	–
46	G	–
47	L	–
48	P	–
49	L	–
59	B	–
66	Y	–
67	G	–
68	R	–
69	W	–
70	G	–
80	SB	–
81	B	–
82	V	–
83	W	–
84	L	–
85	GR	–
86	G	–
87	R	–
88	B	–
89	LG	–
91	W	–
93	Y	–
95	Y	–
97	GR	–
98	SHIELD	–
99	V	–
100	SB	–

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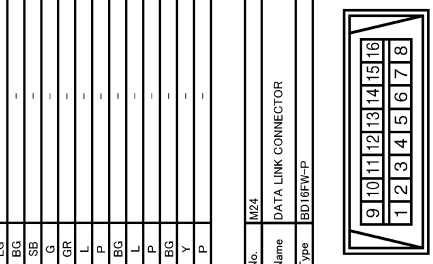
Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	–
2	P	–
3	SB	– [With automatic drive positioner]
3	P	– [Without automatic drive positioner]
4	Y	–
6	L	–
7	W	–
8	G	– [With rear anti-pinch system]
8	Y	– [Without rear anti-pinch system]
9	Y	– [With rear anti-pinch system]
9	G	– [Without rear anti-pinch system]
15	R	–
16	BR	–
17	P	–
18	V	–
20	L	–
21	P	–
22	L	–
23	P	–
24	V	–
25	LG	–
26	BR	–
27	BG	–
28	LG	–
31	V	–
32	LG	–
33	SHIELD	–
34	GR	–
35	BR	–
36	Y	–
37	SHIELD	–
38	SB	–
39	LG	–
40	O	–
41	W	–
42	SHIELD	–
43	R	–
44	G	–
45	SHIELD	–
46	SB	–
55	W	–
56	B	–
58	V	–
59	Y	–
60	Y	–
61	W	–
62	R	–
63	G	–
64	B	–
65	SHIELD	–
71	V	–
72	P	–
73	SB	–
74	V	–
81	W	–
82	BR	–
84	LG	–
85	BG	–
86	SB	–
87	G	–
88	GR	–
89	L	–
90	P	–
91	BG	–
92	L	–
93	P	–
95	BG	–
96	Y	–
100	P	–

Connector No.	M24
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW-P

H.S.



Terminal No.	Color of Wire	Signal Name [Specification]
3	LG	–
4	B	–
5	B	–
6	L	–
7	V	–
8	G	–
11	SB	–
14	P	–
16	R	–

Connector No.	M25
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	–
2	W	–
3	BR	–
4	R	–
5	L	–
6	LG	–
7	B	–
10	P	–
11	L	–
12	Y	–
13	SB	–
14	R	–
15	G	–
16	W	–

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-IV

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
24	P	–
25	SB	–
26	B	–
31	L	–
32	Y	–
33	B	–
34	LG	–

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH

H.S.

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
7	B	GND
8	G	IGN

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BOSE AUDIO WITH NAVIGATION

Connector No.	M44
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

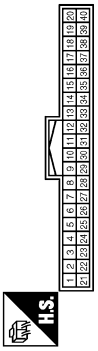
Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	IGN
2	SB	CANCEL SW SIGNAL
5	W	CORNER SENSOR SIGNAL REAR LH
6	Y	CORNER SENSOR SIGNAL REAR RH
7	G	CENTER SENSOR SIGNAL REAR LH
8	R	CENTER SENSOR SIGNAL REAR RH
11	B	CANCEL SW INDICATOR
12	B	SENSOR GND
13	GR	ACC
17	BG	R RANGE SIGNAL
18	V	K LINE
19	SB	AV COMM (H)
20	LG	AV COMM (L)
24	B	GND

Connector No.	M63
Connector Name	CENTER SPEAKER
Connector Type	TK02FBR

2	1

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	LG	-

Connector No.	M66
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH40FW-NH



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

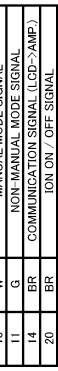
Terminal No.	Color of Wire	Signal Name [Specification]
4	G	STOP LAMP SWITCH SIGNAL
5	L	MANUAL MODE SHIFT UP SIGNAL
6	BG	PADDLE SHIFTER UP SIGNAL
7	GR	COMMUNICATION SIGNAL (AMP.->METER)
8	L	VEHICLE SPEED SIGNAL (2-PULSE)
9	SB	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
10	W	MANUAL MODE SIGNAL
11	G	NON-MANUAL MODE SIGNAL
14	BR	COMMUNICATION SIGNAL (LCD->AMP.)
20	BR	IGN ON / OFF SIGNAL
23	Y	AT SNOW SWITCH SIGNAL
25	V	MANUAL MODE SHIFT DOWN SIGNAL
26	G	PADDLE SHIFTER DOWN SIGNAL
27	LG	COMMUNICATION SIGNAL (METER->AMP.)
28	R	VEHICLE SPEED SIGNAL (8-PULSE)
30	V	PARKING BRAKE SWITCH SIGNAL
34	Y	COMMUNICATION SIGNAL (AMP.->LCD)
38	P	BLOWER MOTOR CONTROL SIGNAL

Connector No.	M67
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH32FW-NH

41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72

Terminal No.	Color of Wire	Signal Name [Specification]
41	L	ACC POWER SUPPLY
42	BR	FUEL LEVEL SENSOR SIGNAL
43	BR	INTAKE SENSOR SIGNAL
44	LG	IN-VEHICLE SENSOR SIGNAL
45	V	AMBIENT SENSOR SIGNAL
46	Y	SUNLOAD SENSOR SIGNAL
47	G	EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL
53	W	IGNITION POWER SUPPLY
54	SB	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CAN-H
57	LG	BRAKE FLUID LEVEL SWITCH
58	Y	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	W	IN-VEHICLE SENSOR GROUND
61	B	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	L	ION CONTROL MODE OUTPUT SIGNAL
65	BG	ECV SIGNAL
69	P	A/C LAN SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	GR	GROUND
72	P	CAN-L

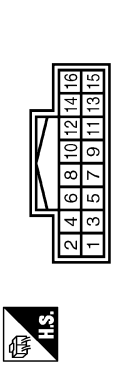
Connector No.	M69
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS02FL-M2-LC



3	
5	
2	1

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	LG	-
5	BG	-

Connector No.	M72
Connector Name	MULTIFUNCTION SWITCH
Connector Type	TH16FW-NH



2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
3	P	ACC
4	BG	ILL
5	B	ILL CONT
6	SB	AV COMM (H)
8	LG	AV COMM (L)
9	BR	SW GND
14	V	DISK EJECT SIGNAL
16	G	HAZARD ON

Connector No.	M75
Connector Name	DISPLAY UNIT
Connector Type	TH24FW-NH

12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name [Specification]
6	SHIELD	SHIELD
7	SHIELD	SHIELD
8	W	CAMERA IMAGE SIGNAL
9	L	COMM (DISP->CONT)
10	P	COMM (CONT->DISP)
11	Y	BATTERY
12	B	GND
18	L	COMPOSITE IMAGE SIGNAL
19	P	COMPOSITE IMAGE GND
22	SHIELD	SHIELD
23	LG	ACC

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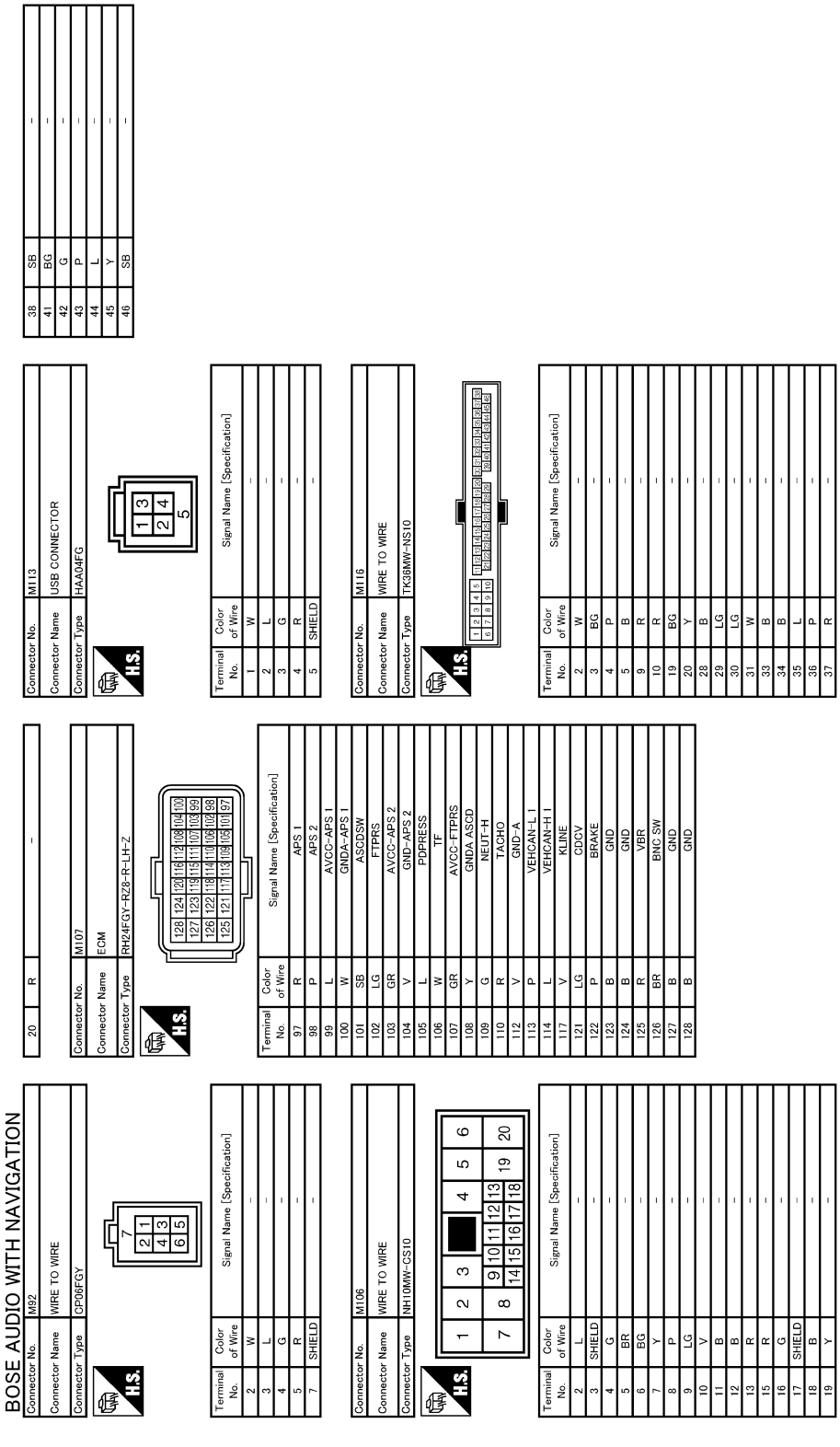

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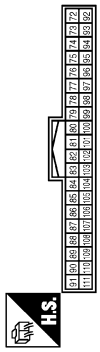
Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

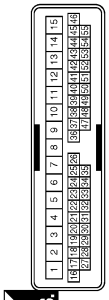
Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	–
3	SB	–
5	P	–
6	G	–
7	SB	–
9	LG	–
10	L	–
31	SB	–
32	LG	–
33	SB	–
34	LG	–
40	Y	–
41	G	–
42	LG	–
43	R	–
45	G	–
46	SHIELD	–
47	P	–
48	L	–
49	SHIELD	–
50	V	–
71	R	–
72	L	–
80	W	–
81	SHIELD	–
82	P	–
83	L	–
84	G	–
85	SHIELD	–
86	W	–
87	B	–
88	R	–
89	G	–
90	Y	–
91	V	–
92	BR	– [With rear anti−pinch system]
92	LG	– [Without rear anti−pinch system]
93	V	– [With rear anti−pinch system]
93	W	– [Without rear anti−pinch system]
94	Y	–
95	G	–
96	G	–
97	R	–
98	BG	–
99	P	–
100	L	–

