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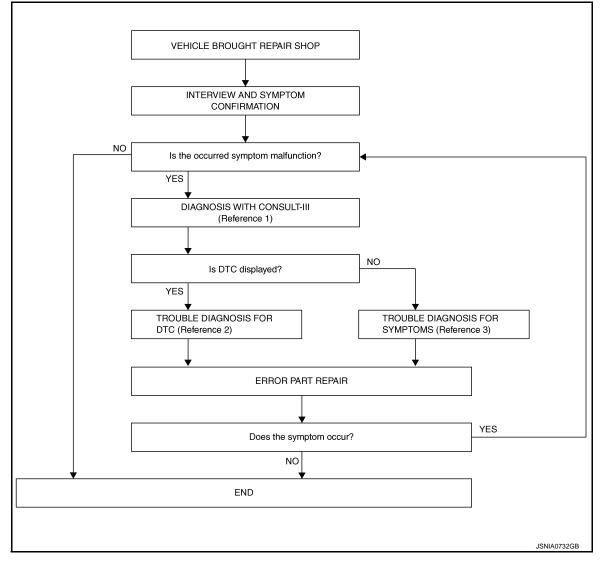
[BASE AUDIO WITHOUT NAVIGATION]

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000001848938

OVERALL SEQUENCE



- Reference 1... Refer to AV-26, "CONSULT III Function (MULTI AV)".
- Reference 2... Refer to <u>AV-77, "DTC Index"</u>.
- Reference 3... Refer to <u>AV-106, "Symptom Table"</u>.

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

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[BASE AUDIO WITHOUT NAVIGATION]

 Connect CONSULT-III and perform a self-diagnosis for "MULTI AV". Refer to <u>AV-26, "CONSULT - III Func-tion (MULTI AV)"</u>. NOTE: 	A
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.	В
Is DTC displayed?	D
YES >> GO TO 3. NO >> GO TO 4.	
3. TROUBLE DIAGNOSIS FOR DTC	С
 Check the DTC indicated in the self-diagnosis results. Perform the relevant diagnosis referring to the DTC Index. Refer to <u>AV-77, "DTC Index"</u>. 	D
>> GO TO 5.	
4. TROUBLE DIAGNOSIS FOR SYMPTOMS	E
Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-106, "Symptom	
Table".	F
>> GO TO 5.	
5.error part repair	G
1. Repair or replace the identified malfunctioning parts.	
 Perform a self-diagnosis for "MULTI AV" with CONSULT-III. NOTE: 	Н
Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC	
has been indicated in the self-diagnosis results.Check that the symptom does not occur.	
Does the symptom occur?	I
YES >> GO TO 1.	
NO >> INSPECTION END	J
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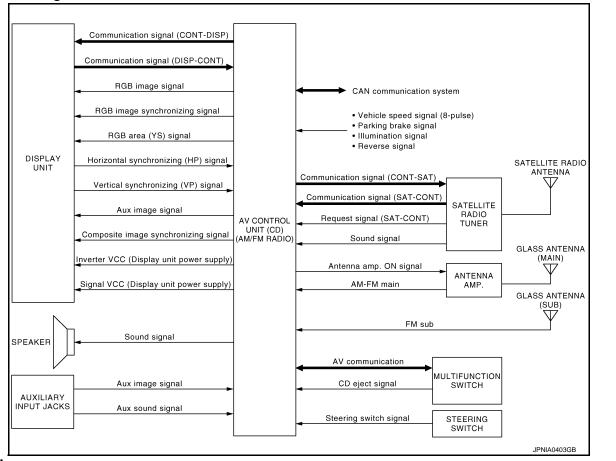
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[BASE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION > SYSTEM DESCRIPTION MULTI AV SYSTEM

System Diagram



NOTE:

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

System Description

INFOID:000000001848940

INFOID:000000001848939

Multi AV system means that the following systems are integrated.

System name	System explanation
AUDIO SYSTEM	AV-16, "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.

MULTI AV SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

 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.

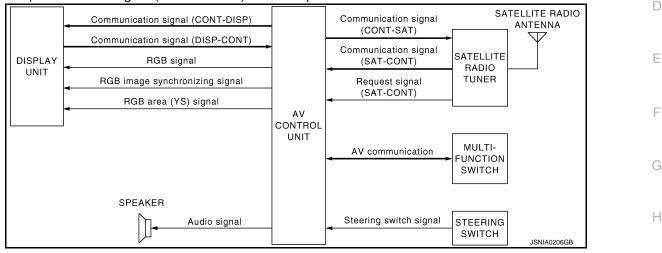
NOTE:

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

- CONSULT-III self-diagnosis: refer to AV-26, "CONSULT III Function (MULTI AV)".
- On board self-diagnosis: refer to AV-19, "Diagnosis Description".

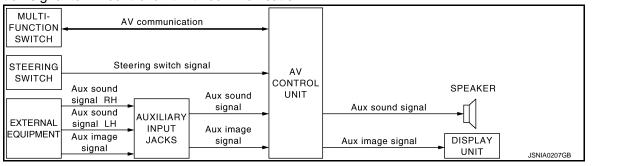
SATELLITE RADIO SYSTEM

- 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.



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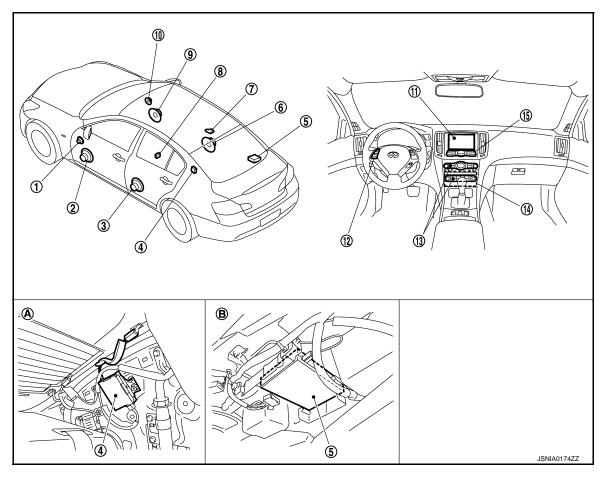
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Component Parts Location

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- 1. Tweeter LH
- 4. Antenna amp.
- 7. Satellite radio antenna
- 10. Tweeter RH
- 13. Preset switch
- A. Within rear pillar finisher LH
- 2. Front door speaker LH
- 5. Satellite radio tuner
- 8. Auxiliary input jacks
- 11. Display unit
- 14. AV control unit
- B. Rear parcel shelf lower part (left side)
- Rear door speaker LH
- 6. Rear door speaker RH
- 9. Front door speaker RH
- 12. Steering switch

3.

15. Multifunction switch

< SYSTEM DESCRIPTION >

Component Description

[BASE AUDIO WITHOUT NAVIGATION]

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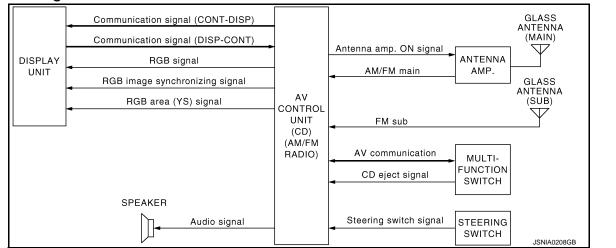
Part name	Description
AV CONTROL UNIT	 It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit. AV control unit includes audio function and vehicle information function. 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.

MULTI AV SYSTEM

AUDIO SYSTEM

< SYSTEM DESCRIPTION > AUDIO SYSTEM

System Diagram



System Description

INFOID:000000001848944

INFOID:000000001848943

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

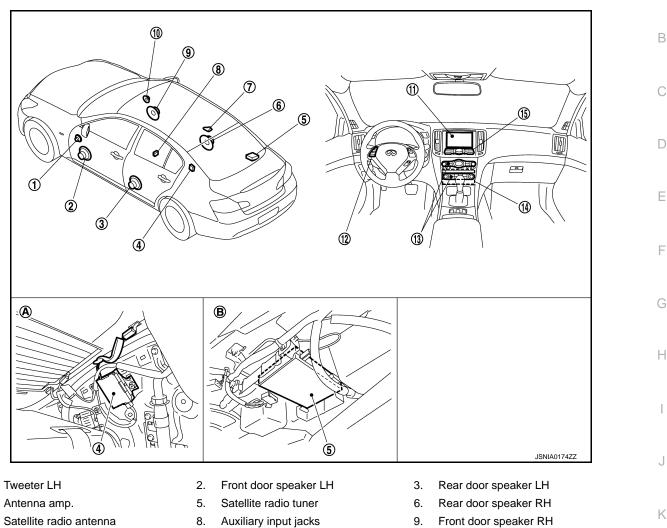
- CD function is built into AV control unit.
- AV control unit outputs the audio signal to each speaker when inserting the CD to AV control unit.

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000001881062

А



7. 10. Tweeter RH

1.

4.

- 13. Preset switch
- Α. Within rear pillar finisher LH

Component Description

- 11. Display unit
- 14. AV control unit
- Β. Rear parcel shelf lower part (left side)
- Steering switch 12.
- 15. Multifunction switch

INFOID:000000001848946

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.

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

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.

< SYSTEM DESCRIPTION > **DIAGNOSIS SYSTEM (AV CONTROL UNIT)**

Diagnosis Description

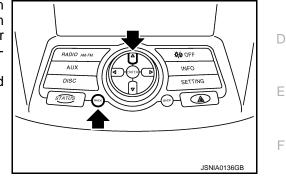
MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

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 selfdiagnosis 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.



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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 Н 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.
- Κ 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 L judgment automatically).

On board diagnosis item

Mode	Description	IVI
Self-Diagnosis	AV control unit diagnosis.	
	 Perform the connection diagnosis between each of the units. 	A\ /

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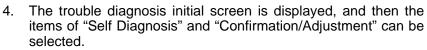
< SYSTEM DESCRIPTION >

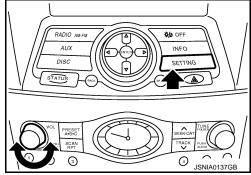
[BASE AUDIO WITHOUT NAVIGATION]

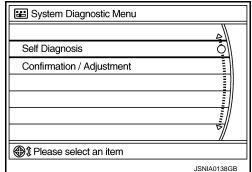
Mode		Description		
	Display Diagnosis	The confirmations of the tint with the color spectrum bar display and shading of color with the gradation bar display can be performed.		
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition switch, and reverse.		
	Speaker Test	The connection of a speaker can be confirmed by test tone.		
	Climate Control	Start auto air conditioner system self-diagnosis.		
Confirmation/ Adjustment	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.

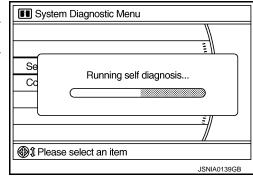






SELF-DIAGNOSIS MODE

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

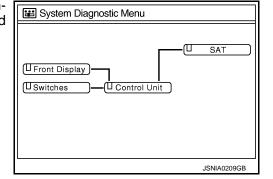


DIAGNOSIS SYSTEM (AV CONTROL UNIT) ON > [BASE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION >

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	Con- nection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction ^{Note}	Red	Green



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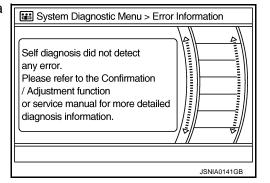
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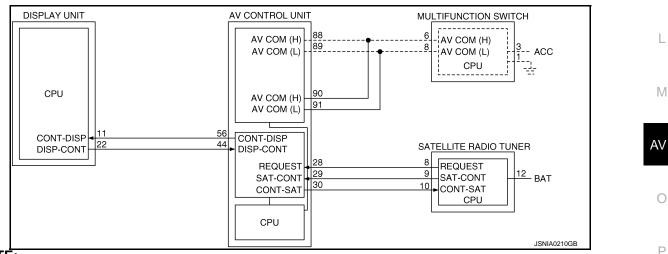
NOTE:

- 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:

Onboard 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

< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take
System Diagnostic Menu	AV control unit malfunction is detected.	Replace the AV control unit.
System Diagnostic Menu	 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.
Gray •••••: Yellow JPNIA0464GB	 Satellite radio tuner power supply and ground circuit malfunction is de- tected. Malfunction is detected in communi- cation circuits between AV control unit and satellite radio tuner. Malfunction is detected in communi- cation 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.

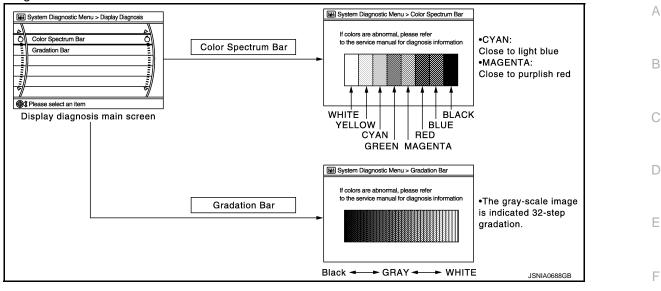
CONFIRMATION/ADJUSTMENT MODE

- 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.

	System Diagnostic Menu > Confirmation / Adjustment
4	UP
	Display Diagnosis Ō
Ō	Vehicle Signals
	Speaker Test
	Climate Control
	Error History
	1/9 DOWN
@ 1	Please select an item
	JSNIA0147GB

DIAGNOSIS SYSTEM (AV CONTROL UNIT) < SYSTEM DESCRIPTION > [BASE AUDIO WITHOUT NAVIGATION]

Display Diagnosis



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

: Yellow tint

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

Vehicle Signals

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

Parking brake ON Lights OFF Ignition ON Beverse OFF	Vehicle speed	OFF	
Ignition ON	Parking brake	ON	
•	Lights	OFF	
Beverse OFF	Ignition	ON	
011	Reverse	OFF	

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Diagnosis item	Display	Vehicle status	Remarks	M
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)		
venicle speed	OFF	Vehicle speed = 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.	
Darking broke	ON	Parking brake is applied.		AV
Parking brake	OFF	Parking brake is released.		
Lights	ON	Light switch ON		0
Lights	OFF	Light switch OFF		0
Ignition	ON	Ignition switch ON		
Ignition	OFF	Ignition switch in ACC position		Ρ
Reverse	ON	Shift the selector lever to "R" posi- tion	- Changes in indication may be delayed. This is normal.	
	OFF	Shift the selector lever other than "R" position	Changes in indication may be delayed. This is normal.	

Speaker Test

< SYSTEM DESCRIPTION >

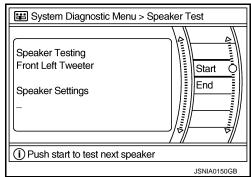
(AV CONTROL UNIT) [BASE AUDIO WITHOUT NAVIGATION]

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.

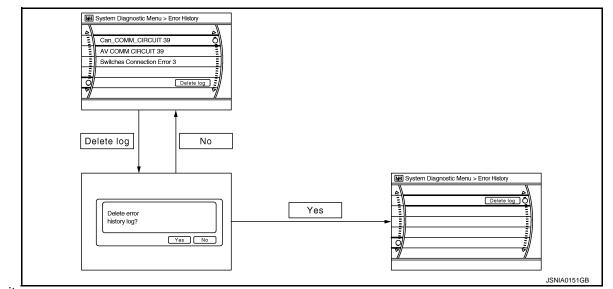
Count up method A

- 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 occur- rence 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

DIAGNOSIS SYSTEM (AV CONTROL UNIT) [BASE AUDIO WITHOUT NAVIGATION] < SYSTEM DESCRIPTION >

Description

Perform diagnosis with CONSULT-III, and CAN communication malfunction is detectthen repair the malfunctioning parts accord-CAN COMM CIRCUIT ed. ing to the diagnosis results. Refer to AV-29, "Diagnosis Procedure". CAN initial diagnosis malfunction is detect-CONTROL UNIT (CAN) ed. AV communication circuit initial diagnosis CONTROL UNIT (AV) Replace the AV control unit. malfunction is detected. FLASH-ROM Error Of Control Unit AV control unit malfunction is detected. CAN Controller Memory Error · Display unit power supply and ground circuit malfunction is detected. Malfunction is detected in communica-· Display unit power supply and ground tion circuit between AV control unit and circuit. Front Display Connection Error display unit. Communication circuit between AV con-Malfunction is detected in communicatrol unit and display unit. tion signal between AV control unit and display unit. Satellite radio tuner power supply and ground circuit malfunction is detected. Malfunction is detected in communica-· Satellite radio tuner power supply and tion circuit between AV control unit and ground circuit. satellite radio tuner. Communication circuit between AV con-SAT Connection Error Malfunction is detected in communicatrol unit and satellite radio tuner. tion signal between AV control unit and · Request signal circuit between AV consatellite radio tuner. trol unit and satellite radio tuner. Malfunction is detected in request signal circuit between AV control unit and satellite radio tuner. • Multifunction switch power supply and ground circuit malfunction is detected. Malfunction is detected in AV communi-· Multifunction switch power supply and AV COMM CIRCUIT ground circuits.

cation circuit between AV control unit and Switches Connection Error multifunction switch. AV communication circuit between AV Malfunction is detected in AV communication signal between AV control unit and multifunction switch.

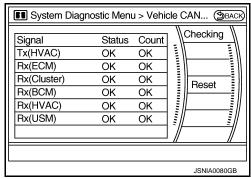
Vehicle CAN Diagnosis

- 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.

Error item

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



control unit and multifunction switch.

Possible malfunction factor/Action to take

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< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

- 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)	—	—

E System Diagnostic	c Menu	> AV C	COMM Diagnosis
Signal C Tx(ITM-SW) C Rx(PrimarySW-ITM) C Rx(BTHF-ITM)	Status OK OK	Count OK OK -	Checking
			JSNIA0213GB

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)

Delete connection log?
JSNIA0154GB

Initialize Settings Initializes the AV control unit memory.

The memory of a system is eliminated. Are you sure? Yes No	
JSNIA0155GB	

CONSULT - III Function (MULTI AV)

INFOID:000000001848948

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 ResultPerforms a diagnosis on the AV control unit and a connection diagnosis for the cor circuit of the Multi AV system, and displays the current and past malfunctions coll		
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.

< SYSTEM DESCRIPTION >

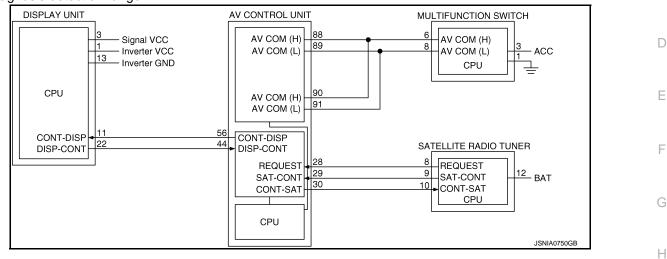
BASE AUDIO WITHOUT NAVIGATION]

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 detect- ed.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts accord- ing to the diagnosis results. Refer to <u>AV-29, "Diagnosis Procedure"</u> .	,
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.		
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	Replace the AV control unit.	
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. 	 Display unit power supply and ground circuit. Communication circuit between AV con- 	Ν
	 Malfunction is detected in communica- tion signal between AV control unit and display unit. 	trol unit and display unit.	A

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< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

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 communica- tion circuit between AV control unit and satellite radio tuner. Malfunction is detected in communica- tion signal between AV control unit and satellite radio tuner. Malfunction is detected in request signal circuit between AV control unit and satel- lite 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 communi- cation circuit between AV control unit and multifunction switch. Malfunction is detected in AV communi- cation 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	Dis- play	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	
VHCL SFD SIG	Off	Vehicle speed =0 km/h (0 MPH)	Changes in indication may be delayed. This is nor-
PKB SIG	On	Parking brake is applied.	mal.
PKD SIG	Off	Parking brake is released.	
	On	Light switch ON	
ILLUM SIG	Off	Light switch OFF	
	On	Ignition switch ON	—
IGN SIG	Off	Ignition switch in ACC position	
	On	Shift the selector lever to "R" position	Changes in indication may be delayed. This is par
REV SIG	Off	Shift the selector lever other than "R" position	Changes in indication may be delayed. This is nor- mal.

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	
PKB SIG	
ILLUM SIG	The same as when "ALL SIGNALS" is selected.
IGN SIG	
REV SIG	

DTC/CIRCUIT DIAGNOSIS U1000 CAN COMM CIRCUIT

Description

INFOID:000000001848949 B

INFOID:000000001848950

INFOID:000000001848951

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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.

DTC Logic

DTC DETECTION LOGIC

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

Diagnosis Procedure

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-19, "Trouble Diagnosis Flow Chart".
- NO >> Refer to GI section. Refer to GI-39, "Intermittent Incident".

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U1010 CONTROL UNIT (CAN)

Description

Initial diagnosis of AV control unit.

DTC Logic

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INFOID:000000001848954

INFOID:000000001848952

DTC DETECTION LOGIC

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

Diagnosis Procedure

1.REPLACE AV CONTROL UNIT

When DTC U1010 is detected, replace AV control unit.

>> INSPECTION END

U1310 AV CONTROL UNIT [BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U1310 AV CONTROL UNIT

Description

INFOID:000000001848955

Replace the AV	control unit if this D	TC is displayed. Refer to	AV-113,	"Exploded View".

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Part name	Description
	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	 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 con- trol.
	 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:000000001848956

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

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U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1200 AV CONTROL UNIT

Description

INFOID:000000001848957

Replace the AV control unit if this DTC is displayed. Refer to AV-113, "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:000000001848958

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

< DTC/CIRCUIT DIAGNOSIS >

U1216 AV CONTROL UNIT

Description

INFOID:000000001848959

Part name	Description
	 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 communica-
V CONTROL UNIT	tion 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 con- trol.
	 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:000000001848960

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

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[BASE AUDIO WITHOUT NAVIGATION]

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U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1243 DISPLAY UNIT

Description

INFOID:000000001848961

[BASE AUDIO WITHOUT NAVIGATION]

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:000000001848962

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:000000001848963

1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to <u>AV-39, "DISPLAY UNIT : Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

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 terminals 11, 22 and AV control unit harness connector terminals 56, 44.

11 - 5 6	: Continuity should exist.
22 - 44	: Continuity should exist.

4. Check continuity between display unit harness connector terminals 11, 22 and ground.

11, 22 - Ground

: Continuity should not exist.

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 terminal 11 and ground.

U1243 DISPLAY UNIT

C DTC/CIRCUIT DIAGNOS	ilS >	[B	BASE AUDIO WITHOUT NAVIGATION]
Terminal		Condition	Reference value
11 - Ground	Ignition switch ON	When adjusting display bright- ness.	(V) 6 4 2 0 •••••••••••••••••••••••••••••••••
the inspection result norm	al?		·
YES >> GO TO 4. NO >> Replace AV con	trol unit.		
CHECK COMMUNICATIO		L	
Check signal between displa	iy unit har	ness connector terminal 22 a	nd ground.
Terminal		Condition	Reference value
22 - Ground	lgnition switch ON	When adjusting display bright- ness.	(V) 4 2 0 ++1ms
s the inspection result norm			
YES >> INSPECTION E NO >> Replace display			

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U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

U1255 SATELLITE RADIO TUNER

Description

INFOID:000000001848964

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:000000001848965

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 tun- er. Request signal circuit between AV control unit and satellite radio tun- er.

Diagnosis Procedure

INFOID:000000001848966

1. CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to <u>AV-41, "SATELLITE RADIO TUNER :</u> <u>Diagnosis Procedure"</u>.

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 terminals 28, 29, 30 and satellite radio tuner harness connector terminals 8, 9, 10.

28 - 8	: Continuity should exist.
29 - 9	: Continuity should exist.

- 30 10 : Continuity should exist.
- 4. Check continuity between AV control unit harness connector terminals 28, 29 and 30.
 - 28 Ground : Continuity should not exist.
 - 29 Ground : Continuity should not exist.
 - 30 Ground : Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

 $\mathbf{3}$. CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.

- 2. Turn ignition switch ON.
- 3. Check voltage between AV control unit harness connector terminal 28, 29 and ground.

AV-36

U1255 SATELLITE RADIO TUNER

28 - Ground	: Approx 7.5 V	А
29 - Ground	: Approx 7.0 V	
Is the inspection result normal? YES >> GO TO 4. NO >> Replace AV control u		В
4.CHECK SATELLITE RADIO T	UNER	С
 Turn ignition switch OFF. Disconnect AV control unit co Connect satellite radio tuner. Turn ignition switch ON. Check voltage between satell 	nnector. ite radio tuner harness connector terminal 10 and ground.	D
10 - Ground	: Approx 7.0 V	E
Is the inspection result normal? YES >> INSPECTION END NO >> Replace satellite radio	o tuner.	F
		G
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< DTC/CIRCUIT DIAGNOSIS >

U1300 AV COMM CIRCUIT

Description

INFOID:000000001848967

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.

< DTC/CIRCUIT DIA				BASE AUDIO WITH	
POWER SUPP		IND CIRC	UIT		
AV CONTROL L	JNH				
AV CONTROL U	NIT : Diagnosis F	Procedure			INFOID:000000001848968
1. CHECK FUSE					
Check for blown fuses	δ.				
	Power source			Fuse No.	
	Battery			34	
Ignitio	on switch ACC or ON			19	
Ignitio	n switch ON or START			3	
2.CHECK POWER S	o eliminate cause of m			5	
_	1	1	-		
Signal name	Connector No.	Terminal	No.	Ignition switch position	Value (Approx.)
Battery power supply	M81 M81	19 7		OFF ACC	12 V 12 V
ACC power supply	M85	104		ON	12 V 12 V
		nit harness co	nnectors	and ground.	
Signal name	Connector No.	Terminal No.	lan	ition switch position	Continuity
	M81	20	·····	•	<u> </u>
Ground	M85	85		OFF	Existed
DISPLAY UNIT DISPLAY UNIT : 1.check power s		SPLAY SIDE)		d.	INFOID:000000001848969
Signal name	Connector No.	Terminal	No.	Ignition switch position	Value (Approx.)
Inverter VCC		2			
Signal VCC	M71	3		ACC	9 V
Is the inspection resu YES >> GO TO 4 NO >> GO TO 2					

POWER SUPPLY AND GROUND CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

- 1. Turn ignition switch OFF.
- 2. Disconnect the harness connector between display unit and AV control unit.
- Check continuity between display unit harness connector M71 and AV control unit harness connector M83.

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		3 V

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:000000001848970

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.

AV-40

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

2. CHECK POWER SUPPLY CIRCUIT А Check voltage between multifunction switch harness connector and ground. Signal name Connector No. Terminal No. Ignition switch position Value (Approx.) M72 3 ACC 12 V ACC power supply 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. Disconnect multifunction switch connector. 2. Check continuity between multifunction switch harness connector and ground. 3. Ε 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:00000000184897 Н 1.CHECK FUSE Check for blown fuses. Power source Fuse No. 34 Battery Ignition switch ACC or ON 19 Is the inspection result normal? >> GO TO 2. YES Κ 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.) Μ 12 OFF 12 V Battery power supply B236 16 ACC ACC power supply B236 12 V Is the inspection result normal? AV YFS >> INSPECTION END NO >> Check harness between satellite radio tuner and fuse.

< DTC/CIRCUIT DIAGNOSIS >

RGB (R: RED) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001848973

INFOID:000000001848972

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 terminal 17 and AV control unit harness connector terminal 40.

17 - 40 : Continuity should exist.

4. Check continuity between display unit harness connector terminal 17 and ground.

17 - Ground : Continuity should not exist.

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 terminal 17 and ground.

Terminal		Condition	Reference value
17 - Ground	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} V \\ 0 \\ 0 \\ -0 \\ 4 \\ \hline \\ -0 \\ 4 \\ \hline \\ \hline \\ -0 \\ 4 \\ \hline \\ \hline$

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

RGB (G: GREEN) SIGNAL CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS > RGB (G: GREEN) SIGNAL CIRCUIT

Description Transmit the image displayed with AV control unit with RGB signal to the display unit. **Diagnosis** Procedure 1. CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT 1. Turn ignition switch OFF. Disconnect display unit connector and AV control unit connector. 2. Check continuity between display unit harness connector terminal 6 and AV control unit harness connec-3. tor terminal 39. 6 - 39 : Continuity should exist. 4. Check continuity between display unit harness connector terminal 6 and ground.

: Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 2.

6 - Ground

NO >> Repair harness or connector.

2.CHECK RGB (G: GREEN) SIGNAL

- 1. Connect display unit connector and AV control unit connector.
- Turn ignition switch ON. 2.
- Check signal between display unit harness connector terminal 6 and ground. 3.