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



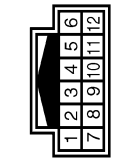
Terminal No.	Color of Wire	Signal Name [Specification]
72	R	ROOM ANT 2−
73	G	ROOM ANT 2+
74	SB	PASSENGER DOOR ANT−
75	BR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT−
77	LG	DRIVER DOOR ANT+
78	Y	ROOM ANT 1−
79	BR	ROOM ANT 1+
80	GR	NATS ANT AMP.
81	W	NATS ANT AMP.
82	SB	IGN RELAY (F/B) CONT
83	Y	KEYLESS ENTRY RECEIVER COMM
87	Y	COMBI SW INPUT 5
88	BG	COMBI SW INPUT 3
89	BR	PUSH SW
90	P	CAN−L
91	L	CAN−H
92	LG	KEY SLOT ILL
93	GR	ON IND
95	BG	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
97	L	S/L CONDITION 1
98	P	S/L CONDITION 2
99	R	SHIFT P [With A/T]
100	Y	ASCD CLUTCH SW [With M/T]
101	P	PASSENGER DOOR REQUEST SW
102	BG	DRIVER DOOR REQUEST SW
103	P	BLOWER FAN MOTOR RELAY CONT
106	SB	KEYLESS ENTRY RECEIVER POWER SUPPLY
107	LG	S/L UNIT POWER SUPPLY
108	R	COMBI SW INPUT 1
109	W	COMBI SW INPUT 4
110	G	COMBI SW INPUT 2
111	Y	HAZARD SW
		S/L UNIT COMM

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



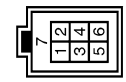
Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	GR	–
3	B	–
7	V	–
8	P	–
10	BR	–
11	R	–
12	G	–
13	R	–
36	G	–
37	R	–
38	GR	–
39	L	–
42	BG	–
43	BG	–
44	W	–
45	SB	–
47	LG	–
48	P	–
49	Y	–
50	BR	–
51	SB	–
52	L	–
53	L	–
54	Y	–

Connector No.	M149
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
7	SHIELD	–
8	R	–
9	W	–
10	B	–

Connector No.	M191
Connector Name	WIRE TO WIRE
Connector Type	CP06MGY-S



Terminal No.	Color of Wire	Signal Name [Specification]
2	W	–
3	L	–
4	G	–
5	R	–
7	SHIELD	–

JCNWM5280GB

BOSE AUDIO WITH NAVIGATION

Connector No.	M192
Connector Name	USB CONNECTOR
Connector Type	HAA04FG

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	–
2	L	–
3	G	–
4	R	–
5	SHIELD	–

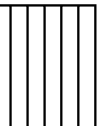
Connector No.	M208
Connector Name	AV CONTROL UNIT
Connector Type	TH16FW-CS2

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	AMP. ON SIGNAL
2	O	SOUND SIGNAL FRONT LH (+)
3	W	SOUND SIGNAL FRONT LH (–)
4	V	SOUND SIGNAL REAR LH (+)
5	LG	SOUND SIGNAL REAR LH (–)
6	P	STRG SW A
7	V	ACC
10	B	SHIELD
11	R	SOUND SIGNAL FRONT RH (+)
12	G	SOUND SIGNAL FRONT RH (–)
13	BR	SOUND SIGNAL REAR RH (+)
14	Y	SOUND SIGNAL REAR RH (–)
15	B	STRG SW GND
16	L	STRG SW B
19	Y	BATTERY
20	B	GND

Connector No.	M209
Connector Name	AV CONTROL UNIT
Connector Type	TH40FW-NH

Terminal No.	Color of Wire	Signal Name [Specification]
22	R	CAMERA POWER SUPPLY
29	V	DISK EJECT SIGNAL
30	SB	MODE CHANGE SIGNAL
42	B	CAMERA GND
49	BR	SW GND

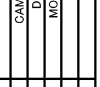
Connector No.	M210
Connector Name	AV CONTROL UNIT
Connector Type	TH32FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
65	SB	PARKING BRAKE
67	P	COMPOSITE IMAGE GND
68	L	COMPOSITE IMAGE SIGNAL
71	SHIELD	MICROPHONE GND
72	G	MICROPHONE VCC
73	P	COMM (CONT->DISP)
74	P	CAN-L
75	LG	AV COMM (L)
76	LG	AV COMM (L)
79	L	ILLUMINATION
80	G	IGNITION
81	BG	REVERSE
82	R	VEHICLE SPEED (8-PULSE)
83	SHIELD	SHIELD
87	R	MICROPHONE SIGNAL
88	SHIELD	SHIELD
89	L	COMM (DISP->CONT)

90	L	CAN-H
91	SB	AV COMM (H)
92	SB	AV COMM (H)

Connector No.	M212
Connector Name	AV CONTROL UNIT
Connector Type	HAA04FL



Terminal No.	Color of Wire	Signal Name [Specification]
129	G	USB GND
130	R	USB D– SIGNAL
131	W	V BUS SIGNAL
132	L	USB D+ SIGNAL
133	SHIELD	SHIELD

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY

Terminal No.	Color of Wire	Signal Name [Specification]
13	R	–
14	W	–
15	L	–
16	B	–
17	BR	–
18	G	–
19	P	–
20	Y	–

Connector No.	M371
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH-2/1S-HU

Terminal No.	Color of Wire	Signal Name [Specification]
150	–	FM SUB
151	–	AM-FM MAIN
152	–	ANTENNA AMP. ON SIGNAL

Connector No.	M372
Connector Name	AV CONTROL UNIT
Connector Type	FAKRA JACK

Terminal No.	Color of Wire	Signal Name [Specification]
139	–	SATELLITE ANTENNA
160	SHIELD	SHIELD

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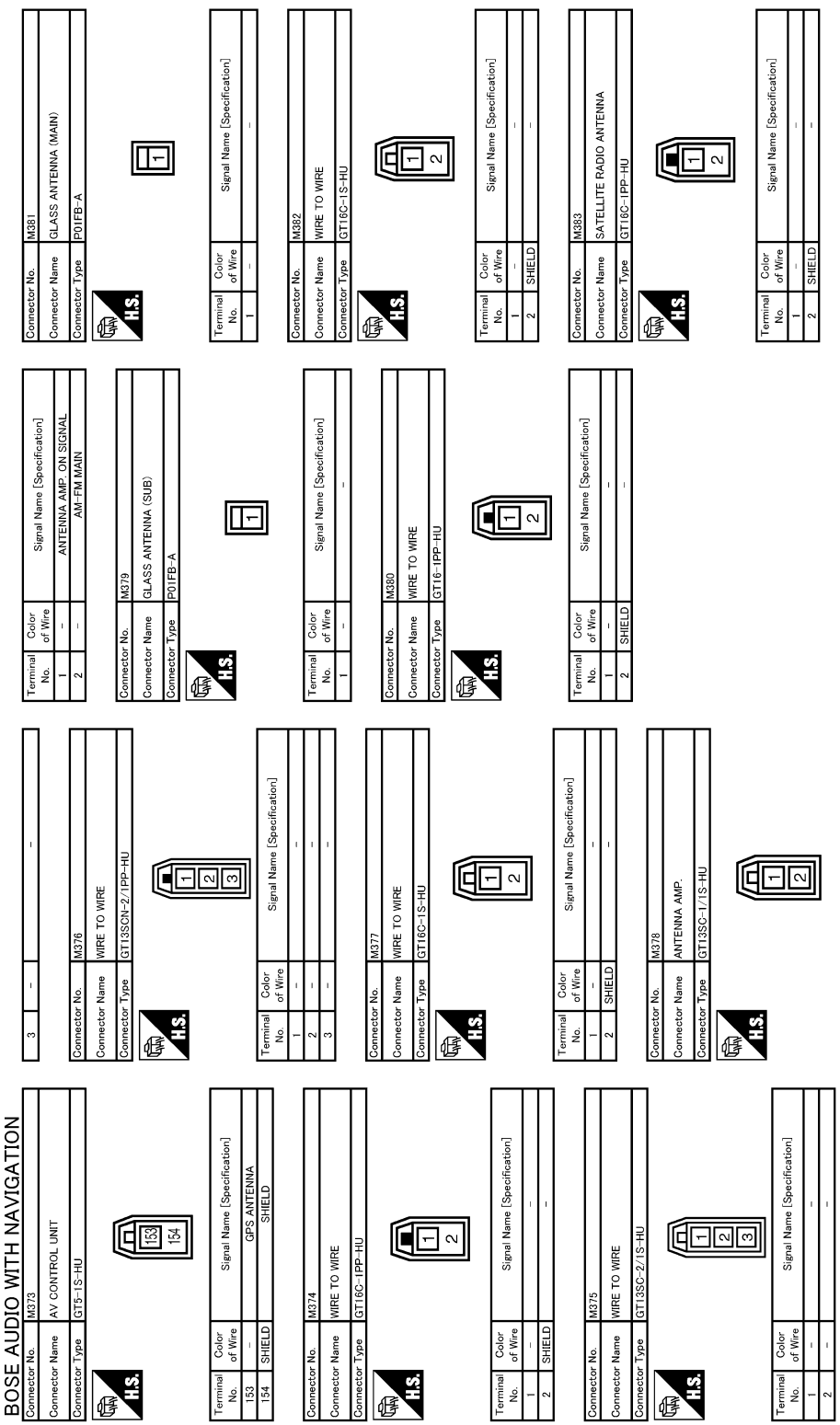
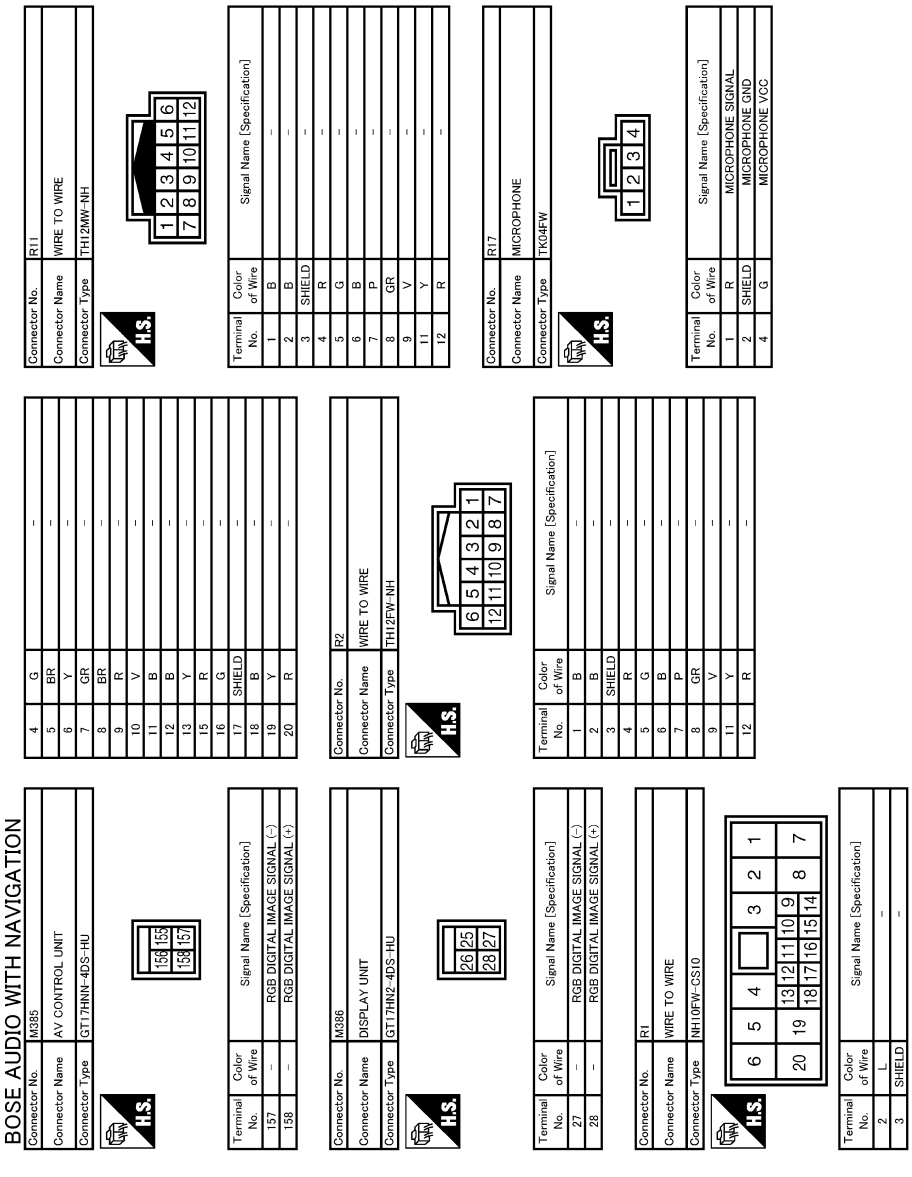