Terminal		Condition	Reference value	I
6 - Ground	lgnition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 -0.4 0 0 0 0 0 0 0 0 0 0 0 0 0	J K

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

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AV

RGB (B: BLUE) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RGB (B: BLUE) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001848977

INFOID:000000001848976

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 terminal 18 and AV control unit harness connector terminal 38.

18 - 38 : Continuity should exist.

4. Check continuity between display unit harness connector terminal 18 and ground.

18 - Ground : Continuity should not exist.

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 terminal 18 and ground.

Terminal		Condition	Reference value
18 - Ground	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 1.4 0 1.4 0 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

RGB SYNCHRONIZING SIGNAL CIRCUIT DSIS > [BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS > RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

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

Dia	agnosis Procedure	INFOID:00000001848979	
1.	CHECK CONTINUITY R	GB SYNCHRONIZING SIGNAL CIRCUIT	С
1. 2. 3.		F. connector and AV control unit connector. een display unit harness connector terminal 19 and AV control unit harness connec-	D
	19 - 41	: Continuity should exist.	E
4.	Check continuity betwee	en display unit harness connector terminal 19 and ground.	
	19 - Ground	: Continuity should not exist.	F
YI N	•	s or connector.	G
			Н
1. 2. 3.	Turn ignition switch ON	onnector and AV control unit connector. I. display unit harness connector terminal 19 and ground.	I
10	- Ground		J
10	Clound	0	K
	ne inspection result norr		L
YI N	ES >> Replace displa D >> Replace AV co		M

AV

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RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RGB AREA (YS) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001848981

INFOID:000000001848980

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 terminal 9 and AV control unit harness connector terminal 43.

9 - 43

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 9 and ground.

9 - Ground

: Continuity should not exist.

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 terminal 9 and ground.

Terminal	Condition		Reference value
		At RGB image is displayed	: Approx. 5 V
9 - Ground	Ignition switch ON	At AUX image is displayed	(V) 6 4 9 9 9 • • • 200 µ s • • • 200 µ s • • • × 200 µ s

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

<u>COTC/CIRCUIT DIAGNOSIS > [BASE AUDIO WITHOUT NAVIGATION]</u> HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

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

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 terminal 8 and AV control unit harness connector terminal 45.

8 - 45 : Continuity should exist.

4. Check continuity between display unit harness connector terminal 8 and ground.

8 - Ground

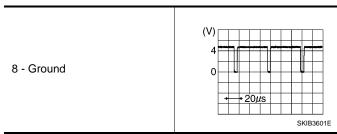
: Continuity should not exist.

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 terminal 8 and ground.



Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace display unit.

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VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

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:000000001848985

INFOID:000000001848984

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 terminal 20 and AV control unit harness connector terminal 57.

20 - 57

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 20 and ground.

20 - Ground

: Continuity should not exist.

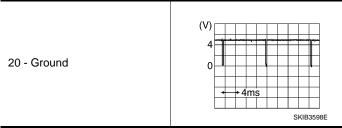
Is the inspection result normal?

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 terminal 20 and ground.



Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace display unit.

AUX IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > AUX IMAGE SIGNAL CIRCUIT

				А
Description INFOID:000000001848986				
 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				
1. CHECK CONTINUITY AU	X IMAGE	SIGNAL CIRCUIT (AUX INP	UT JACKS AND AV CONTROL UNIT)	С
 Turn ignition switch OFF. Disconnect auxiliary input jacks connector and AV control unit connector. Check continuity between auxiliary input jacks harness connector terminal 7 and AV control unit harness connector terminal 66. 				
7 - 66	: Co	ontinuity should exist.		E
4. Check continuity betwee	n auxiliary	input jacks harness connect	or terminal 7 and ground.	_
7 - Ground	: Co	ontinuity should not exist.		F
Is the inspection result norma	<u>al?</u>			G
YES >> GO TO 2. NO >> Repair harness c				0
2.CHECK AUX IMAGE SIG			TROL UNIT)	Н
 Connect display unit con Turn ignition switch ON. 	nector an	d AV control unit connector.		
3. Check signal between auxiliary input jacks harness connector terminal 7 and ground.			1	
				1
Terminal		Condition	Reference value	I
Terminal 7 - Ground	Ignition switch ON	Condition At AUX image is displayed.	(V) 0.4 0 -0.4 $+ 40\mu s$	J
	switch ON			
7 - Ground <u>Is the inspection result norma</u> YES >> GO TO 3. NO >> Check that there	switch ON al? is no mal	At AUX image is displayed. function in the external device	(V) 0.4 0 −0.4 ••••40µs SKiB2251J	
7 - Ground Is the inspection result normal YES >> GO TO 3. NO >> Check that there 3. CHECK CONTINUITY AU 1. Turn ignition switch OFF. 2. Disconnect auxiliary input	switch ON is no mal X IMAGE It jacks co	At AUX image is displayed. function in the external device SIGNAL CIRCUIT (AV CON ⁻	(V) 0.4 0 -0.4 • 40µs skib2251J Skib2251J E. TROL UNIT AND DISPLAY UNIT)	K L M
7 - Ground Is the inspection result normal YES >> GO TO 3. NO >> Check that there 3. CHECK CONTINUITY AU 1. Turn ignition switch OFF. 2. Disconnect auxiliary input 3. Check continuity between	switch ON is no mal X IMAGE IX jacks co n display	At AUX image is displayed. function in the external device SIGNAL CIRCUIT (AV CON ⁻	e. TROL UNIT AND DISPLAY UNIT)	K
7 - Ground Is the inspection result normal YES >> GO TO 3. NO >> Check that there 3. CHECK CONTINUITY AU 1. Turn ignition switch OFF. 2. Disconnect auxiliary input 3. Check continuity between tor terminal 36. 15 - 36	switch ON al? is no mal X IMAGE It jacks co n display : Co	At AUX image is displayed. function in the external device SIGNAL CIRCUIT (AV CON ⁻ onnector and AV control unit c unit harness connector termin	e. TROL UNIT AND DISPLAY UNIT) onnector. al 15 and AV control unit harness connec-	K L M AV
7 - Ground Is the inspection result normal YES >> GO TO 3. NO >> Check that there 3. CHECK CONTINUITY AU 1. Turn ignition switch OFF. 2. Disconnect auxiliary input 3. Check continuity between tor terminal 36. 15 - 36	switch ON is no mal X IMAGE It jacks co n display : Co n display	At AUX image is displayed. function in the external device SIGNAL CIRCUIT (AV CON ⁻ onnector and AV control unit c unit harness connector termin	e. TROL UNIT AND DISPLAY UNIT) onnector. al 15 and AV control unit harness connec-	K L M
7 - Ground Is the inspection result normal YES >> GO TO 3. NO >> Check that there 3. CHECK CONTINUITY AU 1. Turn ignition switch OFF. 2. Disconnect auxiliary inputors 3. Check continuity between tor terminal 36. 15 - 36 4. Check continuity between tor terminal 36. 15 - Ground Is the inspection result normal	switch ON al? is no mal X IMAGE IX IX IMAGE IX IX I	At AUX image is displayed. function in the external device SIGNAL CIRCUIT (AV CON ⁻ onnector and AV control unit c unit harness connector termin ontinuity should exist. unit harness connector termin	e. TROL UNIT AND DISPLAY UNIT) onnector. al 15 and AV control unit harness connec-	K L M AV
7 - Ground Is the inspection result normal YES >> GO TO 3. NO >> Check that there 3.CHECK CONTINUITY AU 1. Turn ignition switch OFF. 2. Disconnect auxiliary input 3. Check continuity between tor terminal 36. 15 - 36 4. Check continuity between tor terminal 36. 15 - Ground	switch ON is no mal X IMAGE It jacks co n display : Co n display : Co al?	At AUX image is displayed. function in the external device SIGNAL CIRCUIT (AV CONT onnector and AV control unit c unit harness connector termin ontinuity should exist. unit harness connector termin ontinuity should not exist.	e. TROL UNIT AND DISPLAY UNIT) onnector. al 15 and AV control unit harness connec-	K L M AV

4.CHECK AUX IMAGE SIGNAL

AUX IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

- 1. Connect AV control unit connector and display unit connector.
- 2. Turn ignition switch ON.
- 3. Check signal between display unit harness connector terminal 15 and ground.

Terminal	Condition		Reference value
15 - Ground	lgnition switch ON	At AUX image is displayed.	(V) 0.4 0 −0.4 ••••40µs skiB2251J

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

CD EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOS	IS >

UD EJEUT SIGNAL URUUT А Description INFOID:000000001848988 The eject signal is output to AV control unit when the eject switch of multifunction switch is pressed. В **Diagnosis** Procedure INFOID:000000001848989 1. CHECK CONTINUITY CD EJECT SIGNAL CIRCUIT 1. Turn ignition switch OFF. Disconnect multifunction switch connector and AV control unit connector. 2. Check continuity between multifunction switch harness connector terminal 14 and AV control unit harness D 3. connector terminal 103. 14 - 103 : Continuity should exist. Е 4. Check continuity between multifunction switch harness connector terminal 14 and ground. 14 - Ground : Continuity should not exist. F 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. Н 2. Turn ignition switch ON. Check voltage between AV control unit harness connector terminal 103 and ground. 3. **Except for above** 103 - Ground : Approx. 3.3 V Is the inspection result normal? YES >> Replace preset switch. NO >> Replace AV control unit. Κ L

M

AV

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COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

Description

INFOID:000000001848990

[BASE AUDIO WITHOUT NAVIGATION]

Satellite radio tuner and AV control unit are connected with a serial communication. They transmit the operation signal from AV control unit to satellite radio tuner, and transmit the display signal from satellite radio tuner to AV control unit.

Diagnosis Procedure

INFOID:000000001848991

1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner connector and AV control unit connector.
- 3. Check continuity between satellite radio tuner harness connector terminals 9, 10 and AV control unit harness connector terminals 29, 30.

9 - 29	: Continuity should exist.
10 - 30	: Continuity should exist.

4. Check continuity between satellite radio tuner harness connector terminals 9, 10 and ground.

9, 10 - Ground

: Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK COMMUNICATION SIGNAL

- 1. Connect satellite radio tuner connector and AV control unit connector.
- 2. Turn ignition switch ON.
- 3. Check signal between satellite radio tuner harness connector terminal 9 and ground.

Terminal		Condition	Reference value
9 - Ground	Ignition switch ON	When satellite radio mode is se- lected.	(V) 10 0 -10 + 1ms SKIA9300J

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace satellite radio tuner.

3.CHECK COMMUNICATION SIGNAL

Check signal between satellite radio tuner harness connector terminal 10 and ground.

Terminal	Condition		Reference value
10 - Ground	Ignition switch ON	When satellite radio mode is se- lected.	(V) 10 0 -10 ••••1ms SKIA9301J

Is the inspection result normal?

YES >> Replace satellite radio tuner.

COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

NO >> Replace AV control unit.

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Ρ

REQUEST SIGNAL CIRCUIT (SAT→CONT)

< DTC/CIRCUIT DIAGNOSIS >

REQUEST SIGNAL CIRCUIT (SAT→CONT)

Description

Request signal transmits the signal to recognize the connection of satellite radio tuner from satellite radio tuner to AV control unit.

Diagnosis Procedure

INFOID:000000001848993

INFOID:000000001848992

1. CHECK CONTINUITY REQUEST SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner connector and AV control unit connector.
- 3. Check continuity between satellite radio tuner unit harness connector terminal 8 and AV control unit harness connector terminal 28.

8 - 28

: Continuity should exist.

4. Check continuity between satellite radio tuner harness connector terminal 8 and ground.

8 - Ground

: Continuity should not exist.

Is the inspection result normal?

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

2. CHECK COMMUNICATION SIGNAL

1. Connect satellite radio tuner connector and AV control unit connector.

- 2. Turn ignition switch ON.
- 3. Check signal between satellite radio tuner harness connector terminal 8 and ground.

Terminal		Condition	Reference value
8 - Ground	lgnition switch ON	When satellite radio mode is se- lected.	(V) 10 0 -10 -10 -10 -10 -10 -10 -

Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace satellite radio tuner.

STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >	[BASE AUDIO WITHOUT NAVIGATION]
STEERING SWITCH SIGNAL A CIRCUIT	Δ
Description	A INFOID:00000001848994
Transmits the steering switch signal to AV control unit.	В
Diagnosis Procedure	INFOID:000000001848995
1. CHECK STEERING SWITCH SIGNAL A CIRCUIT	C
 Disconnect AV control unit connector and spiral cable conr Check continuity between AV control unit harness connect tor terminal 24. 	
6 - 24 : Continuity should exist.	
3. Check continuity between AV control unit harness connect	tor terminals 6 and ground.
6 - Ground : Continuity should not ex	kist.
<u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair harness or connector.	
2.CHECK SPIRAL CABLE	G
Check spiral cable.	
Is the inspection result normal?	Н
YES >> GO TO 3. NO >> Replace spiral cable.	
3. CHECK AV CONTROL UNIT VOLTAGE	I
 Connect AV control unit connector and spiral cable connect Turn ignition switch ON. 	1
3. Check voltage between AV control unit harness connector	terminals 6 and 15.
6 - 15 : Approx. 3.3 V	K
<u>Is the inspection result normal?</u> YES >> GO TO 4.	K
NO >> Replace AV control unit. 4.CHECK STEERING SWITCH	L
 Turn ignition switch OFF. Check steering switch. Refer to <u>AV-55</u>, "Component Inspective of the steering switch." 	ction".
Is the inspection result normal? YES >> INSPECTION END	
NO >> Replace steering switch.	AV
Component Inspection	INFOID:000000001848996
Measure the resistance between the steering switch connector	r terminals 14 to 17 and 15 to 17. $^{\circ}$

STEERING SWITCH SIGNAL A CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION] < DTC/CIRCUIT DIAGNOSIS > Standard]14 SOURCE Between terminals 14 and 17 Approx 121Ω **MENU DOWN switch ON : 318 – 324** Ω MENU UP Approx. 200Ω **MENU UP switch ON : 120 – 122** Ω MENU DOWN **SOURCE switch ON : 0** Ω 15 VOL DOWN Approx 121Ω Between terminals 15 and 17 VOL UP 17 14 15 **VOL UP switch ON : 120 – 122**Ω 17 **VOL DOWN switch ON : 0** Ω JSNIA0215GB

STEERING SWITCH SIGNAL B CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION]
INFOID:00000001848997
INFOID:000000001848998
ector. r terminal 16 and spiral cable harness connec-
or terminals 16 and ground.
ist.
or.
erminals 16 and 15.
tion".
INFOID:000000001907373
terminals 14 to 17 and 15 to 17.

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STEERING SWITCH SIGNAL B CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >		[BASE AUDIO WITHOUT NAVIGATION]
Standard Between terminals 14 and 17 MENU DOWN switch ON MENU UP switch ON SOURCE switch ON	: 318 – 324 Ω : 120 – 122 Ω : 0 Ω	SOURCE MENU UP MENU UP MENU DOWN
Between terminals 15 and 17 VOL UP switch ON VOL DOWN switch ON	: 120 – 122 Ω : 0 Ω	VOL DOWN

STEERING	SWITCH SIGNA	
< DTC/CIRCUIT DIAGNOSIS >		[BASE AUDIO WITHOUT NAVIGATION]
STEERING SWITCH SIGNA	L GND CIRCUI	Т
Description		INFOID:000000001849000
Transmits the steering switch signal to A	/ control unit.	
Diagnosis Procedure		INFOID:000000001849001
1.CHECK STEERING SWITCH SIGNAL	_ GND CIRCUIT	
1. Disconnect AV control unit connector	r and spiral cable conn	ector. or terminal 15 and spiral cable harness connec-
15 - 33 : Con	tinuity should exist.	
3. Connect AV control unit connector.		
<u>Is the inspection result normal?</u> YES >> GO TO 2.		
NO >> Repair harness or connector		
2. CHECK SPIRAL CABLE		
Check spiral cable.		
<u>Is the inspection result normal?</u> YES >> GO TO 3.		
NO >> Replace spiral cable.		
3. CHECK GROUND CIRCUIT		
 Connect AV control unit connector. Check continuity between AV control 	unit harnoss connect	or terminal 15 and around
-		
	tinuity should exist.	
Is the inspection result normal? YES >> GO TO 4.		
NO >> Replace AV control unit.		
4.CHECK STEERING SWITCH		
 Turn ignition switch OFF. Check steering switch. Refer to <u>AV-5</u> 	9 "Component Inspor	tion"
Is the inspection result normal?	<u>o, component inspec</u>	<u></u> .
YES >> INSPECTION END		
NO >> Replace steering switch.		
Component Inspection		INF0/D:000000001907374
Measure the resistance between the stee	ring switch connector	terminals 14 to 17 and 15 to 17.
Standard Between terminals 14 and 17		
MENU DOWN switch ON	: 318 – 324 Ω	Approx. 121Ω
MENU UP switch ON	: 120 – 122 Ω	≰Approx.
SOURCE switch ON	: 0 Ω	
		VOL DOWN
Between terminals 15 and 17	400 4000	

VOL UP switch ON

VOL DOWN switch ON

: 120 – 122Ω

: 0 Ω

14 15 17

JSNIA0215GB

17

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

ECU DIAGNOSIS INFORMATION AV CONTROL UNIT

Reference Value

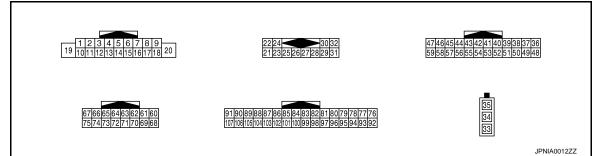
INFOID:000000001849003

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Display Item	Dis- play	Vehicle status	Remarks		
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is no		
VIICE OF D SIG	Off	Vehicle speed =0 km/h (0 MPH)	mal.		
	On	Parking brake is applied.	Changes in indication may be delayed. This is nor-		
PKD 31G	PKB SIG Off Parking brake is released.		mal.		
ILLUM SIG	On	Light switch ON			
ILLUM SIG	Off	Light switch OFF	—		
IGN SIG	On	Ignition switch ON			
IGN SIG	Off	Ignition switch in ACC position			
	On	Shift the selector lever to "R" position	Changes in indication may be delayed. This is nor-		
REV SIG	Off	Shift the selector lever other than "R" position	mal.		

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description		Condition		Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
2 (L)	3 (W)	Sound signal door speaker LH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
4 (LG)	5 (SB)	Sound signal rear speaker LH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	
				1	Keep pressing SOURCE switch.	0 V	
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch	Keep pressing Δ switch.	0.7 V	
(Г)	Ю			ON	Keep pressing $ abla$ switch.	1.3 V	
					Except for above.	3.3 V	
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	
9	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0 V	
(L)	Ciouna	indimination signal	mput		Lighting switch is ON.	12 V	
11 (BR)	12 (R)	Sound signal door speaker RH	Output	Ignition switch ON	Voice output	(V) 1 0 −1 → 2ms SKiB3609E	
13 (L)	14 (P)	Sound signal rear speaker RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 * 2ms 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. Keep pressing VOL UP switch.	0 V 0.7 V	
					Except for above.	3.3 V	
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
20 (B)	Ground	GND	_	Ignition switch ON	—	0 V	
22 (B)	21 (W)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 • • 2ms SKIB3609E	

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

	minal e color)	Description			Condition	Reference value
+	-	Signal name	Input/ Output		Condition	(Approx.)
24 (G)	23 (R)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 2 ms SKIB3609E
25		Shield			—	_
26	—	Shield		—	_	—
28 (P)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 • • 10ms SKIA9299J
29 (G)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 • • 1 ms SKIA9300J
30 (L)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 ••• 1ms SKIA9301J
33	—	FM sub	Input	—	—	_
34	_	AM–FM main	Input	—	—	_
35	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	_	12 V
36 (SB)	Ground	AUX image signal	Output	Ignition switch ON	At AUX image is displayed	(V) 0.4 0 −0.4 •••40µs skiB2251J
37 (V)	Ground	AUX image GND	_	Ignition switch ON	_	0 V

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

	minal e color)	Description			O an dition	Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
38 (P)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} (V) \\ 0.4 \\ 0 \\ -0.4 \\ 0 \\ 0 \\ -0.4 \\ \hline \end{pmatrix} \begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	B C D
39 (L)	Ground	RGB signal (G: green)	Output	lgnition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} (V) \\ 0.4 \\ 0 \\ -0.4 \\ \hline \\ $	E
40 (G)	Ground	RGB signal (R: red)	Output	lgnition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 ++++++++++++++++++++++++++++++++++	G
41 (W)	Ground	RGB synchronizing signal	Output	lgnition switch ON		(V) 4 0 → 20µs SKIB3603E	J
42		Shield	—		— At RGB image is displayed	5 V	L
43 (V)	Ground	RGB area (YS) signal	Output	lgnition switch ON	At AUX image is displayed	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	M AV
44 (L)	Ground	Communication signal (DISP→CONT)	Input	lgnition switch ON	When adjusting display brightness.	(V) 6 4 2 0 •••••1ms •••••1ms ••••••1ms ••••••1ms	O

Revision: 2008 September

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

	minal e color)	Description		Condition		Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
45 (R)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON		(V) 4 0 • • 20µs 5KIB3601E
46 (LG)	Ground	Signal GND	_	Ignition switch ON	_	0 V
47 (O)	Ground	Signal VCC	Output	Ignition switch ACC	_	9 V
49		Shield			_	—
50	—	Shield		_	—	_
55	—	Shield			—	_
56 (LG)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 ••••1ms ••KIB5039J
57 (G)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON		(V) 4 0 • • • 4 ms SKIB3598E
58 (BR)	Ground	Inverter GND		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 select- ed	(V) 0.4 0 −0.4 ••40µs SKIB2251J
73		Shield			_	_
74 (R)	Ground	AUX image signal GND	_	Ignition switch ON	_	0 V

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

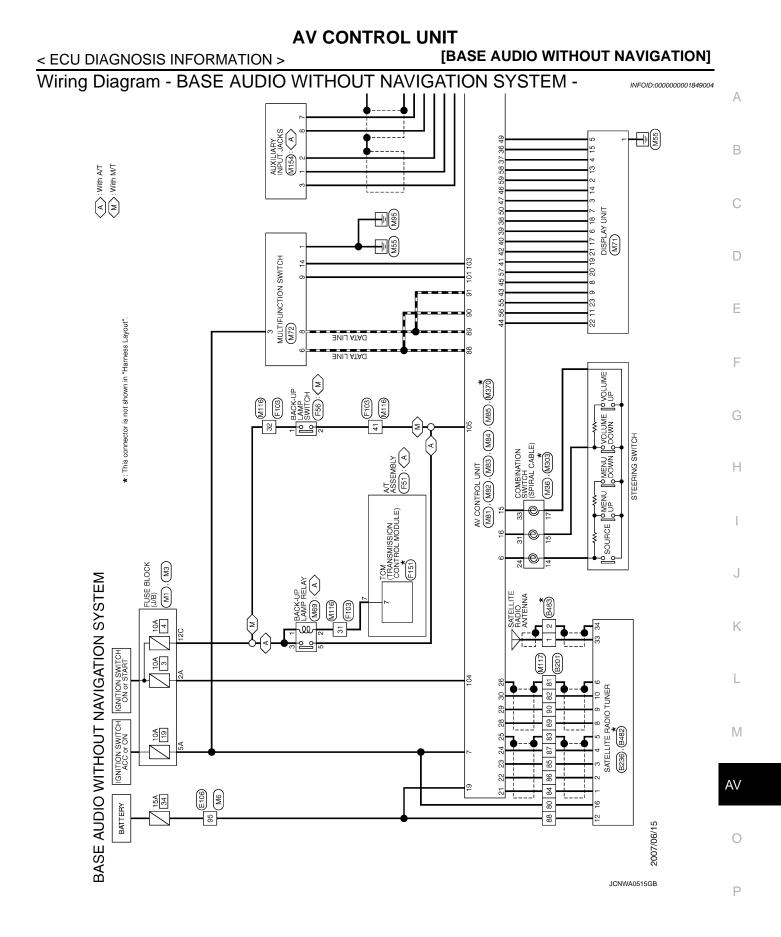
	minal e color)	Description			Condition	Reference value	А
+	_	Signal name	Input/ Output	Contaition		(Approx.)	
85 (B)	Ground	GND	_	Ignition switch ON	_	0 V	В
86 (L)	_	CAN-H	Input/ Output	_	_	_	С
87 (P)		CAN-L	Input/ Output		_	_	D
88 (V)		AV communication signal (H)	Input/ Output		_	_	
89 (LG)		AV communication signal (L)	Input/ Output		_	_	E
90 (SB)		AV communication signal (H)	Input/ Output		_	_	F
91 (Y)		AV communication signal (L)	Input/ Output		_	_	
95 (W)	Ground	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is select- ed	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	G H I
96 (R)	Ground	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is select- ed	(V) 1 0 -1 -2ms SKIB3609E	J
97	—	Shield	—		—	_	
101 (BR)	Ground	SW GND	_	Ignition switch ON	_	0 V	L
103 (SB)	Ground	Eject signal	Input		Pressing the eject switch Except for above	0 V 3.3 V	N
104 (G)	Ground	Ignition signal	Input	Ignition switch ON	_	Battery voltage	AV
105	Ground	Reverse signal	Input	Ignition switch	R position	12 V	С
(0)	Croand		input	ON	Other than R position	0 V	C

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< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

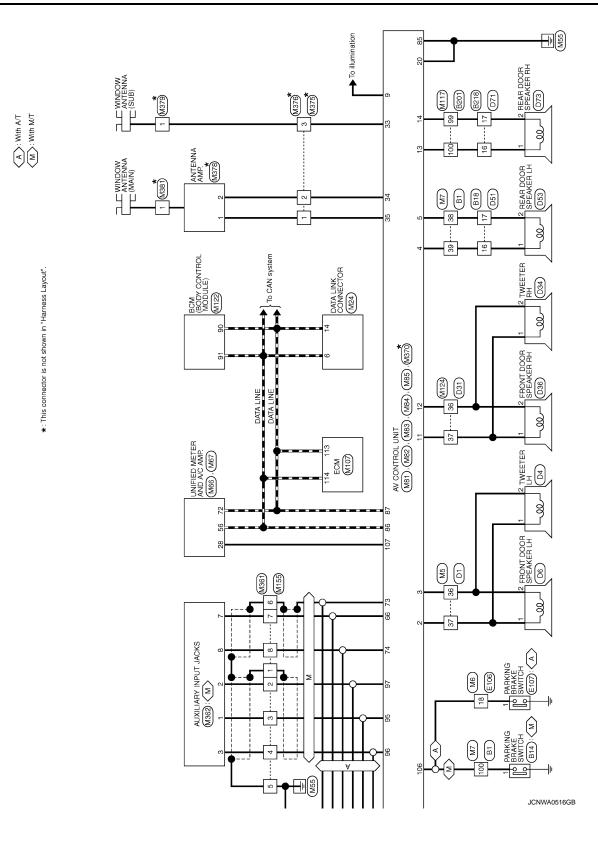
(Wire color)		Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
					Parking brake ON	0 V	
106 (SB)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake OFF	(V) 8 4 0 10 ms JSNIA0007GB	
107 (GR)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25MPH)	NOTE: Maximum voltage may be 12 V due to specifications (connected units).	