JCNWM5282GB



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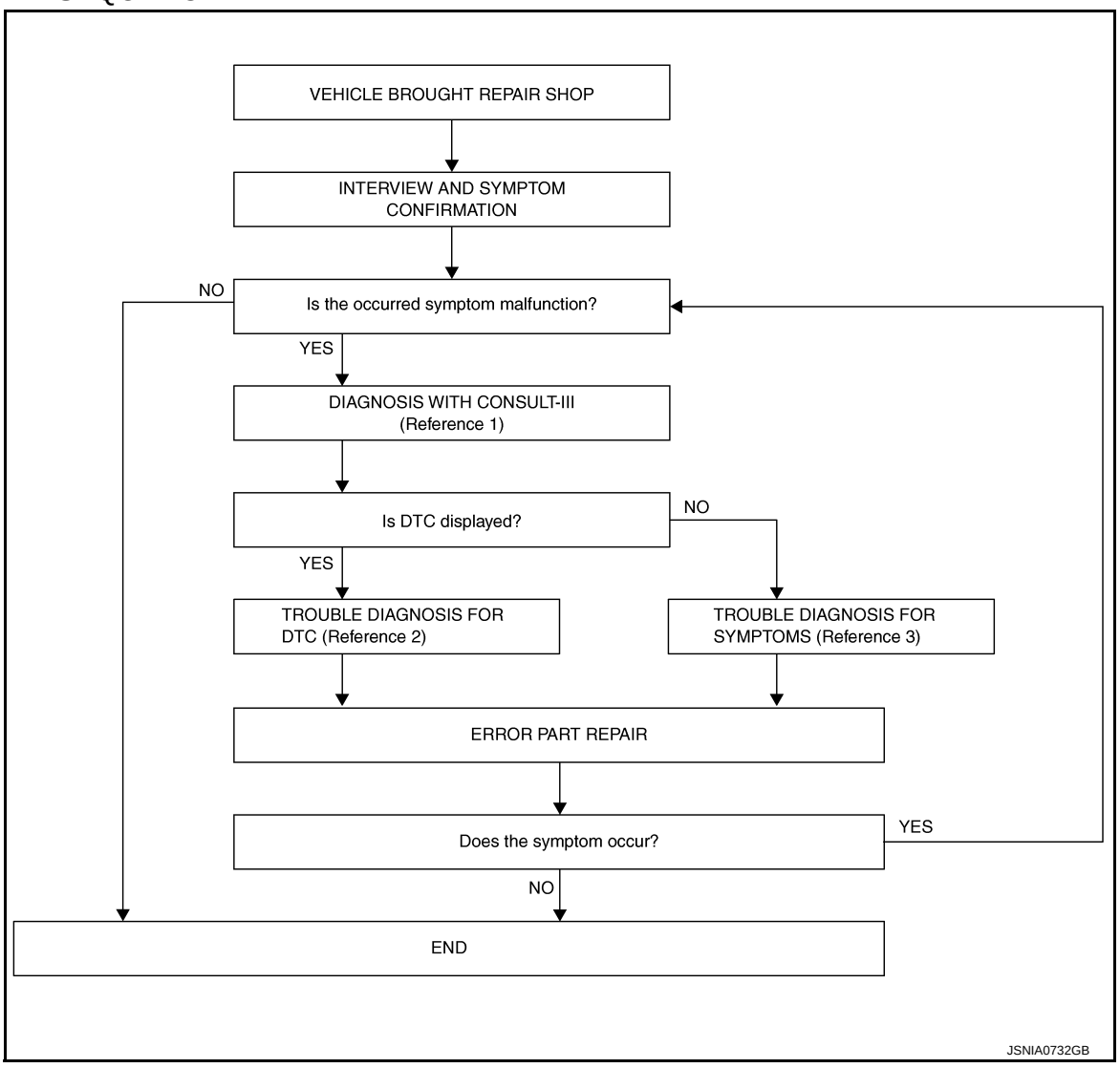
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000006210541

OVERALL SEQUENCE



- Reference 1··· Refer to AV-378, "CONSULT - III Function".
- Reference 2··· Refer to AV-387, "DTC Index".
- Reference 3··· Refer to AV-467, "Symptom Table".

DETAILED FLOW

1.INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.
NO >> INSPECTION END

2.DIAGNOSIS WITH CONSULT-III

1. Connect CONSULT-III and perform a self-diagnosis for “MULTI AV”. Refer to AV-378, "CONSULT - III Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “MULTI AV” is not displayed.
2. Check if any DTC is displayed in the “Self-Diagnosis Results”.

Is DTC displayed?

YES >> GO TO 3.
NO >> GO TO 4.

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the “Self-Diagnosis Results”.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-387, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-467, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “MULTI AV” with CONSULT-III.
   NOTE:
   Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the “Self-Diagnosis Results”.
3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.
NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING (AV CONTROL UNIT)

Description

INFOID:0000000006210542

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT-III configuration before replacement.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “WRITE CONFIGURATION” with CONSULT-III.

- **Complete the procedure of “WRITE CONFIGURATION” in order.**
- **If you set incorrect “WRITE CONFIGURATION”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

Work Procedure

INFOID:0000000006210543

1.SAVING VEHICLE SPECIFICATION

-CONSULT-III Configuration

Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to AV-415, "Description".

NOTE:

If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection”.

>> GO TO 2.

2.REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-477, "Exploded View".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

-CONSULT-III Configuration

Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to AV-415, "Work Procedure".

>> GO TO 4.

4.OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

CONFIGURATION (AV CONTROL UNIT)

Description

INFOID:0000000006210544

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT-III.
- Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

Work Procedure

INFOID:0000000006210545

NOTE:
If “WRITE CONFIGURATION” is unsuccessful, perform “Accessory Number Initialization”. For details, refer to AV-366, "On Board Diagnosis Function".
After performing “Accessory Number Initialization”, reboot the AV control unit to perform “WRITE CONFIGURATION”.

1.WRITING MODE SELECTION

CONSULT-III Configuration
Select “CONFIGURATION” of “MULTI AV”.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2.PERFORM “WRITE CONFIGURATION-CONFIG FILE”

CONSULT-III Configuration
Perform “WRITE CONFIGURATION-Config file”.

>> WORK END

3.PERFORM “WRITE CONFIGURATION-MANUAL SELECTION”

CONSULT-III Configuration
Select “WRITE CONFIGURATION-Manual selection” to write vehicle specifications into the AV control unit. For data to write, refer to AV-415, "Configuration List".

>> GO TO 4.

4.OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

Configuration List

INFOID:0000000006210546

CAUTION:
Check vehicle specifications before servicing.

MANUAL SETTING ITEM		NOTE
Items	Setting value	
STEERING	LHD	—
	RHD	—
GRADE	MODE 1	SPORT premium grade with 4WAS
	MODE 3	SPORT premium grade 2WD models without 4WAS
	MODE 2	Except for above
4WAS	WITHOUT	—
	WITH	—
SOUND SYSTEM	BASE	—
	BOSE	—

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000006210547

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-26, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000006210548

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction location
U1000	CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000006210549

1. PERFORM SELF-DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “MULTI AV”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to “LAN system”. Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI section. Refer to GI-43, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000006210550

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U1200 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210551

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U1201 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210552

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1201	GYRO NO CONN [U1201]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U1202 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210553

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1202	G-SENSOR NO CONN [U1202]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U1204 AV CONTROL UNIT

Description

INFOID:0000000006210554

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

DTC Logic

INFOID:0000000006210555

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1204	GPS CONN [U1204]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210556

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the “Self-Diagnosis Results” of “MULTI AV”. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

YES >> Replace AV control unit. Refer to AV-477, "Exploded View".
NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

U1205 AV CONTROL UNIT

Description

INFOID:0000000006210557

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

DTC Logic

INFOID:0000000006210558

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1205	GPS ROM [U1205]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210559

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the “Self-Diagnosis Results” of “MULTI AV”. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

YES >> Replace AV control unit. Refer to AV-477, "Exploded View".
NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

U1206 AV CONTROL UNIT

Description

INFOID:0000000006210560

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

DTC Logic

INFOID:0000000006210561

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1206	GPS RAM [U1206]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210562

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the “Self-Diagnosis Results” of “MULTI AV”. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

YES >> Replace AV control unit. Refer to AV-477, "Exploded View".
NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

U1207 AV CONTROL UNIT

Description

INFOID:0000000006210563

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

DTC Logic

INFOID:0000000006210564

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1207	GPS RTC [U1207]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210565

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the “Self-Diagnosis Results” of “MULTI AV”. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

YES >> Replace AV control unit. Refer to AV-477, "Exploded View".
NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

U1216 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210566

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210567

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1217	BLUETOOTH MODULE [U1217]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U1218 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210568

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1218	HDD CONN [U1218]	AV control unit malfunction is detected.	• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210569

1.CHECK MUSIC BOX FUNCTION

Is music box function normal?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U1219 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210570

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1219	HDD READ [U1219]	AV control unit malfunction is detected.	• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210571

1.CHECK MUSIC BOX FUNCTION

Is music box function normal?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U121A AV CONTROL UNIT

DTC Logic

INFOID:0000000006210572

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121A	HDD WRITE [U121A]	AV control unit malfunction is detected.	• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210573

1.CHECK MUSIC BOX FUNCTION

Is music box function normal?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U121B AV CONTROL UNIT

DTC Logic

INFOID:0000000006210574

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121B	HDD COMM [U121B]	AV control unit malfunction is detected.	• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210575

1.CHECK MUSIC BOX FUNCTION

Is music box function normal?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U121C AV CONTROL UNIT

DTC Logic

INFOID:0000000006210576

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121C	HDD ACCESS [U121C]	AV control unit malfunction is detected.	• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210577

1.CHECK MUSIC BOX FUNCTION

Is music box function normal?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U121D AV CONTROL UNIT

DTC Logic

INFOID:0000000006210578

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121D	DSP CONN [U121D]	AV control unit malfunction is detected.	• If a disc can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210579

1.CHECK PLAYBACK OF A DISK (CD)

Can a disk (CD) be played?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U121E AV CONTROL UNIT

DTC Logic

INFOID:0000000006210580

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121E	DSP COMM [U121E]	AV control unit malfunction is detected.	• If a disc can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210581

1.CHECK PLAYBACK OF A DISK (CD)

Can a disk (CD) be played?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U1225 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210582

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1225	USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.

U1227 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210583

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1227	DVD COMM [U1227]	AV control unit malfunction is detected.	• If DVD can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

Diagnosis Procedure

INFOID:0000000006210584

1.CHECK PLAYBACK OF A DISK (DVD)

Can a disc (DVD) be played?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U1228 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210585

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1228	SUB CPU CONN [U1228]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210586

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1229	iPod CERTIFICATION [U1229]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U122A AV CONTROL UNIT

DTC Logic

INFOID:0000000006210587

DTC	Display contents of CONSULT-III	DTC detection condition	Action to take
U122A	CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with “MULTI AV” of CONSULT-III.

Diagnosis Procedure

INFOID:0000000006210588

1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with “MULTI AV” of CONSULT-III.

>> Write configuration data with “MULTI AV” of CONSULT-III. Refer to AV-414, "Description".

U122E AV CONTROL UNIT

DTC Logic

INFOID:0000000006210589

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U122E	Built-in AUDIO CONN [U122E]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-477, "Exploded View".

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000006210590

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor.

Diagnosis Procedure

INFOID:0000000006210591

1.ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the predictive course line center position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement".

U1243 DISPLAY UNIT

DTC Logic

INFOID:0000000006210592

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected: • display unit power supply and ground circuit are malfunctioning. • communication circuit between AV control unit and display unit are malfunctioning.	• Display unit power supply and ground circuit. • Communication circuit between AV control unit and display unit.

Diagnosis Procedure

INFOID:0000000006210593

1.CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to AV-451, "DISPLAY UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK CONTINUITY COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M75	9	M210	89	Existed
	10		73	

4. Check continuity between display unit harness connector and ground.

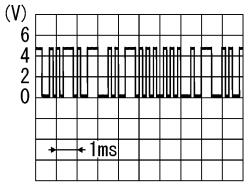
Display unit		Ground	Continuity
Connector	Terminals		
M75	9		Not existed
	10		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK COMMUNICATION SIGNAL

1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

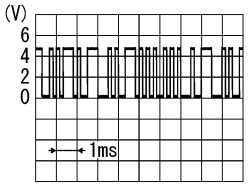
(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M75	9	Ground	When adjusting display brightness.	 PKIB5039J

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector and ground.