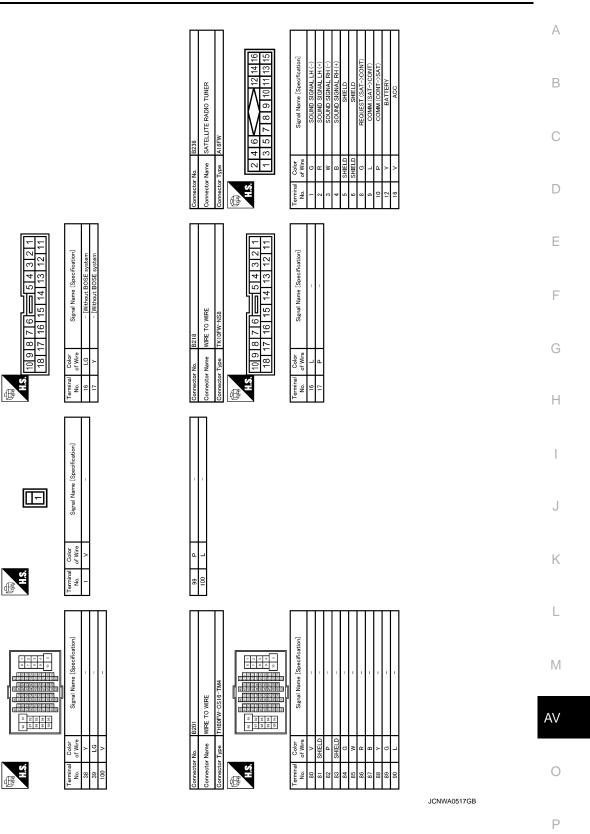
Revision: 2008 September

2008 G35 Sedan

[BASE AUDIO WITHOUT NAVIGATION]



[BASE AUDIO WITHOUT NAVIGATION]



IRE TO WIRE

Vame

ARKING BRAKE SWITCH (M/T)

nector Name

SYSTEM

BASE AUDIO WITHOUT NAVIGATION

MRE TO WIRE

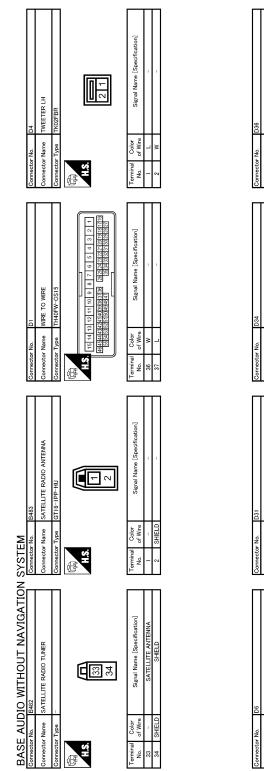
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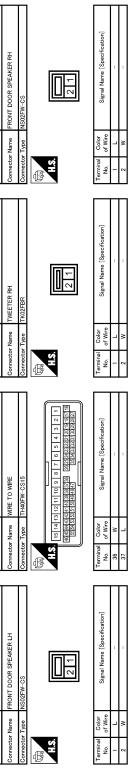
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Revision: 2008 September

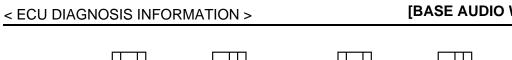
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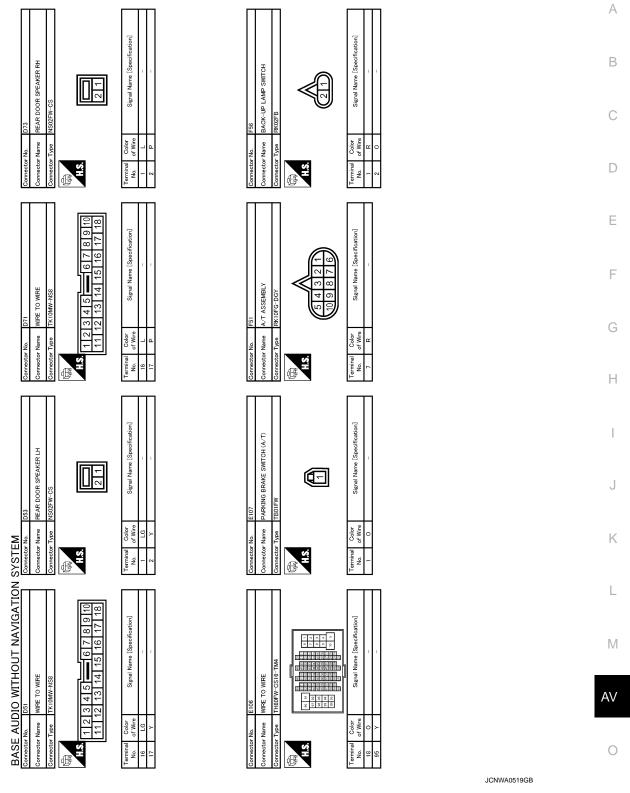




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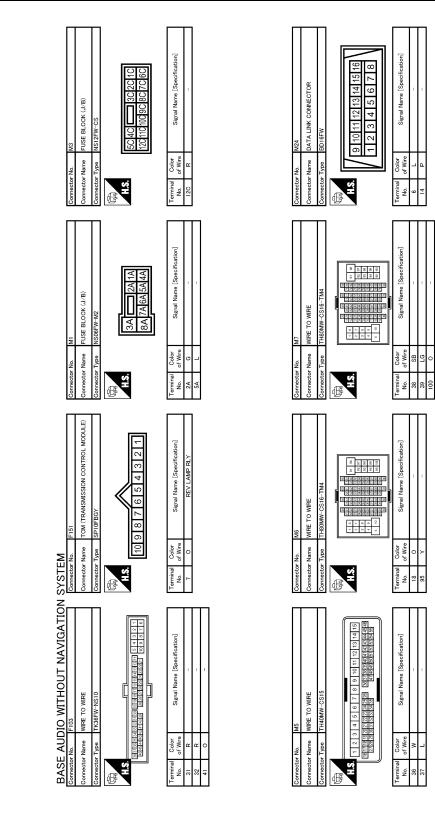




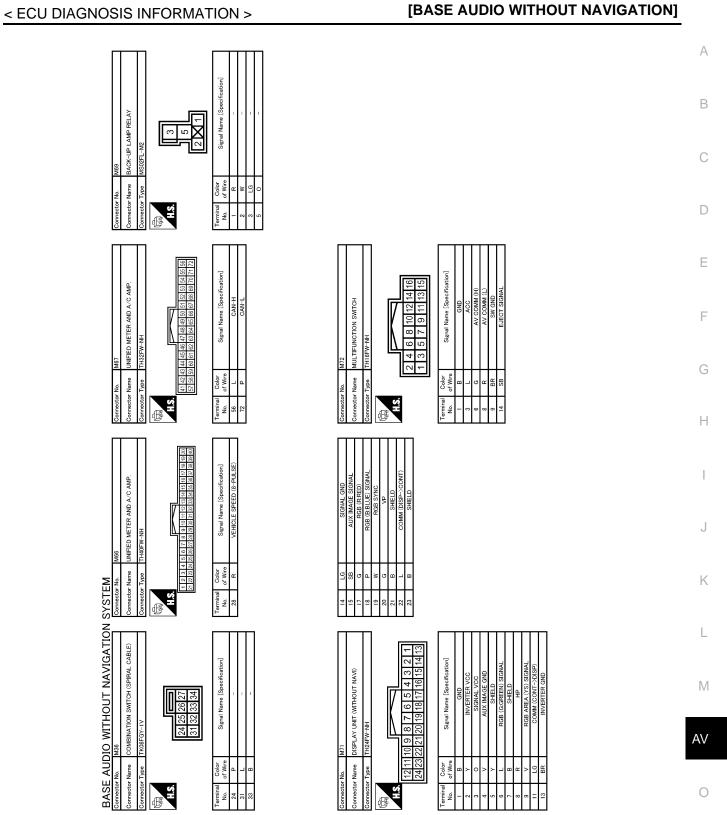
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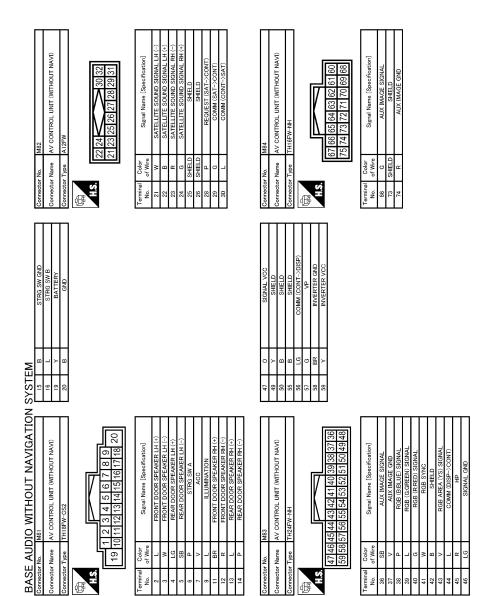


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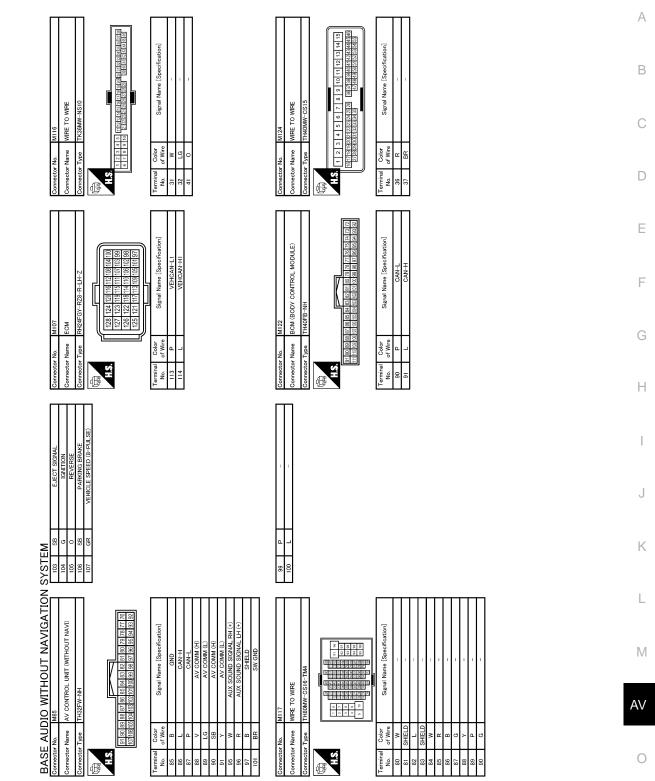
JCNWA0521GB

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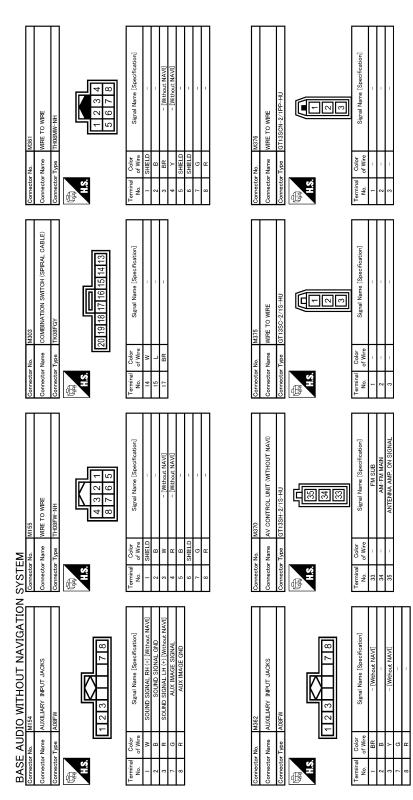
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[BASE AUDIO WITHOUT NAVIGATION]



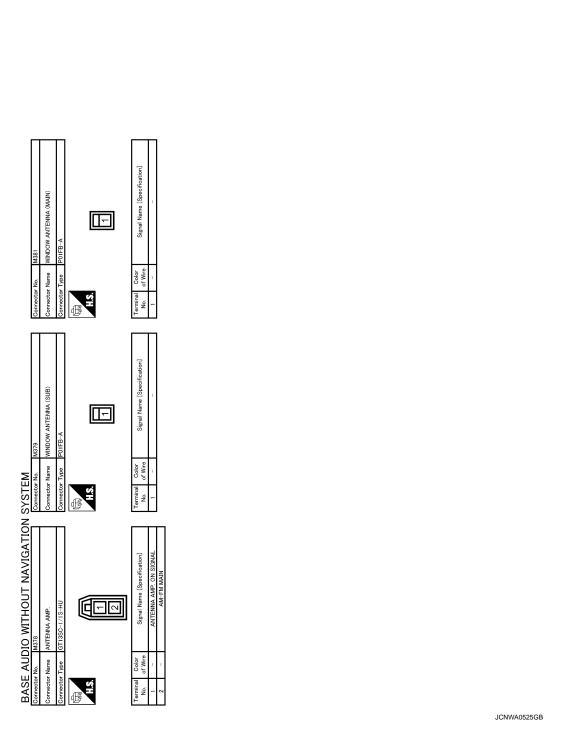
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< ECU DIAGNOSIS INFORMATION >



JCNWA0524GB

< ECU DIAGNOSIS INFORMATION >



NOTE:

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

DTC Index

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

INFOID:000000001849005

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[BASE AUDIO WITHOUT NAVIGATION]

< ECU DIAGNOSIS INFORMATION >

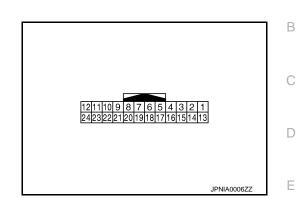
DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-29, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [U1010]	AV-30, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-31, "DTC Logic"
U1200	Control Unit FLASH-ROM [U1200]	AV-32, "DTC Logic"
U1216	CAN CONT [U1216]	AV-33, "DTC Logic"
U1243	FRONT DISP CONN [U1243]	AV-34, "Diagnosis Procedure"
U1255	SAT CONN [U1255]	AV-36, "Diagnosis Procedure"
U1300 U1240	AV COMM CIRCUIT [U1300] SWITCH CONN [U1240]	AV-38, "Description"

< ECU DIAGNOSIS INFORMATION >

DISPLAY UNIT

Reference Value

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description			Condition	Reference value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	
1 (B)	Ground	GND	_	Ignition switch ON	_	0 V	
2 (Y)	Ground	Inverter VCC	Input	Ignition switch ACC	_	9 V	
3 (O)	Ground	Signal VCC	Input	Ignition switch ACC	_	9 V	
4 (V)	Ground	AUX image GND	_	Ignition switch ON	_	0 V	
5	—	Shield	—		_	_	
6 (L)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 -0.4 -0.4 Figure 10 -0.4 Figure 10 Figure 10 F	
7	_	Shield	_		—	_	
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	lgnition switch ON		(V) 4 0 → + 20µs	

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DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

	minal e color)	Description	Description		Condition	Reference value
+	-	Signal name	Input/ Output	Contaition		(Approx.)
9 (V)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed	5 V (V) 6 4 2 0 → + 200 µ s → PKIB4948J
11 (LG)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 •••••••••••••••••••••••••••••••••
13 (BR)	Ground	Inverter GND	_	Ignition switch ON	_	0 V
14 (LG)	Ground	Signal GND	_	Ignition switch ON	_	0 V
15 (SB)	Ground	AUX image signal	Input	Ignition switch ON	At AUX image is displayed	(V) 0.4 0 -0.4 (V)
17 (G)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 −0.4 -0.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
18 (P)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 1.4 0 1.4 0 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4

DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

	minal e color)	Description			Condition	Reference value	А
+	_	Signal name	Input/ Output		Condition	(Approx.)	
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON		(V) 4 0 + 20µs SKIB3603E	B C D
20 (G)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On		(V) 4 0 • • 4ms SKIB3598E	E
21	_	Shield	_	—	_		G
22 (L)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	(V) 6 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	H
23		Shield		_	_	_	
	1		1	1	1		J

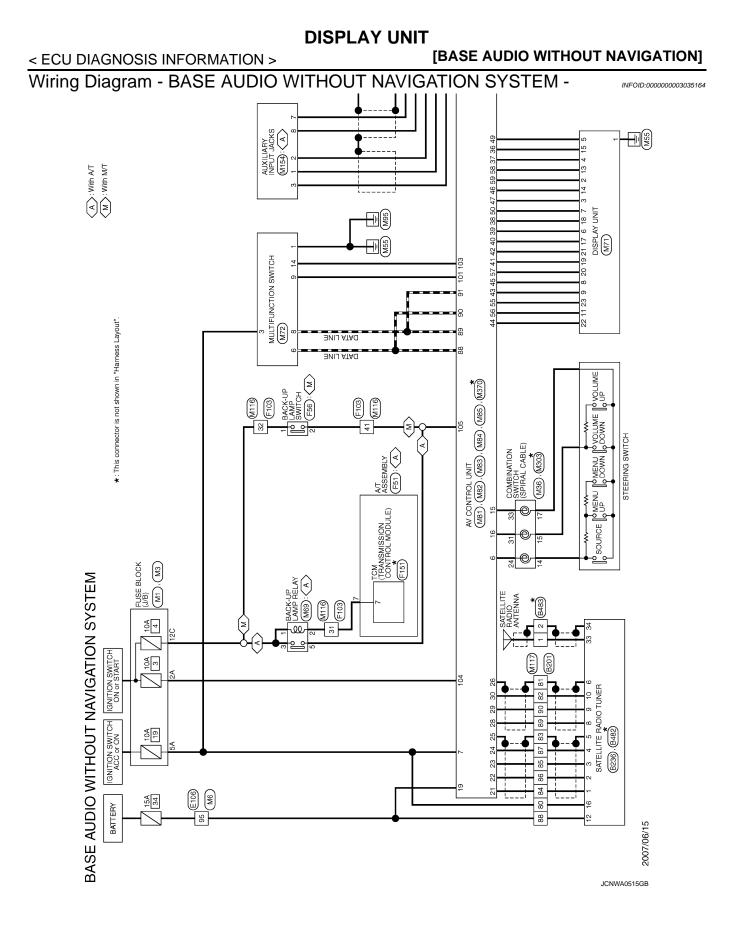
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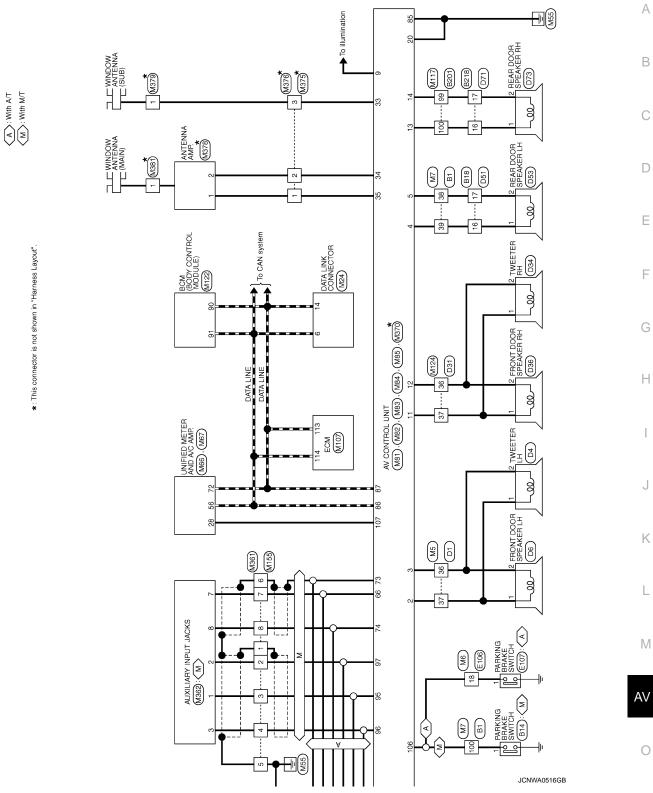
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[BASE AUDIO WITHOUT NAVIGATION]





Signal Name [Specification]

Terminal No.

Signal Name [Specification]

Color of Wire

Signal Name [Specification]

Color of Wire

no. No.

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WIRE TO WIRE

onnector Name

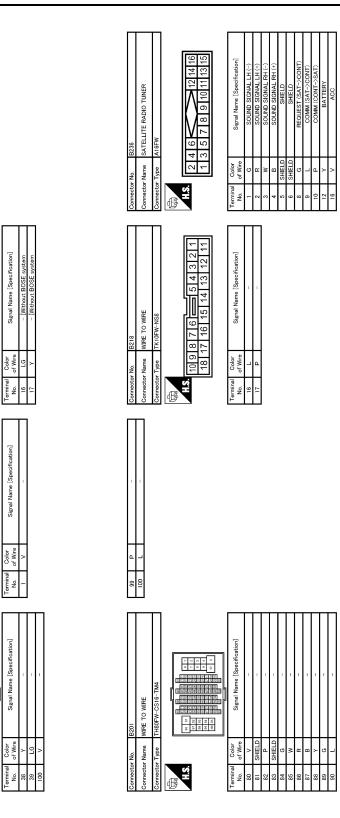
PARKING BRAKE SWITCH (M/T)

Connector Name SYSTEM

BASE AUDIO WITHOUT NAVIGATION

WIRE TO WIRE

Connector Name



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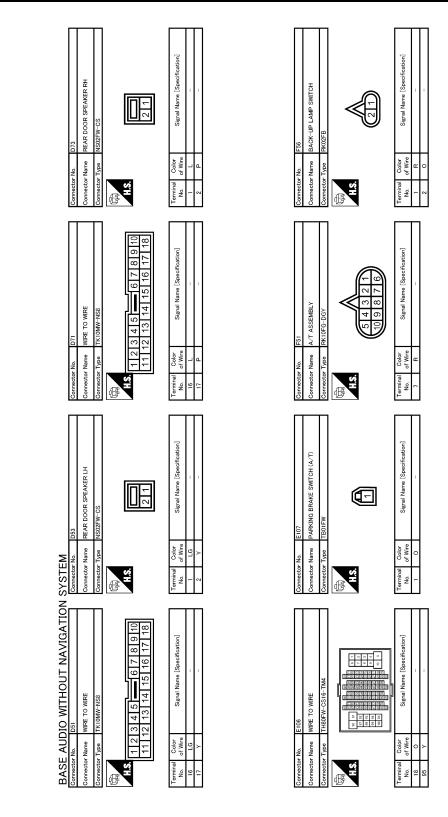
< ECU DIAGNOSIS INFORMATION >	DISPLAY UNIT [BASE AUDIO WITHOUT NAVIGATION]
Connector Nu D4 Connector Name TWEETER LH Connector Type TWORTER LH Connector Type Signal Name (Specification) 1 L _	Connector Nu. Diagonality Connector Nu. Diagonality Connector Nume FRONT DOOR SPEAKER RH Connector Nume FRONT DOOR SPEAKER RH Connector Nume Connector Nume Connector Num Connector Num Connector Num Connector Num <
No. D1 Name WIE TO WIE THAD'N-CSIS WIE THAD'N-CSIS Edited and and and and and and and and and an	L Signal Name Specification
Connector No. Connector Name Connector Type Connector Type (15141) (15	Connector None Connector Name Connector Trapa
J SYSTEM Connector Name B483 Connector Name B483 Connector Name SATELLITE RADIO ANTENNA Connector Type Garter Name Connector Type Connector Name Connector Name Connector Type Connector Name Connect	American D01 Connector Num D01 Connector Num WIPE TO WIPE Connector Num Connector Num No Num Signal Name (Soler) Connector Num No Num No Num
BASE AUDIO WITHOUT NAVIGATION SYSTEM Connector Name B402 Connector Name Connector Name SAFELLTE RADIO TUREN Connector Name Connector Name SAFELLITE RADIO TUREN Connector Name Connector Name SAFELLITE RADIO TUREN Connector Name Connector Name Safer Name (Specification) Connector Name Name Connector Name Safer Name (Specification)	Image: Second to the second
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Revision: 2008 September

DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

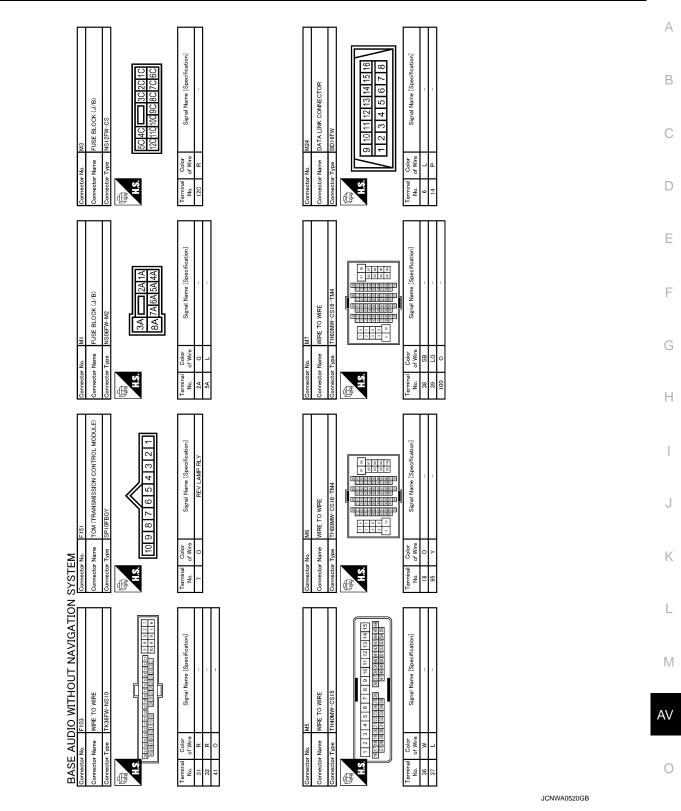


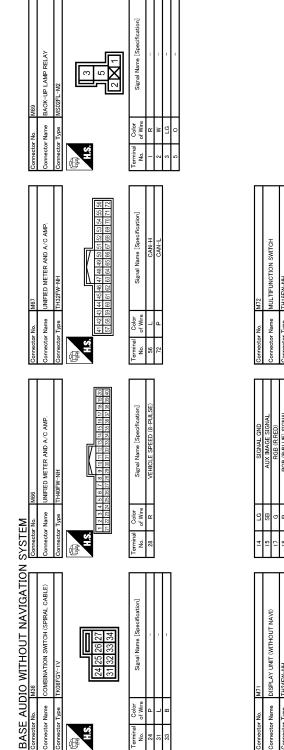
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DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]









	Signal Name [Specification]	GND	INVERTER VCC	SIGNAL VCC	AUX IMAGE GND	SHIELD	RGB (G:GREEN) SIGNAL	SHIELD	HP	RGB AREA (YS) SIGNAL	COMM (CONT->DISP)	INVERTER GND
	Color of Wire	в	Y	0	^	γ	٦	в	ч	^	ГG	BR
_	Terminal No.	1	2	3	4	5	9	4	8	6	11	13

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[BASE AUDIO WITHOUT NAVIGATION]

Connector No. M32 Connector Name AV CONTROL UNIT (WITHOUT NAVI) Connector Name AV CONTROL UNIT (WITHOUT NAVI) Connector Type AV SCONTROL UNIT (WITHOUT NAVI) Connector Type Conno Scientaria Conno Scientaria Conno Scientaria	Connector No. M84 In V CONTROL UNIT (WTHOLT NAVI) Connector Type HIFFW-HH Connector Type Signal Name (Speechcation) 0 NMAGE GNOL 73 SHIELD
SYSTEM IS B STRG SW GND IG L B STRG SW B D D D D D D D D D D D D D D D D D D D	47 0 SIGNAL VCC 49 Y SHELD 55 B SHELD 56 LG COMM (CONT-DISP) 57 FG INVERTER OD 58 Y INVERTER VCC
BASE AUDIO WITHOUT NAVIGATION Commetor Name Commetor Name AN Commetor Name Specific Name Name Specif	Opmentary No. M83 Connector Name AV CONTROL UNIT (WITHOUT NAVI) Connector Type TH24FW NH Connector Type TH347 A51 Th147 A51 TH347 A51 Th147 A51 TH347 A51 Th147 A51 TH347 A51 Th158 A51 TH347 A51 Th158 A51 TH348 A51 Th158 A51 <th< td=""></th<>

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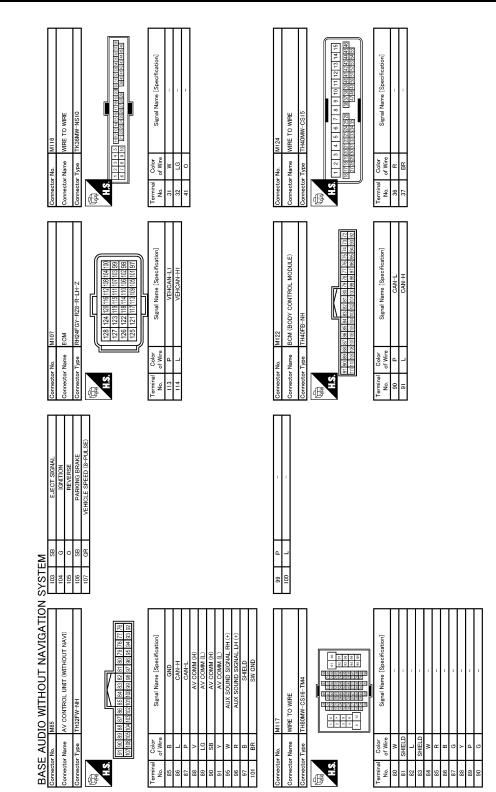
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DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