(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M75	10	Ground	When adjusting display brightness.	 PKIB5039J

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace display unit. Refer to AV-479, "Exploded View".

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000006210594

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.

Diagnosis Procedure

INFOID:0000000006210595

1.GPS ANTENNA CHECK

Visually check GPS antenna and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect GPS antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit and ground.

(+)		
AV control unit	(–)	Voltage (Approx.)
Terminal		
153	Ground	5.0 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000006210596

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1258	XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.

Diagnosis Procedure

INFOID:0000000006210597

1. SATELLITE RADIO ANTENNA CHECK

Visually check satellite radio antenna (antenna base) and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair malfunctioning parts.

2. CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect satellite radio antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit and ground.

(+)		
AV control unit	(–)	Voltage (Approx.)
Terminal		
159	Ground	5.0 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U1263 USB

DTC Logic

INFOID:0000000006210598

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1263	USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.

Diagnosis Procedure

INFOID:0000000006210599

1.CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-477, "Exploded View".
NO >> Replace USB harness.

U1264 ANTENNA AMP.

DTC Logic

INFOID:0000000006210600

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1264	ANTENNA AMP TERMINAL [OPEN or SHORT] [U1264]	Radio antenna amp. ON circuit is open or shorted.	Check antenna amp. ON signal circuit between the AV control unit and antenna amp.

Diagnosis Procedure

INFOID:0000000006210601

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA AMP.

1. Turn ignition switch OFF.
2. Disconnect antenna amp. connector and AV control unit connector.
3. Check continuity between AV control unit harness connector and antenna amp. harness connector.

AV control unit		Antenna amp		Continuity
Connector	Terminals	Connector	Terminals	
M371	152	M378	1	Existed

4. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminals		
M371	152		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VOLTAGE AV CONTROL UNIT

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector and ground.

AV control unit		(–)	Voltage (Approx.)
Connector	Terminals		
M371	152	Ground	12.0 V

Is the inspection result normal?

YES >> Replace antenna amp. Refer to AV-487, "Exploded View" .
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U1265 BOSE AMP.

DTC Logic

INFOID:0000000006210602

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1265	AMP ON TERMINAL [GND-SHORT or VB-SHORT] [U1265]	BOSE amp. ON circuit is open or shorted.	Check BOSE amp. ON signal circuit between the AV control unit and BOSE amp.

Diagnosis Procedure

INFOID:0000000006210603

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE AMP.

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector and AV control unit connector.
3. Check continuity between AV control unit harness connector and BOSE amp. harness connector.

AV control unit		BOSE amp.		Continuity
Connector	Terminals	Connector	Terminals	
M208	1	B41	20	Existed

4. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminals		
M208	1		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VOLTAGE AV CONTROL UNIT

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector and ground.

(+)		(–)	Voltage (Approx.)
AV control unit			
Connector	Terminals		
M208	1	Ground	10.0 V

Is the inspection result normal?

YES >> Replace BOSE amp. Refer to AV-486, "Exploded View".
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

U1300 AV COMM CIRCUIT

Description

INFOID:0000000006210604

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items are detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
U1300 U125C	• AV COMM CIRCUIT [U1300] • SONAR CONN [U125C]	When either one of the following items are detected: • sonar control unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and sonar control unit are malfunctioning.	• Sonar control unit power supply and ground circuits. • AV communication circuits between AV control unit and sonar control unit.
U1300 U1240 U125C	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • SONAR CONN [U125C]	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000006210605

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. If the malfunction occurs constantly. Refer to AV-477, "Exploded View".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000006210606

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M208	19	OFF	Battery voltage
ACC power supply	M208	7	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between AV control unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors.
3. Check continuity between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M208	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000006210607

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M75	11	OFF	Battery voltage
ACC power supply	M75	23	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between Display unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M75	12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

BOSE AMP.

BOSE AMP. : Diagnosis Procedure

INFOID:0000000006210608

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	5, 8

Is the inspection result normal?

YES >> GO TO 2.
NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B42	10, 11	OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between BOSE amp. and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector.
3. Check continuity between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B42	7, 12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

RGB DIGITAL IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006210609

Transmit the image displayed with AV control unit with RGB digital image signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210610

1.CHECK CONTINUITY RGB DIGITAL IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and AV control unit connector.
3. Check continuity between display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M386	27	M385	157	Existed
	28		158	

4. Check continuity between display unit harness connector and ground.

Display unit		Ground	Continuity
Connector	Terminals		
M386	27		Not existed
	28		

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK RGB DIGITAL IMAGE SIGNAL

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
Display unit				
Connector	Terminals			
M386	27	Ground	—	1.3 V
	28			

Is the inspection result normal?

YES >> Replace display unit. Refer to AV-479, "Exploded View".
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

COMPOSITE IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006210611

AV control unit transmits the playback DVD image signal to the display unit.

Diagnosis Procedure

INFOID:0000000006210612

1.CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and display unit connector.
3. Check continuity between AV control unit harness connector and display unit harness connector.

AV control unit		Display unit		Continuity
Connector	Terminal	Connector	Terminal	
M210	68	M75	18	Existed

4. Check continuity between AV control unit harness connector and ground.

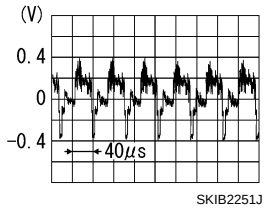
AV control unit		Ground	Continuity
Connector	Terminal		
M210	68		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK COMPOSITE IMAGE SIGNAL

1. Connect AV control unit connector and display unit connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

(+)		(–)	Condition	Reference value
AV control unit				
Connector	Terminal			
M210	68	Ground	At DVD image is displayed.	

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Is the inspection result normal?

YES >> Replace display unit. Refer to AV-479, "Exploded View".
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

DISK EJECT SIGNAL CIRCUIT

Description

INFOID:0000000006210613

The eject signal is output to AV control unit when the eject switch of multifunction switch is pressed.

Diagnosis Procedure

INFOID:0000000006210614

1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect multifunction switch connector and AV control unit connector.
3. Check continuity between multifunction switch harness connector and AV control unit harness connector.

Multifunction switch		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M72	14	M209	29	Existed

4. Check continuity between multifunction switch harness connector and ground.

Multifunction switch		Ground	Continuity
Connector	Terminal		
M72	14		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect multifunction switch connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M209	29	Ground	Pressing the eject switch	0 V
			Except for above	5.0 V

Is the inspection result normal?

YES >> Replace preset switch. Refer to AV-490, "Exploded View".
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

MODE CHANGE SIGNAL CIRCUIT

Description

INFOID:0000000006210615

- AV control unit transmits the mode change signal to BOSE amp.
- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.

Diagnosis Procedure

INFOID:0000000006210616

1.CHECK CONTINUITY MODE CHANGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector and AV control unit connector.
3. Check continuity between BOSE amp. harness connector and AV control unit harness connector.

AV control unit		BOSE amp.		Continuity
Connector	Terminal	Connector	Terminal	
M209	30	B41	37	Existed

4. Check continuity between BOSE amp. harness connector and ground.

BOSE amp.		Ground	Continuity
Connector	Terminal		
B41	37		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK MODE CHANGE SIGNAL

1. Connect BOSE amp. connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between BOSE amp. harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
BOSE amp.				
Connector	Terminal			
B41	37	Ground	Driver's Audio Stage ON.	0 V
			Driver's Audio Stage OFF.	8.5 V

Is the inspection result normal?

YES >> Replace BOSE amp. Refer to AV-486, "Exploded View".
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000006210617

Supply power from AV control unit to microphone. The microphone transmits the sound/voice to the AV control unit.

Diagnosis Procedure

INFOID:0000000006210618

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and microphone connector.
3. Check continuity between AV control unit harness connector and microphone harness connector.

AV control unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
M210	71	R17	2	Existed
	72		4	
	87		1	

4. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminals		
M210	72		Not existed
	87		

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VOLTAGE MICROPHONE VCC

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

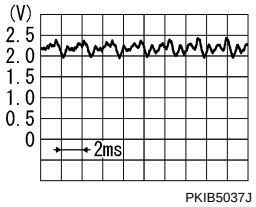
(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M210	72	M210	71	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between AV control unit harness connector.

(+)		(–)		Condition	Reference value
AV control unit		AV control unit			
Connector	Terminal	Connector	Terminal		
M210	87	M210	71	Give a voice.	

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Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-477, "Exploded View".
NO >> Replace microphone. Refer to AV-493, "Exploded View".

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006210619

- The AV control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the display unit when power is supplied from the AV control unit.

Diagnosis Procedure

INFOID:0000000006210620

1.CHECK CONTINUITY CAMERA POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M209	22	B305	1	Existed

4. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M209	22		Not existed

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK VOLTAGE CAMERA POWER SUPPLY

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check voltage between AV control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M209	22	Ground	Shift position is “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit.

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and rear view camera connector.
3. Check continuity between display unit harness connector and rear view camera harness connector.

Display unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M75	8	B305	3	Existed

4. Check continuity between display unit harness connector and ground.

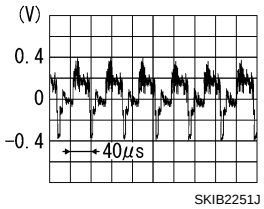
Display unit		Ground	Continuity
Connector	Terminal		
M75	8		Not existed

Is inspection result normal?

YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK CAMERA IMAGE SIGNAL

1. Connect display unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check signal between display unit harness connector and ground.

(+)		(–)	Condition	Reference value
Display unit				
Connector	Terminal			
M75	8	Ground	At rear view camera image is displayed.	

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Is inspection result normal?

YES >> Replace display unit. Refer to AV-479, "Exploded View".
NO >> Replace rear view camera. Refer to AV-496, "Exploded View".

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000006210621

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210622

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	6	M36	24	Existed

3. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M208	6		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M208	6	M208	15	5.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-461, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View".

Component Inspection

INFOID:0000000006210623

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

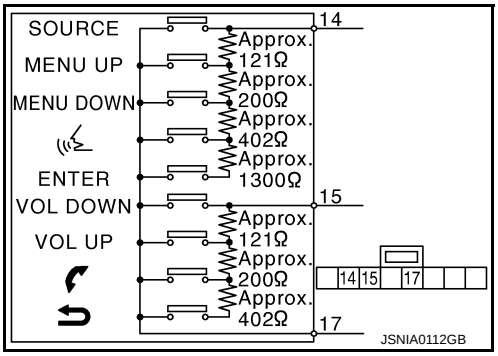
Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 Ω
switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 716 – 730 Ω
switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000006210624

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210625

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	16	M36	31	Existed

3. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M208	16		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

(+)		(–)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M208	16	M208	15	5.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-463, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View".

Component Inspection

INFOID:0000000006210626

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

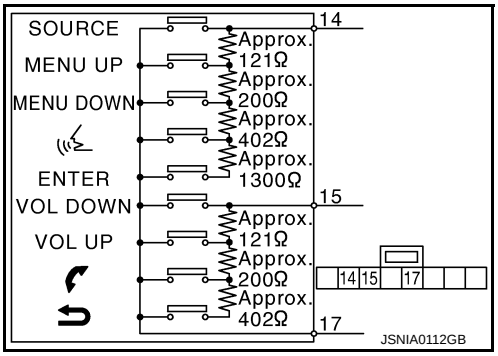
Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 Ω
switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 716 – 730 Ω
switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



STEERING SWITCH GROUND CIRCUIT

Description

INFOID:0000000006210627

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000006210628

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

1. Disconnect AV control unit connector and spiral cable connector.
2. Check continuity between AV control unit harness connector and spiral cable harness connector.

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	15	M36	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair harness or connector.

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-14, "Exploded View".

3.CHECK GROUND CIRCUIT

1. Connect AV control unit connector.
2. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M208	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-477, "Exploded View"

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-465, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to ST-17, "Exploded View"

Component Inspection

INFOID:0000000006210629

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

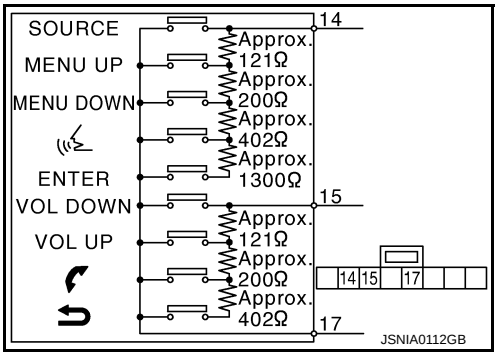
Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 Ω
switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

switch ON	: 716 – 730 Ω
switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000006210630

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Multifunction switch and preset switch operation does not work.	• All switches cannot be operated. • “MULTI AV” is displayed on system selection screen when the CONSULT-III is started.	• Multifunction switch power supply and ground circuit malfunction. • AV communication circuit between AV control unit and multifunction switch. Perform CONSULT-III self-diagnosis. Refer to AV-378, "CONSULT - III Function".
	• All switches cannot be operated. • “MULTI AV” is not displayed on system selection screen when the CONSULT-III is initialized.	AV control unit power supply and ground circuit malfunction. Refer to AV-451, "AV CONTROL UNIT : Diagnosis Procedure".
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to AV-366, "On Board Diagnosis Function".
Fuel economy display, vehicle setting operation is abnormal.	There is malfunction in the CONSULT-III “self-diagnosis result” of “MULTI AV”. Refer to AV-378, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-387, "DTC Index".
	There is no malfunction in the CONSULT-III “self-diagnosis results” of “MULTI AV”. Refer to AV-378, "CONSULT - III Function".	Ignition signal circuit malfunction.
Guide sound is not heard or too low.	On the setting display select “system sound (guide sound volume, etc.),” and confirm that guide sound is ON.	AV control unit malfunction. Replace AV control unit. Refer to AV-477, "Exploded View".

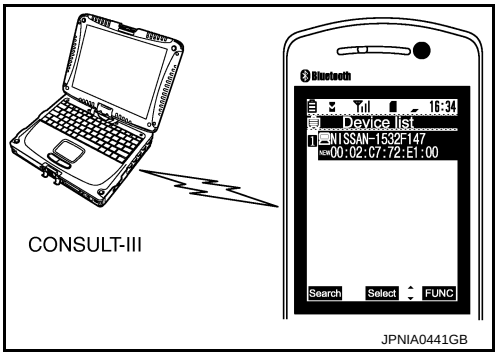
RELATED TO HANDS-FREE PHONE

Simple Check for Bluetooth™ Communication

If cellular phone and AV control unit cannot be connected with Bluetooth™ communication, following procedure allows the technician to judge which device has malfunction.

1. Turn ON cellular phone, not connecting Bluetooth™ communication.
2. Start CONSULT-III, then start Windows®.
3. Set CONSULT-III near a cellular phone.
4. When operated Bluetooth™ registration by cellular phone, check if CONSULT-III* would be displayed on the device name.
   (If other Bluetooth™ device is located near cellular phone, a name of the device would be displayed also.)
   NOTE:
   *:Displayed device name is “NISSAN-********”.

- If no device name is displayed, cellular phone is malfunctioning. Repair the cellular phone first, then perform diagnosis.
- If CONSULT-III is displayed on device name, cellular phone is normal. Perform diagnosis as per the following table.



Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (no connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	AV control unit malfunction. Replace AV control unit. Refer to AV-477, "Exploded View".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the “microphone speaker” in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-457, "Diagnosis Procedure".
The system cannot be operated.	Steering switch's ”VOL UP”, “VOL DOWN”, “↩” switch works, but “📞” it does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-491, "Exploded View".
	Steering switch's “📞”, ”VOL UP”, “VOL DOWN”, “↩” switches do not work.	Steering switch signal B circuit malfunction. Refer to AV-463, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-465, "Diagnosis Procedure".

RELATED TO RGB IMAGE

Symptoms	Check items	Probable malfunction location
RGB image is not shown.	—	RGB digital image signal circuit malfunction. Refer to AV-453, "Diagnosis Procedure".

RELATED TO VOICE CONTROL

Symptoms	Check items	Probable malfunction location
The voice cannot be controlled even if the voice control screen is displayed.	Voice sounds at “Voice Microphone Test” of Confirmation/Adjustment mode.	AV control unit malfunction. Replace AV control unit. Refer to AV-477, "Exploded View".
	Voice does not sound at “Voice Microphone Test” of Confirmation/Adjustment mode.	Microphone circuit malfunction. Refer to AV-457, "Diagnosis Procedure".
The voice cannot be controlled (Voice control screen is not displayed).	Steering switch's “SOURCE”, “MENU UP”, “MENU DOWN”, “ENTER” switch works, but “🎤” it does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-491, "Exploded View".
	Steering switch's “SOURCE”, “MENU UP”, “MENU DOWN”, “🎤”, “ENTER” switches do not work.	Steering switch signal A circuit malfunction. Refer to AV-461, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-465, "Diagnosis Procedure".

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to AV-455, "Diagnosis Procedure".
Audio sound is not heard.	No sound from all speakers.	• Amp. ON signal circuit malfunction. • BOSE amp. power supply and ground circuits malfunction. Refer to AV-452, "BOSE AMP. : Diagnosis Procedure".
	Sound is not heard from woofer.	• Woofer power supply and ground circuit malfunction. • Sound signal (rear woofer) circuit malfunction. • Woofer amp. ON signal circuit malfunction.
	Sound is heard only from specific places.	Sound signals circuit of suspect system.
It does not change to “Driver's Audio Stage” mode.	—	Mode change signal circuit malfunction. Refer to AV-456, "Diagnosis Procedure".
Satellite radio is not received.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to AV-378, "CONSULT - III Function".	Perform detected DTC diagnosis. Refer to AV-387, "DTC Index".
	There is no malfunction in the CONSULT-III self-diagnosis result. Refer to AV-378, "CONSULT - III Function".	Perform the following inspection procedure. 1. Check satellite radio antenna mounting nut for looseness. **NOTE:** Tightening torque: 6.5 N-m (0.66 kg-m, 58 in-lb) 2. Visually check for satellite radio antenna feeder.
AM/FM radio is not received.	Other audio sounds are normal.	• Antenna amp. ON signal circuit malfunction. • Antenna feeder malfunction.

RELATED TO DVD MODE

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to AV-455, "Diagnosis Procedure".
DVD image is not displayed.	—	Perform CONSULT-III self-diagnosis. Refer to AV-378, "CONSULT - III Function" . When detecting no malfunction in those components, the following items are a possible cause. • Composite image signal circuits malfunction. Refer to AV-454, "Diagnosis Procedure".
DVD sound is not heard.	No sound from all speakers.	• Amp. ON signal circuit malfunction. • BOSE amp. power supply and ground circuits malfunction. Refer to AV-452, "BOSE AMP. : Diagnosis Procedure".
	Sound is not heard from rear woofer.	• Woofer power supply and ground circuit malfunction. • Sound signal (rear woofer) circuit malfunction. • Woofer amp. ON signal circuit malfunction.
	Sound is heard only from specific places.	Sound signals circuit of suspect system.

RELATED TO CAMERA

Trouble Diagnosis Chart by Symptom

Symptoms	Check items	Probable malfunction location
Camera image is not shown. (Vehicle width and predictive course line are displayed.)	—	Camera image signal circuit. Refer to AV-459, "Diagnosis Procedure".

Symptoms	Check items	Probable malfunction location
Camera image does not switch.	Select “Camera Cont.” of Confirmation/ Adjustment mode, Reverse Sensor is not turned ON at “Connection Confirmation”.	Reverse signal circuit malfunction.
	Select “Camera Cont.” of Confirmation/ Adjustment mode, Reverse Sensor is turned ON at “Connection Confirmation”.	AV control unit malfunction. Replace AV control unit. Refer to AV-477, "Exploded View".

RELATED TO USB

NOTE:
Check that there is no malfunction of USB equipment main body before performing a diagnosis.

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	• USB harness malfunction. • USB connector malfunction.

iPod® is a trademark of Apple inc., registered in the U.S. and other countries.

RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to AV-465, "Diagnosis Procedure".
Only specified switch cannot be operated.	Steering switch malfunction. Replace steering switch. Refer to AV-491, "Exploded View".
Steering switch's “SOURCE”, “MENU UP”, “MENU DOWN”,“ ”, “ENTER”switches do not work.	Steering switch signal A circuit malfunction. Refer to AV-461, "Diagnosis Procedure".
Steering switch's “ ”, “VOL UP”, “VOL DOWN”, “ ” switches do not work.	Steering switch signal B circuit malfunction. Refer to AV-463, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000006210631

NOTE:
For Navigation system operation information, refer to Navigation system Owner's Manual.

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press “DISC-AUX” to change the mode.
	The display is turned off.	Press “☀/☽” to turn on the display.
	The interior of the vehicle becomes the a little less than 80°C (176°F) or high temperature, and the protection of the display acts, and a display is turned off.	Wait until the interior of the vehicle has cooled down.
Screen not clear.	Contrast setting is not appropriate.	Adjust the contrast of the display.
No voice guidance is available. Or The volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the volume of voice guidance.
	Voice guidance is not provided for certain streets (roads displayed in gray).	This is not a malfunction.
No map is displayed on the screen.	A screen other than map screen is displayed.	Press “MAP”.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

NOTE:
Locations stored in the Address Book and other memory functions may be lost if the vehicle's battery is disconnected or becomes discharged. If this occurs, service the vehicle's battery as necessary and re-enter the information in the Address Book.

RELATED TO VOICE RECOGNITION

Related to Basic Operation

Symptom	Possible cause	Possible solution
The system does not recognize your command. or The system recognizes your command incorrectly	The interior of the vehicle is too noisy.	Close the windows or have other occupants quiet.
	The volume of your voice is too low.	Speak louder.
	The volume if your voice is too loud.	Speak softer.
	Your pronunciation is unclear.	Speak clearly.
	You are speaking before the voice recognition is ready	Press and release “” switch on the steering switch, and speak a command after the tone sounds.
	8 seconds or more have passed after you pressed and released “” switch on the steering switch.	Make sure to speak a command within 8 seconds after you press and release “” switch on the steering switch.
	Only a limited range of voice commands is usable for each screen.	Use a correct voice command appropriate for the current screen.
	The fan of the air conditioner is too loud.	Lower the fan speed as necessary as voice command can be recognized more easily.

Related to Item Choice
The system should respond correctly to all voice commands without difficulty. If problems are encountered, follow the solutions given in this guide for the appropriate error.

Where the solutions are listed by number, try each solution in turn, starting with number one, until the problem is resolved.

Symptom/ error message	Solution
Displays “COMMAND NOT RECOGNIZED” or the system fails to interpret the command correctly.	1. Ensure that the command format is valid.
	2. Speak clearly without pausing between words and at a level appropriate to the ambient noise level.
	3. Ensure that the ambient noise level is not excessive, for example, windows open or defrost on. **NOTE:** If it is too noisy to use the phone, it is likely that voice commands will not be recognized.
	4. If optional words of the command have been omitted, then command should be tried with these in place.
The system consistently selects the wrong voicetag	1. Ensure that the voicetag requested matches what was originally stored. This can be confirmed by giving the “Addressbook” Directory or Phone Directory command.
	2. Replace one of the voicetags being confused with a different voicetag.

Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

Symptom	Solution
System fails to interpret the command correctly.	1. Ensure that the command is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). **NOTE:** If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.
	5. If more than one command was said at a time, try saying the commands separately.
	6. If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. See “Speaker adaptation (SA) mode” earlier in this section. Refer to “OWNER’S MANUAL”.
The system consistently selects the wrong voicetag	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the “List Names” command.
	2. Replace one of the names being confused with a new name.

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and then determine the cause.

NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA, AAC, M4A) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the “red book” Compact Disc Standard and may not play.

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC/M4A files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than “.MP3”, “.WMA”, “AAC”, “.M4A”, “.mp3”, “.wma”, “.aac” or “.m4a” cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA/AAC/M4A writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the CD is protected by copyright.
	Disks recorded in live file system format are not supported. (For Microsoft Windows Vista, check the settings.)
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA/AAC/M4A CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA/AAC/M4A file has been given an extension of “.MP3”, “.WMA”, “AAC”, “.M4A” “.mp3”, “.wma”, “.aac” or “.m4a”, or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

Noise resulting from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources, is not a malfunction.