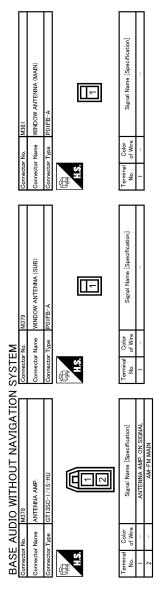


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< ECU DIAGNOSIS INFORMATION >	[BASE AUDIO WITHOUT NAVIGATION]	
Connector No. M381 Connector Name WRE TO WIRE Connector Name Wile TO WIRE Connector Type TH68/W-HH Connector Type TH68/W-HH Connector Type TH68/W-HH Connector Type Teles/M-H Connector Type Connect	Ometer No. M376 Connector Name MRE TO WRE MRE TO WRE Connector Type GT13SON 2/ IPP-HU Connector Type GT13SON 2/ IPP-HU	A B C
PIRAL CABLE)	erfication)	E
Ma00 COMBINATION SWITCH (SFIRAL CABLE) TKOBFGY TKOBFGY Signal Name [Specification]	MRE TO MRE GT1350-2/15 HU Signal Mame (Specification)	F
Connector No. M33 Connector Name Co. Connector Yame Co. Connector Types 17(13 Color 13 Color 13 Color 13 Color 13 Color 13 Color 13 Color 13 Color 13 Color 13 Color 14 Colol	Connector No. Mill Connector Name WIF Connector Type Gift L3. L3. L3. L3. L3. L3. L3. L3. L3. L3.	G
WRE WR NH Signal Name [Specification] 	M370 AV CONTROL INIT (WTHOUT NAVI) GT135H-2/1S-HU Signal Name [Specification] FM Sign AN-FM MAIN ANTENNA AMP. ON SIGNAL	I
	Terminal M370 Connector Name AV CONTROL UNT Connector Name Connector Name Terminal Color Signal Name Signal Name Signal Name Antenna	J K
		L
BASE AUDIO WITHOUT NAVIGATION SYSTEM Connector Name Connector Name Connecto	No. M652 Name M052 Name AUXILIARY Type AUXILIARY Type A036FW Color Signal Name [] P - (Wrbo) R - (Wrbo) R - (Wrbo)	M
BASE Connector Connector Connector AS HS HS HS		0

DISPLAY UNIT

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NOTE:

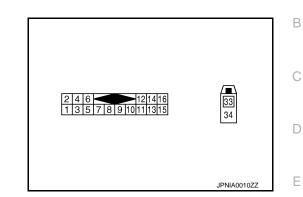
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The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

< ECU DIAGNOSIS INFORMATION >

SATELLITE RADIO TUNER

Reference Value



PHYSICAL VALUES

Teri	Terminal Description					Reference value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	G
2 (R)	1 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms SKIB3609E	H
4 (B)	3 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	J K
5		Shield			_	_	L
6		Shield			_	_	
8 (G)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 • • 10ms SKIA9299J	M AV
9 (L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 • • 1ms SKIA9300J	Ρ

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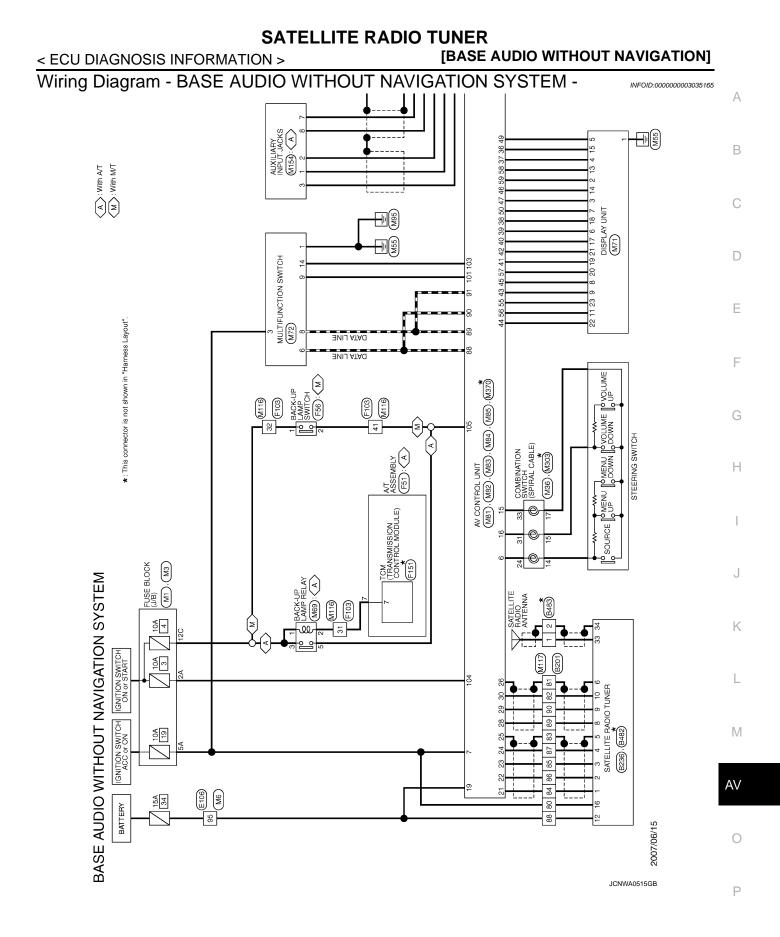
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SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

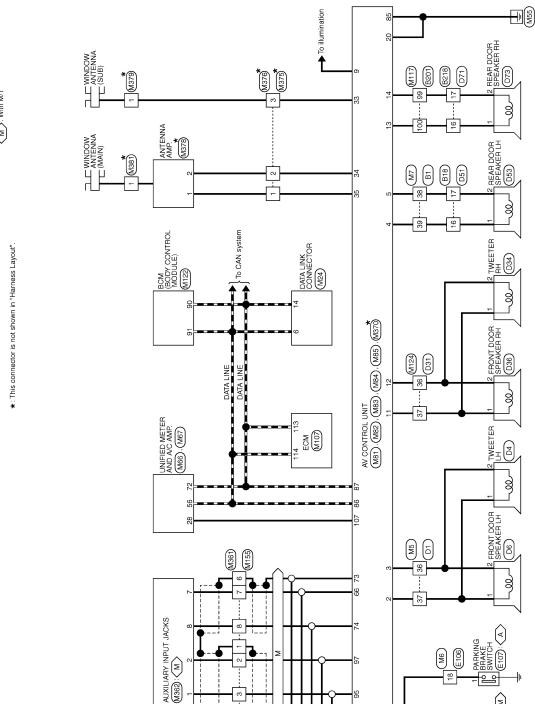
[BASE AUDIO WITHOUT NAVIGATION]

Terr	ninal	Description		Condition		Reference value
+	_	Signal name	Input/ Output			(Approx.)
10 (P)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 -10 -10 -10 -10 -10 -
12 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
16 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage
33	—	Satellite antenna	Input	—	—	—
34	—	Shield	—	—	—	—



SATELLITE RADIO TUNER

[BASE AUDIO WITHOUT NAVIGATION]



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PARKING BRAKE SWITCH (B14): M

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VIRE TO WIRE

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ARKING BRAKE SWITCH (M/T)

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BASE AUDIO WITHOUT NAVIGATION

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96 91 97 92 98 93 98 94 101 95

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Signal Name [Specification]

Color of Wire

Terminal No.

Signal Name [Specification]

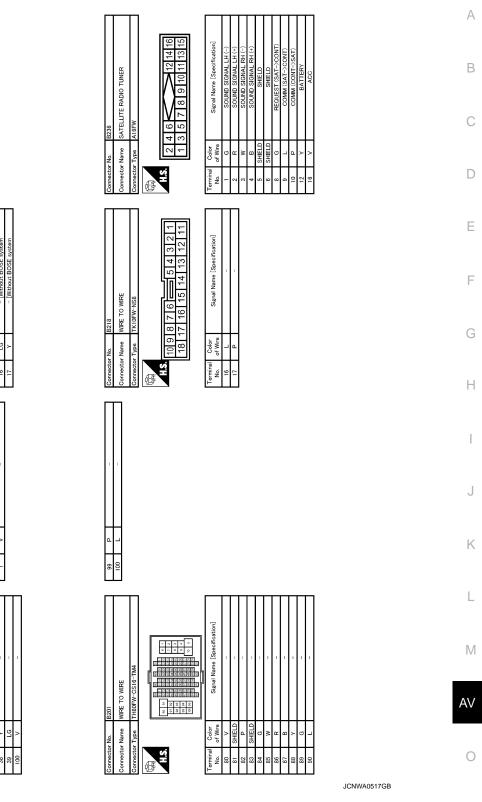
Color of Wire

Terminal No.

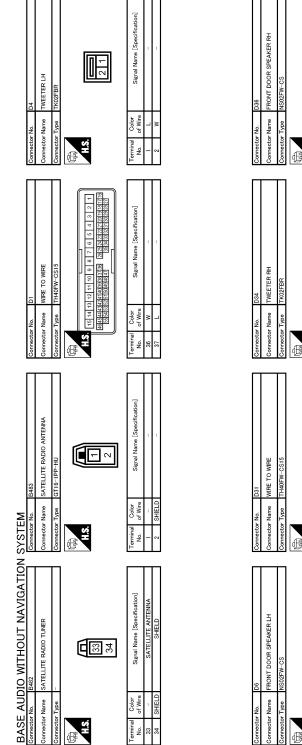
Signal Name [Specification]

Color of Wire

[BASE AUDIO WITHOUT NAVIGATION]

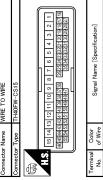




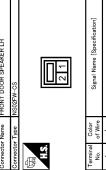


Signal Name [Specification] 2 1 Color of Wire Terminal No. HS. 仍 Signal Name [Specification] 2 1 Color of Wire

Terminal No.

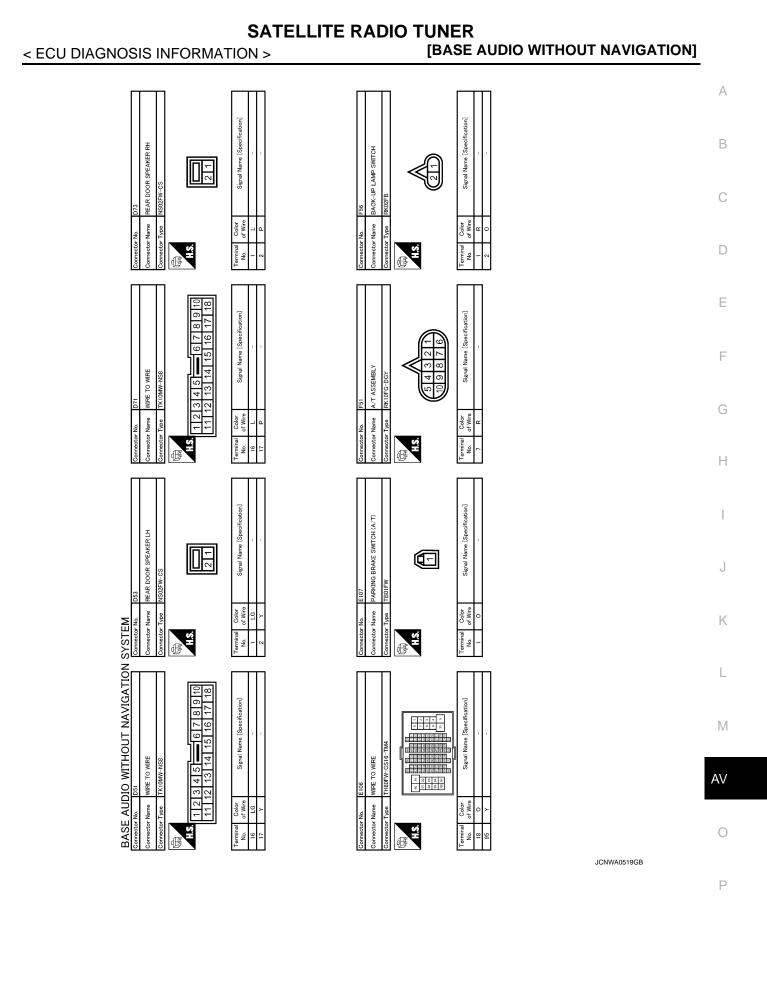


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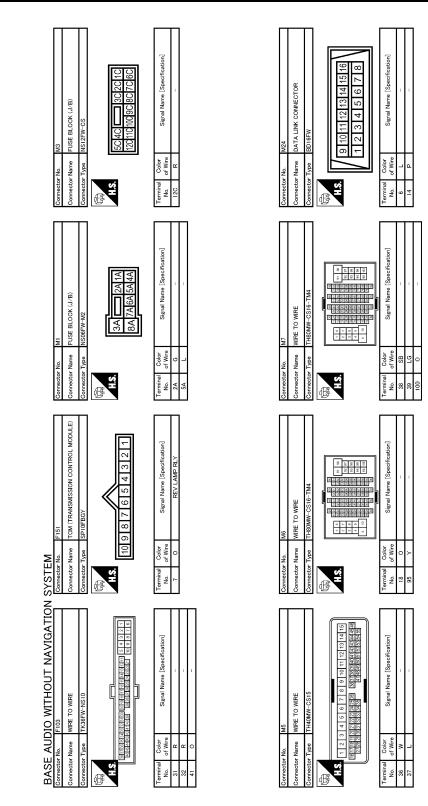
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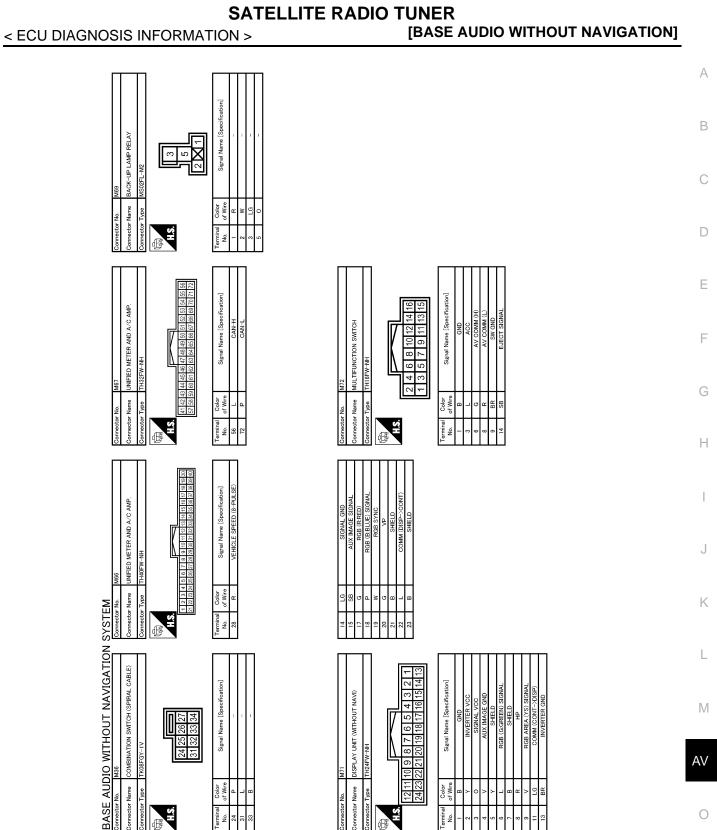