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

RELATED TO DVD

Symptom	Possible cause	Possible solution
Not working as operated	Some operations may be rejected or may not function as intended because of the manufacturer's intent, depending on DVD.	This is not a malfunction.
Operation not accepted	If a requested operation is prohibited, then a message is displayed on the screen. (Message display depends on DVD.)	This is not a malfunction.

Symptom	Possible cause	Possible solution
DVD can not be played	Check that the DVD is inserted in the right place.	Upturn the DVD (facing the title upward).
	Check that there is no condensation inside the player.	Wait until the condensation evaporates (approximately one hour).
	DVD menu is displayed.	Select item to touch “ENTER”.
	Insertion of a DVD with a different region code.	DVDs with a different region code can not be played. Check DVD.
	Some DVD softwares may not be played because not all DVD softwares fully comply in the standard.	This is not a malfunction.
Interruption during playback or flicker in the display	Check that the DVD has no scratches and dirt.	Errors may not be corrected depending on the size of scratches.
		Wipe and clean the dirt on the disc.
Subtitles not shown	Subtitle setting is OFF.	Set subtitle.
	Subtitle is not included in the software.	Check DVD.
Not played in set language	If a language is not included in the DVD, then the DVD is played in a recommended language.	Check DVD.
Not played with set subtitle	If a set subtitle is not included in the DVD, then the DVD is played with a recommended subtitle.	Check DVD.
Angle unchangeable	Plural angles are not recorded in the software.	Check if the DVD is multi–angle capable.
Unusual screen display	Display mode to the output aspect ratio for the DVD software is inappropriate.	Switch to the appropriate display mode.
Distortion in picture	In the process of fast–forward or fast–reverse.	This is not a malfunction.
Low sound quality	Check that the DVD has no scratches and dirt.	Wipe and clean the dirt on the disc.
Subtitle and language not selectable (not played with set subtitle or in set language)	The DVD is not multilanguage–capable.	The inclusion of the number of languages depends on DVD. Languages may be selectable on the Menu screen. Check DVD.
	The DVD has a priority language or setting.	If the DVD has a priority language or settings, then settings changed with this device are not reflected.
Playback time is indicated, but no sound comes out.	Playback of Mix mode Truck 1. (Mix mode: Format including Truck 1 with data other than music and Trucks from Truck 2 with music data.)	Play music data included in trucks from Truck 2.

RELATED TO VEHICLE ICON

Symptom	Possible cause	Possible solution
Names of roads differ between Plan View and Birdview™.	This is because the quantity of the displayed information is reduced so that the screen does not become too crowded. There is also a chance that names of the roads may be displayed multiple times, and the names appearing on the screen may be different because of a processing procedure.	This is not a malfunction.
The vehicle icon is not displayed in the correct position.	The vehicle was transported after the ignition switch was pressed off, for example, by a ferry or car transporter.	Drive the vehicle for a while on a road where GPS signals can be received.
	The position and direction of the vehicle icon may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.
When the vehicle is traveling on a new road, the vehicle icon is located on another road nearby.	Because the new road is not stored in the map data, the system automatically places the vehicle icon on the nearest road available.	Updated road information will be included in the next version of the map data.

Symptom	Possible cause	Possible solution
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using <Day/Night> when you turn on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Press “MAP”.
The vehicle icon is not displayed.	The current location map screen is not displayed.	Press “MAP”.
The location of the vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position. If this does not correct the vehicle icon position, contact an INFINITI dealer.
	The map data has a mistake or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map data.

RELATED TO ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
Waypoints are not included in the auto reroute calculation.	Waypoints that you have already passed are not included in the auto reroute calculation.	If you want to go to that waypoint again, you need to edit the route.
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	You are not driving on the suggested route.	Drive on the suggested route.
	Route guidance is set to off.	Turn on route guidance.
	Route information is not provided for certain types of roads (roads displayed in gray).	This is not a malfunction.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculations took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
A waypoint cannot be added.	Five waypoints are already set on the route, including ones that you have already passed.	A maximum of 5 waypoints can be set on the route. If you want to go to 6 or more waypoints, perform route calculations multiple times as necessary.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide your trip by selecting one or two intermediate destinations, and perform route calculations multiple times.
	There are time restricted roads (by the day of the week, by time) near the current vehicle location or destination.	Set [Use Time Restricted Roads] to off.
The part of the route that you have already passed is deleted.	A route is managed by sections between waypoints. If you passed the first waypoint, the section between the starting point and the waypoint is deleted. (It may not be deleted depending on the area.)	This is not a malfunction.
An indirect route is suggested.	If there are restrictions (such as one-way streets) on roads close to the starting point or destination, the system may suggest an indirect route.	Adjust the location of the starting of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets (gray roads.)	Reset the destination to a main or ordinary road, and recalculate the route.

Symptom	Possible cause	Possible solution
The landmark information does not correspond to the actual information.	This may be caused by insufficient or incorrect map data.	Updated information will be included in the next version of the data.
The suggested route does not exactly connect to the starting point, waypoints, or destination.	There is no data for route calculation closes to these locations.	Set the starting point, waypoints and destination on a main road, and perform route calculation.

RELATED TO VOICE GUIDANCE

Symptom	Possible cause	Possible solution
Voice guidance is not available	Voice guidance is only available at certain intersections marked with? In some case, voice guidance is not available even when the vehicle should make a turn.	This is not a malfunction.
	The vehicle has deviated from the suggested route.	Go back to the suggested route or request route calculation again
	Voice guide is set to off.	Turn on voice guidance.
	Route guidance is set to off.	Turn on voice guidance.
The guidance contact does not correspond to the actual condition.	The contact of voice guidance may vary, depending on the types of intersections at which turn are made.	Follow all traffic rules and regulations.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000006210632

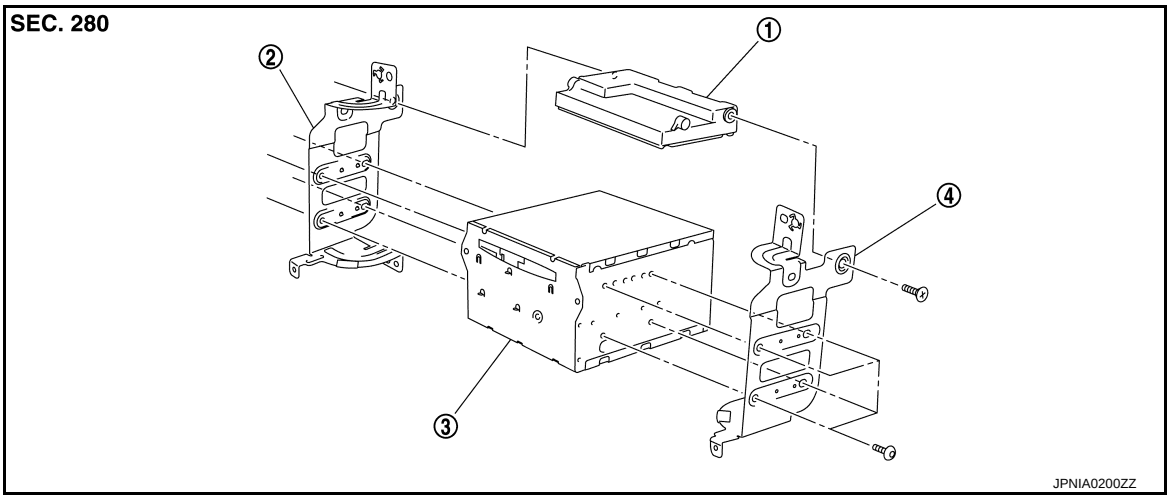
CAUTION:
- **Before replacing AV control unit, perform “READ CONFIGURATION” to save or print current vehicle specification. For details, refer to AV-414, "Description".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF**

NOTE:
After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Unified meter and A/C amp.
2. Bracket LH
3. AV control unit
4. Bracket RH

Removal and Installation

INFOID:0000000006210633

REMOVAL

CAUTION:
- **Before replacing AV control unit, perform “READ CONFIGURATION” to save or print current vehicle specification. For details, refer to AV-414, "Description".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF**

NOTE:
After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

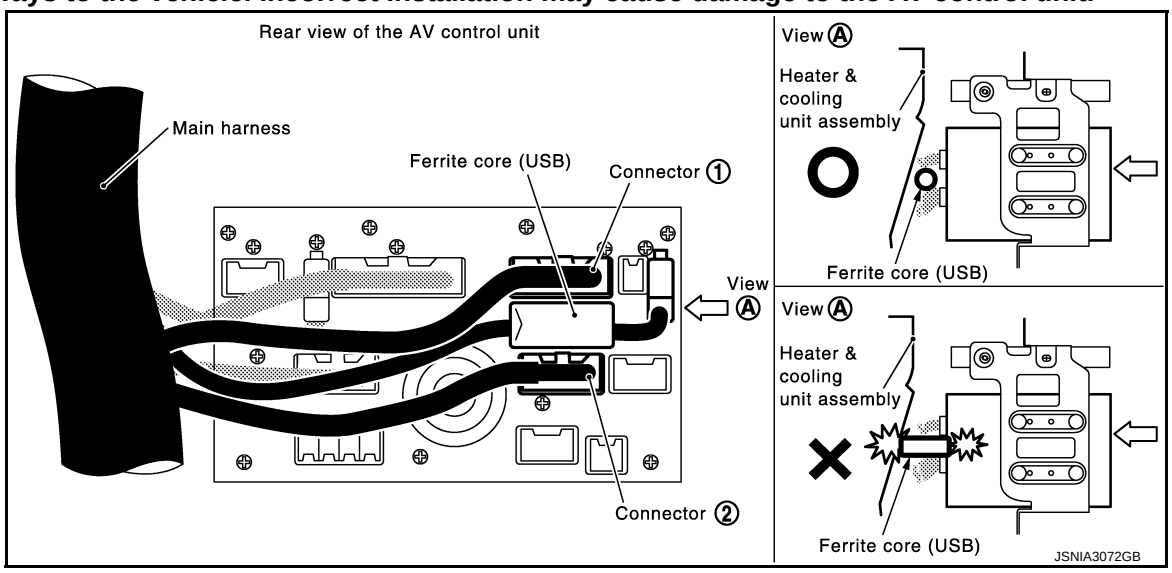
1. Remove display unit. Refer to AV-479, "Exploded View".
2. Remove AV control unit with a unified meter and A/C amp. as a single unit from the body.
3. Remove bracket screws, and then remove AV control unit.

INSTALLATION

Installation is the reverse order of removal.

CAUTION:
- **Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.**

- **Be sure to perform "WRITE CONFIGURATION" when replacing AV control unit.**
- **Install AV control unit between connector (1) and connector (2) with the ferrite core (USB) orientated sideways to the vehicle. Incorrect installation may cause damage to the AV control unit.**



DISPLAY UNIT

Exploded View

INFOID:0000000006210634

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

Removal and Installation

INFOID:0000000006210635

REMOVAL

1. Remove cluster lid D. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove display unit with bracket as a single unit.

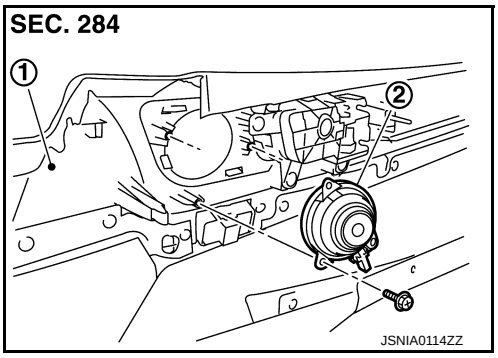
INSTALLATION

Installation is the reverse order of removal.

FRONT DOOR SQUAWKER

Exploded View

INFOID:0000000006210636



1. Door finisher
2. Front door squawker

Removal and Installation

INFOID:0000000006210637

REMOVAL

1. Remove front door finisher. Refer to INT-12, "Exploded View".
2. Remove front door squawker from door finisher.

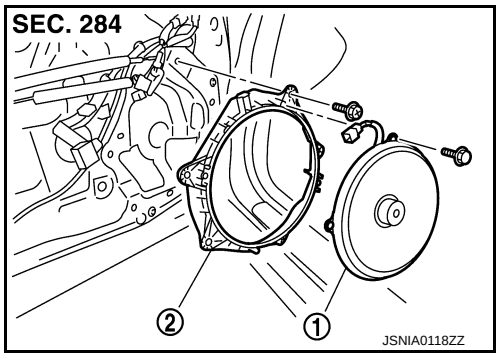
INSTALLATION

Installation is the reverse order of removal.

FRONT DOOR WOOFER

Exploded View

INFOID:0000000006210638



1. Front door woofer
2. Woofer bracket

Removal and Installation

INFOID:0000000006210639

REMOVAL

1. Remove front door finisher. Refer to INT-12, "Exploded View".
2. Remove front door woofer from woofer bracket.

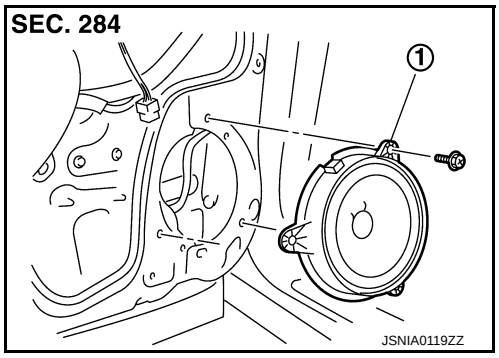
INSTALLATION

Installation is the reverse order of removal.

REAR DOOR SPEAKER

Exploded View

INFOID:0000000006210640



1. Rear door speaker

Removal and Installation

INFOID:0000000006210641

REMOVAL

1. Remove rear door finisher. Refer to INT-12, "Exploded View".
2. Remove rear door speaker from rear door.

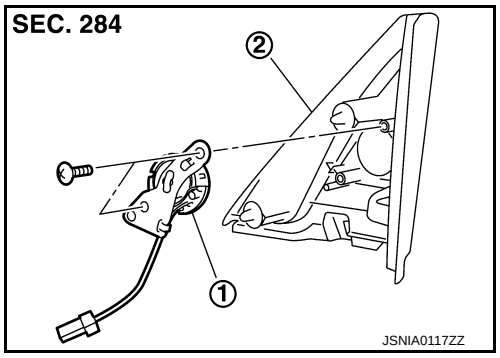
INSTALLATION

Installation is the reverse order of removal.

TWEETER

Exploded View

INFOID:0000000006210642



1. Tweeter
2. Corner cover inner

Removal and Installation

INFOID:0000000006210643

REMOVAL

1. Remove front door finisher, and then remove corner cover inner. Refer to INT-12, "Exploded View".
2. Remove tweeter from corner cover inner.

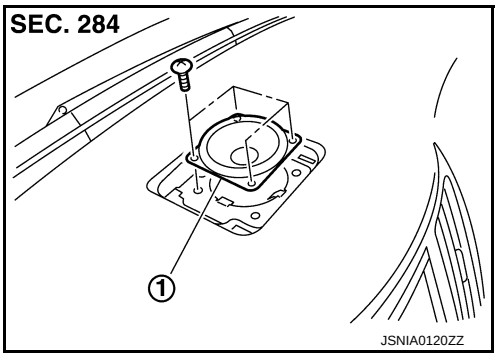
INSTALLATION

Installation is the reverse order of removal.

CENTER SPEAKER

Exploded View

INFOID:0000000006210644



1. Center speaker

Removal and Installation

INFOID:0000000006210645

REMOVAL

1. Remove upper grille, and then remove center speaker. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

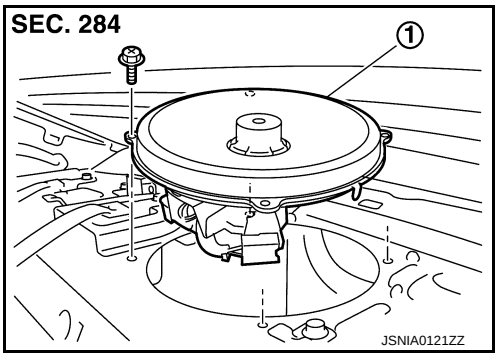
INSTALLATION

Installation is the reverse order of removal.

REAR WOOFER

Exploded View

INFOID:0000000006210646



1. Rear woofer

Removal and Installation

INFOID:0000000006210647

REMOVAL

1. Remove rear parcel shelf finisher. Refer to INT-20, "Exploded View".
2. Remove rear woofer from rear parcel shelf.

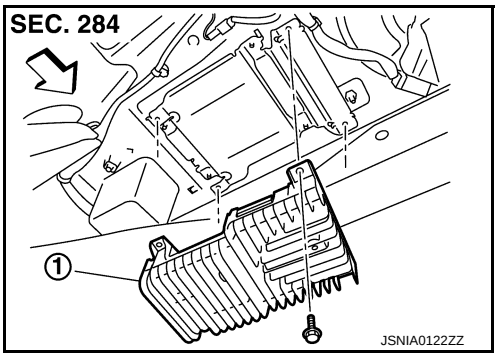
INSTALLATION

Installation is the reverse order of removal.

BOSE AMP.

Exploded View

INFOID:0000000006210648



1. BOSE amp.

⇦: Vehicle front

Removal and Installation

INFOID:0000000006210649

REMOVAL

1. Remove trunk front finisher. Refer to INT-30, "Exploded View".
2. Remove BOSE amp. from rear parcel shelf.

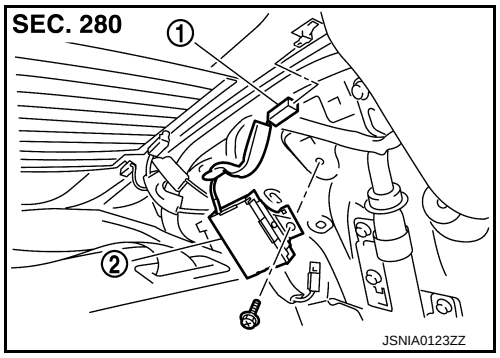
INSTALLATION

Installation is the reverse order of removal.

ANTENNA AMP.

Exploded View

INFOID:0000000006210650



1. AM-FM main connector
2. Antenna amp.

Removal and Installation

INFOID:0000000006210651

REMOVAL

1. Remove rear pillar finisher LH. Refer to INT-15, "Exploded View".
2. Remove antenna amp. from rear pillar LH.

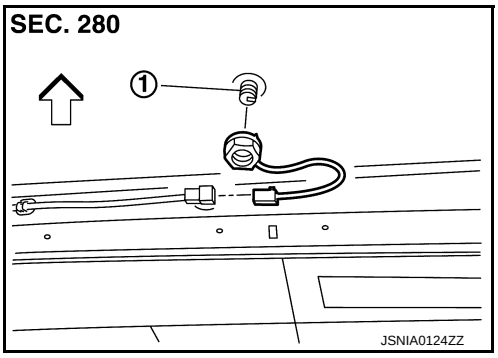
INSTALLATION

Installation is the reverse order of removal.

SATELLITE RADIO ANTENNA

Exploded View

INFOID:0000000006210652



1. Satellite radio antenna

⇦: Vehicle front

Removal and Installation

INFOID:0000000006210653

REMOVAL

1. Remove head lining assembly (rear) to secure work space between vehicle and headlining. Refer to INT-24, "NORMAL ROOF : Exploded View" (normal roof models) or INT-27, "SUNROOF : Exploded View" (sunroof models).
2. Remove nut, and then remove satellite radio antenna from roof panel.

INSTALLATION

Installation is the reverse order of removal.

Satellite radio antenna mounting nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

CAUTION:

Be careful about tightening torque. Antenna sensitivity becomes poor, and when it is excessive, roof panel may be deformed, when satellite radio antenna mounting nut tightening torque is loose.

MULTIFUNCTION SWITCH

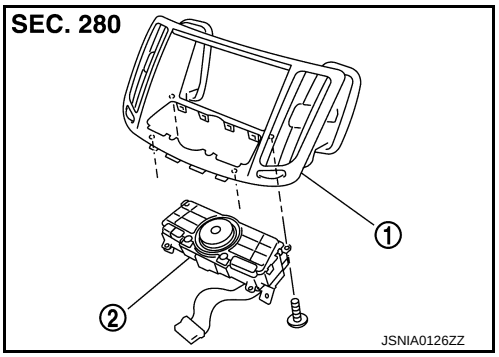
Exploded View

INFOID:0000000006210654

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Center ventilator grille
2. Multifunction switch

Removal and Installation

INFOID:0000000006210655

REMOVAL

1. Remove cluster lid D. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove multi function switch with center ventilator grille as a single unit.
3. Remove multi function switch from center ventilator.

INSTALLATION

Installation is the reverse order of removal.

PRESET SWITCH

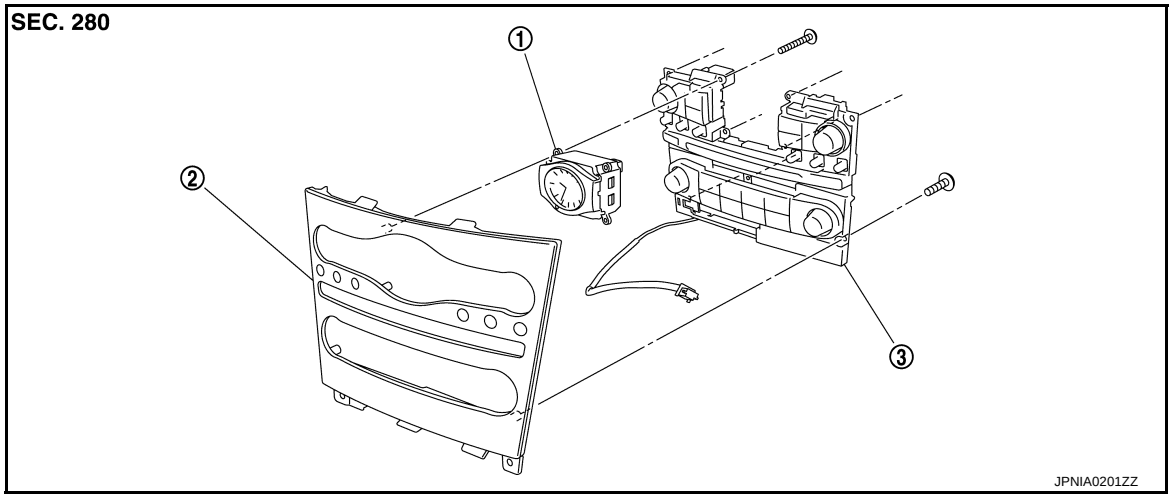
Exploded View

INFOID:0000000006210656

REMOVAL

Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).

DISASSEMBLY



1. Clock
2. Cluster lid C
3. Preset switch

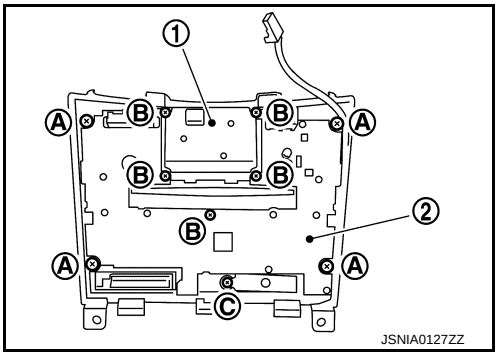
Removal and Installation

INFOID:0000000006210657

REMOVAL

1. Remove cluster lid C. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove preset switch screws (A), (B), and (C), and then remove preset switch (2) from cluster lid C.

1. Clock



INSTALLATION

Installation is the reverse order of removal.

NOTE:

When installing preset switch, do not allow the print wire that connects preset switch and multifunction switch to get caught in between AV control unit and preset switch.

STEERING SWITCH

Exploded View

INFOID:0000000006210658

Refer to ST-17, "Exploded View".

Removal and Installation

INFOID:0000000006210659

REMOVAL

Refer to ST-17, "Removal and Installation".

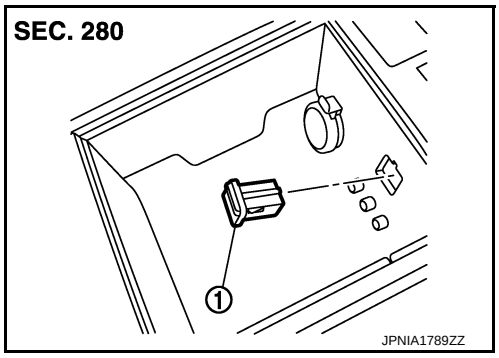
INSTALLATION

Installation is the reverse order of removal.

USB CONNECTOR

Exploded View

INFOID:0000000006210660



1. USB connector

Removal and Installation

INFOID:0000000006210661

REMOVAL

1. Remove center console. Refer to IP-34, "A/T MODELS : Exploded View" (A/T models) or IP-39, "M/T MODELS : Exploded View" (M/T models).
2. Push the pawl from the back of center console to remove USB connector.

INSTALLATION

Install in the reverse order of removal.

MICROPHONE

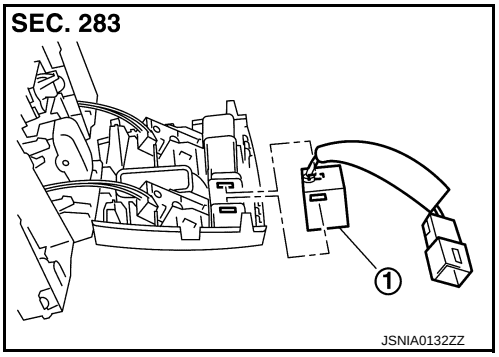
Exploded View

INFOID:0000000006210662

REMOVAL

Refer to INL-109, "Exploded View".

DISASSEMBLY



1. Microphone

Removal and Installation

INFOID:0000000006210663

REMOVAL

1. Remove map lamp. Refer to INL-109, "Exploded View".
2. Remove microphone from map lamp.

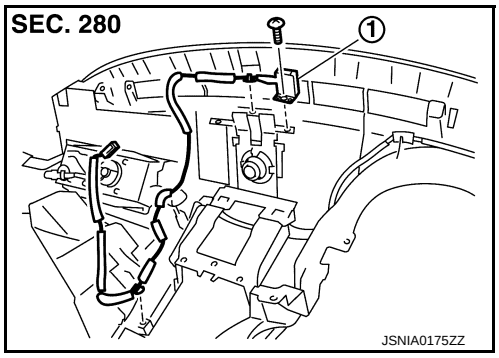
INSTALLATION

Installation is the reverse order of removal.

GPS ANTENNA

Exploded View

INFOID:0000000006210664



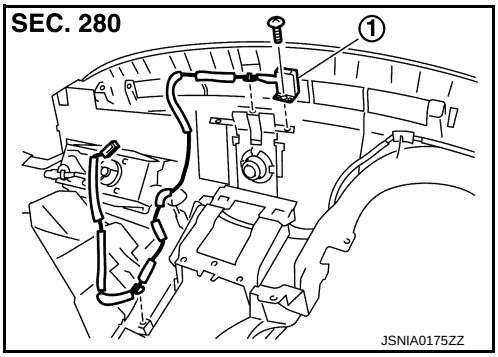
1. GPS antenna

Removal and Installation

INFOID:0000000006210665

REMOVAL

1. Remove instrument panel. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove GPS antenna (1) from instrument panel.



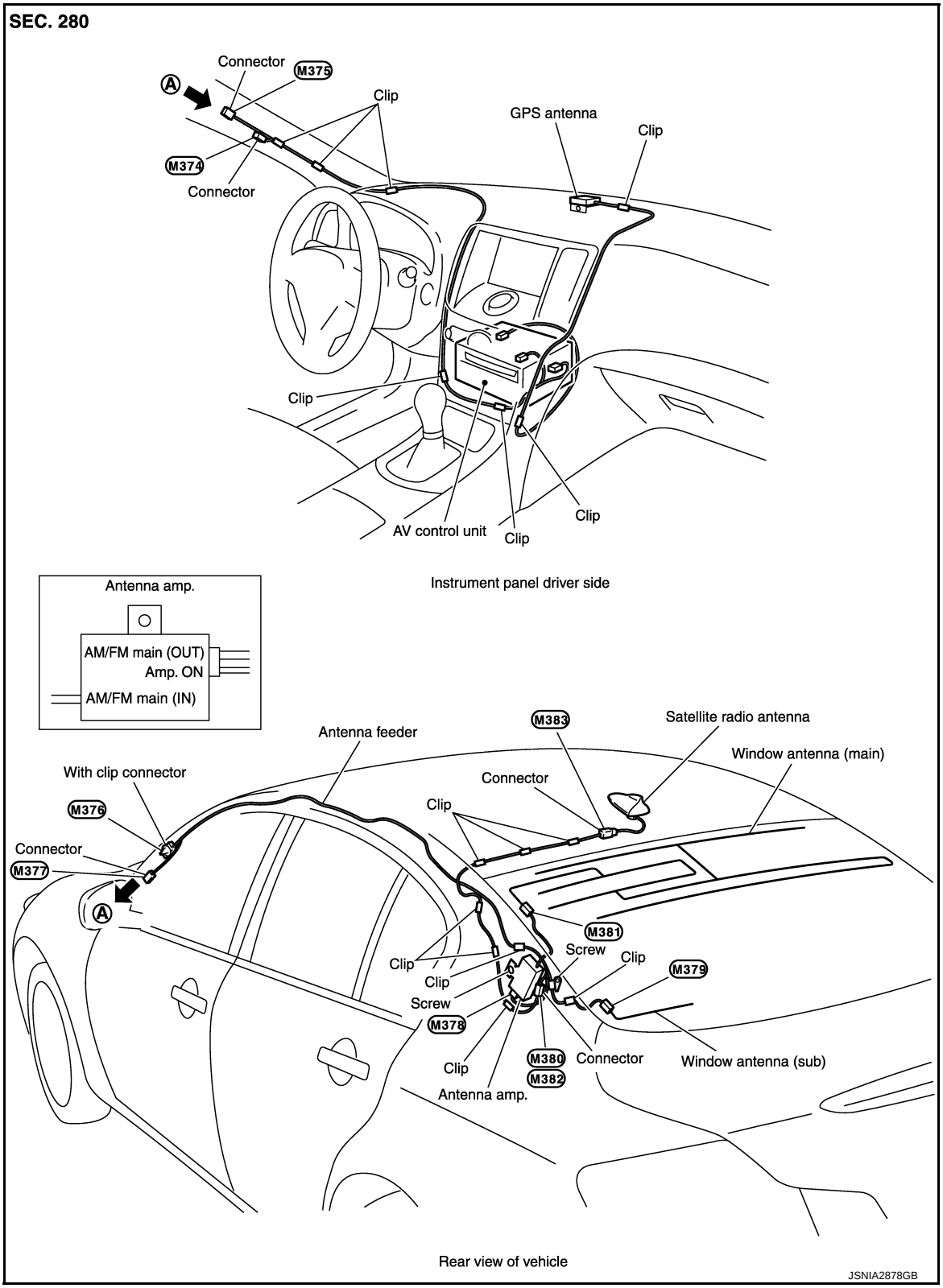
INSTALLATION

Installation is the reverse order of removal.

Feeder Layout

INFOID:0000000006210666

SEC. 280



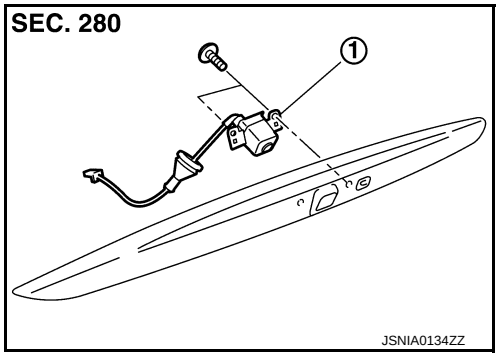
REAR VIEW CAMERA

Exploded View

INFOID:0000000006210667

REMOVAL
Refer to EXT-41, "Exploded View".

DISASSEMBLY



1. Rear view camera

Removal and Installation

INFOID:0000000006210668

REMOVAL

1. Remove trunk lid finisher outer. Refer to EXT-41, "Exploded View".
2. Remove rear view camera from trunk lid finisher outer.

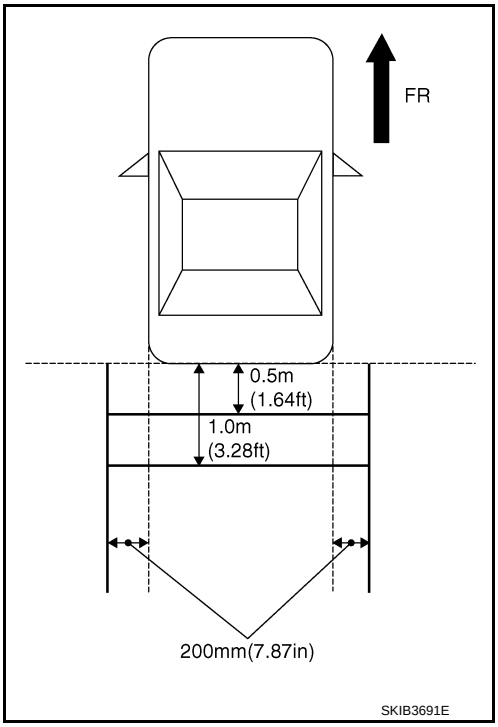
INSTALLATION
Installation is the reverse order of removal.

Adjustment

INFOID:0000000006210669

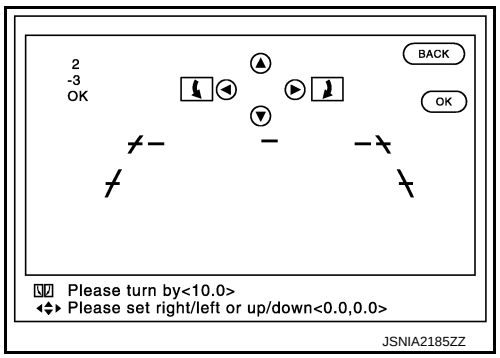
Adjust the guide line position if the guide line position is shifted after installing the rear view camera.

1. Draw lines on rearward area of the vehicle passing through the following points: 200 mm (7.87 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1.0 m (3.28 ft) from the rear end of the bumper.
2. Set into “Adjust offset of rear view camera” mode of Confirmation / Adjustment mode.



3. Rotate the center dial, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.

Selected pattern : –10° to 10°



4. Make fine adjustment to the correction line of the rear of the vehicle with up/down/left/right switches so that its position is aligned with the guiding line. Press “OK” switch and record the adjusted guiding line position to the camera control unit.

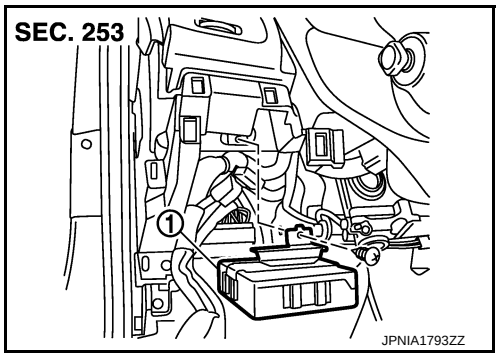
Up/Down adjustment range : –10° to 10°
Left/Right adjustment range : –10° to 10°

CAUTION:
Never operate other function such as pressing BACK while writing index data.

SONAR CONTROL UNIT

Exploded View

INFOID:0000000006210670



1. Sonar control unit

Removal and Installation

INFOID:0000000006210671

REMOVAL

1. Remove the instrument finisher A. Refer to IP-12, "A/T MODELS : Exploded View" (A/T models) or IP-23, "M/T MODELS : Exploded View" (M/T models).
2. Remove sonar control unit screw, then disconnect sonar control unit connector and remove the sonar control unit.

INSTALLATION

Install in the reverse order of removal.

STEERING ANGLE SENSOR

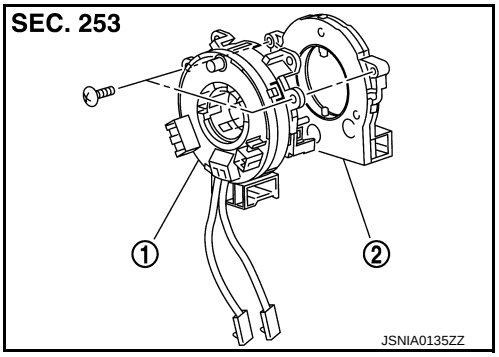
Exploded View

INFOID:0000000006210672

REMOVAL

Refer to SR-14, "Exploded View".

DISASSEMBLY



1. Spiral cable
2. Steering angle sensor

Removal and Installation

INFOID:0000000006210673

REMOVAL

1. Remove spiral cable. Refer to SR-14, "Exploded View".
2. Remove steering angle sensor from spiral cable.

INSTALLATION

Installation is the reverse order of removal.

CAUTION:

After work, make sure to adjust neutral position of steering angle sensor. Refer to BRC-8, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Description".

ANTENNA FEEDER

Feeder Layout

INFOID:0000000006210674