SATELLITE RADIO TUNER

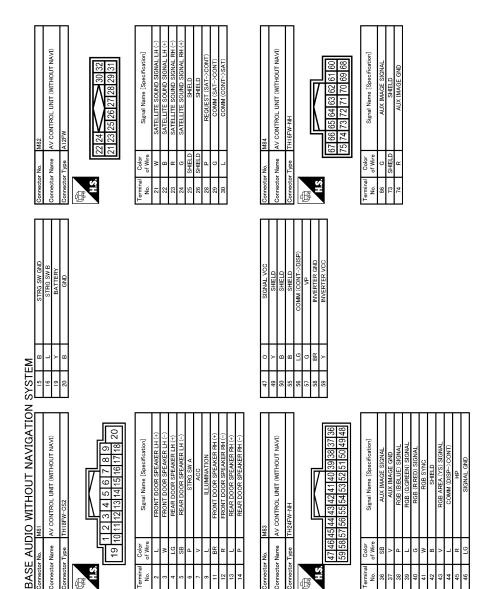
< ECU DIAGNOSIS INFORMATION >



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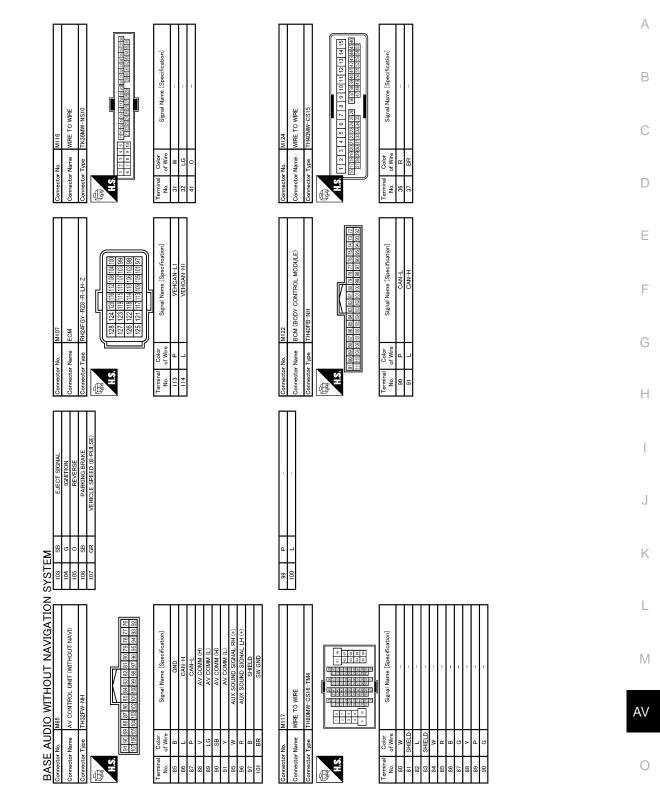


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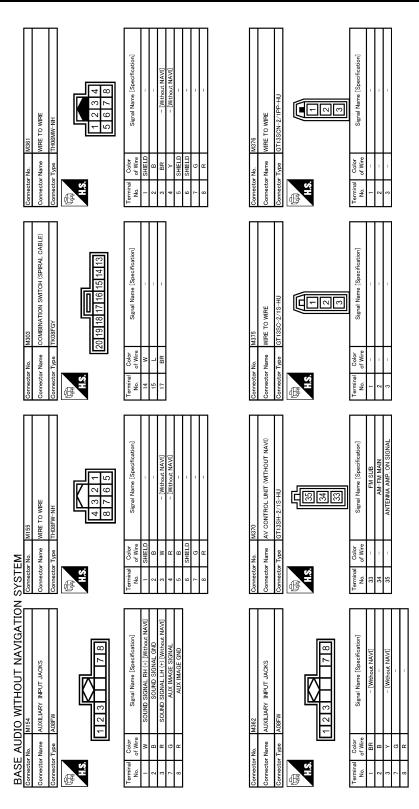
SATELLITE RADIO TUNER < ECU DIAGNOSIS INFORMATION > [BASE AUDIO WITHOUT NAVIGATION]



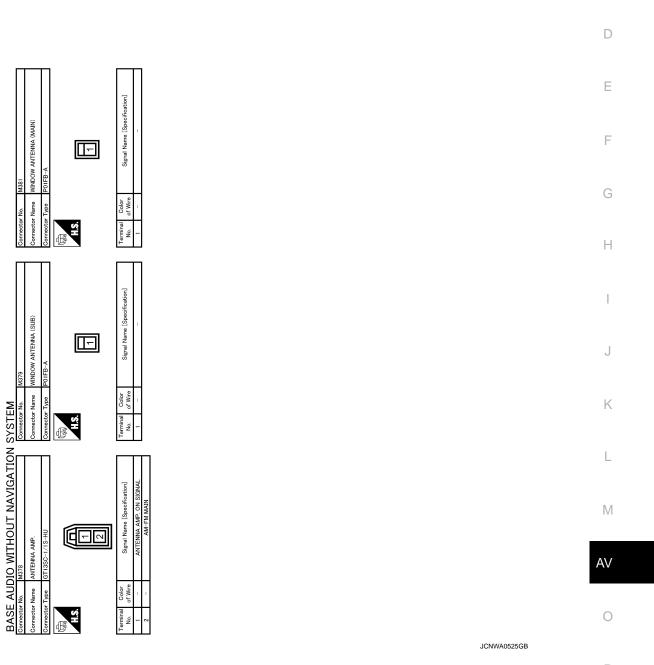
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< ECU DIAGNOSIS INFORMATION >



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NOTE:

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

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SYMPTOM DIAGNOSIS MULTI AV SYSTEM SYMPTOMS

Symptom Table

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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 CON- SULT-III. 	Perform CONSULT-III self-diagnosis.Refer to <u>AV-26.</u> <u>"CONSULT - III Function (MULTI AV)"</u> .	
	 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 mal- function. Refer to <u>AV-39</u> , " <u>AV CONTROL UNIT : Diag-</u> nosis Procedure".	
	Only specified switch cannot be oper- ated.	Multifunction switch or preset switch malfunction. Per form multifunction switch and preset switch self-diagr sis function. Refer to <u>AV-19, "Diagnosis Description"</u>	

RELATED TO RGB IMAGE

Trouble	diagnosis	chart by	symptom
	a.a.g	0.10.1.0.0	0,

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 <u>AV-26, "CONSULT - III Function (MULTI AV)"</u> .
	There is no malfunction in CONSULT-III self-diagnosis results.	 Display unit power supply circuit. Refer to <u>AV-39</u>, "DISPLAY UNIT : Diagnosis Proce- <u>dure"</u>. Vertical synchronizing (VP) signal circuit. Refer to <u>AV-48</u>, "Diagnosis Procedure".
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to <u>AV-42, "Diagnosis Procedure"</u> .
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to <u>AV-43, "Diagnosis Procedure"</u> .
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to <u>AV-44, "Diagnosis Procedure"</u> .
RGB screen is rolling.	_	RGB synchronizing signal circuit. Refer to <u>AV-45, "Diagnosis Procedure"</u> .
Fuel economy display is mal- functioning.	There is malfunction in the CONSULT- III self-diagnosis result.	Perform CONSULT-III self-diagnosis. Refer to <u>AV-26, "CONSULT - III Function (MULTI AV)"</u> .
	There is no malfunction in CONSULT-III self-diagnosis results.	Ignition signal circuit malfunction. Refer to <u>AV-39, "AV CONTROL UNIT : Diagnosis Proce-</u> <u>dure"</u> .

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 <u>AV-51</u> , "Diagnosis Pro- cedure".
	No sound from all speakers.	AV control unit. Refer to AV-113, "Exploded View".
Audio sound is not heard.	Sound is not heard only from the specif- ic places (RH front, RH rear, LH front and LH rear).	Sound signal circuit of malfunctioning system.

MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

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 ra- dio 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 <u>AV-120</u>, "<u>Exploded View</u>". 4. Replace the satellite radio tuner. Refer to <u>AV-119</u>, "<u>Exploded View</u>". 	
Satellite radio is not received.	 "ANTENNA" is displayed when the channel is turned to 0 in Satellite radio mode. 1. Check the car and ante 2. Check the car and a data 3. Check Ante 4. Replace the Refer to AV. 5. Replace the car and a data 3. Check Ante 4. Replace the Refer to AV. 	 er 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 <u>AV-120</u>, "<u>Exploded View</u>". 	
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 <u>AV-26, "CONSULT - III Function (MULTI AV)"</u> .	
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 Inspection location / Probable malfunction location Symptoms Steering switch signal GND circuit. None of the steering switch operations work. Refer to AV-59, "Diagnosis Procedure". Only specified switch (1) cannot be operated. Steering switch. Refer to AV-123, "Exploded View". "SOURCE", "MENU UP", "MENU DOWN" switches of Steering switch signal A circuit. Κ Refer to AV-55, "Diagnosis Procedure". steering switch are not operated. "VOL UP", "VOL DOWN" switches of steering switch are not Steering switch signal B circuit. operated. Refer to AV-57, "Diagnosis Procedure". L

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 auxilia- ry 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 <u>AV-49</u>. "<u>Diagnosis Procedure</u>". Horizontal synchronizing (HP) signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-47</u>. "<u>Diagnosis Procedure</u>". RGB area (YS) signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-46</u>. "<u>Diagnosis Procedure</u>".
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 <u>AV-48, "Diagnosis Procedure"</u> .

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NORMAL OPERATING CONDITION [BASE AUDIO WITHOUT NAVIGATION]

NORMAL OPERATING CONDITION

Description

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
	The brightness is at the lowest setting.	Adjust the brightness of the display.
No image is displayed.	The system in the video mode.	Push <disc></disc> to change the mode.
	The display is turned off.	Push <day night=""></day> to turn on the display.
The screen is too dim. The move- ment 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 se- lected.	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	
	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.	
Cannot play	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.	

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

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.	F
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.	E

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 D antenna and the waves reflected by mountains or buildings.

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< PRECAUTION > PRECAUTION PRECAUTIONS

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

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:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which 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 the "SRS AIR BAG".
- Do not 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:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT 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:000000001849013

AV COMMUNICATION SYSTEM

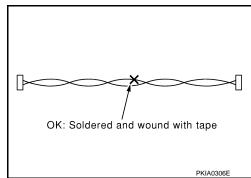
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000001849014

AV COMMUNICATION SYSTEM

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

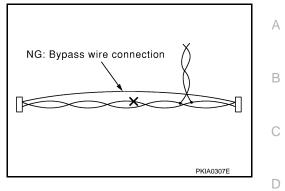


< PRECAUTION >

PRECAUTIONS

[BASE AUDIO WITHOUT NAVIGATION]

• 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.)



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PREPARATION

PREPARATION

Commercial Service Tools

Tool name		Description
Power tool	PBIC0191E	Loosening bolts and nuts

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

REMOVAL

Refer to IP-11, "Exploded View".

DISASSEMBLY

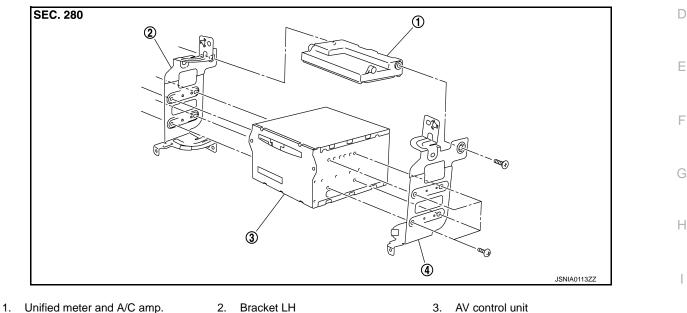


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[BASE AUDIO WITHOUT NAVIGATION]





4. Bracket RH

Removal and Installation

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.

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< REMOVAL AND INSTALLATION >

DISPLAY UNIT

Exploded View

Refer to IP-11, "Exploded View".

Removal and Installation

REMOVAL

- 1. Remove cluster lid D. Refer to IP-11, "Exploded View".
- 2. Remove display unit with bracket as a single unit.

INSTALLATION

Installation is the reverse order of removal.

[BASE AUDIO WITHOUT NAVIGATION]

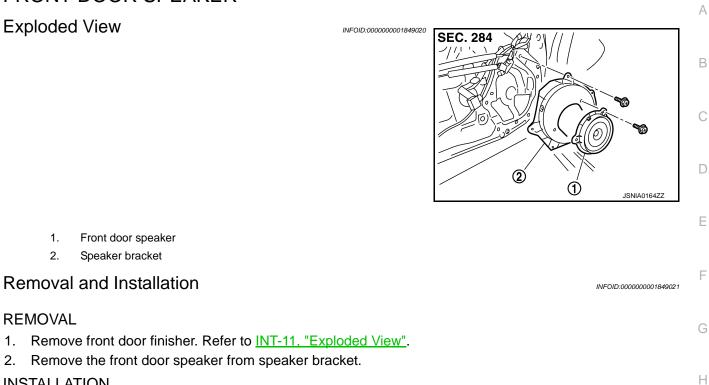
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FRONT DOOR SPEAKER

[BASE AUDIO WITHOUT NAVIGATION]

< REMOVAL AND INSTALLATION > FRONT DOOR SPEAKER

Exploded View



INSTALLATION

REMOVAL

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Installation is the reverse order of removal.

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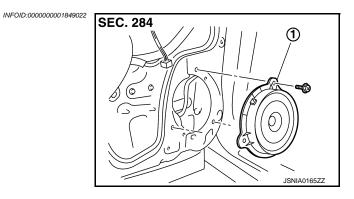
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< REMOVAL AND INSTALLATION >

REAR DOOR SPEAKER

Exploded View



1. Rear door speaker

Removal and Installation

REMOVAL

- 1. Remove rear door finisher. Refer to INT-11, "Exploded View".
- 2. Remove rear door speaker from rear door.

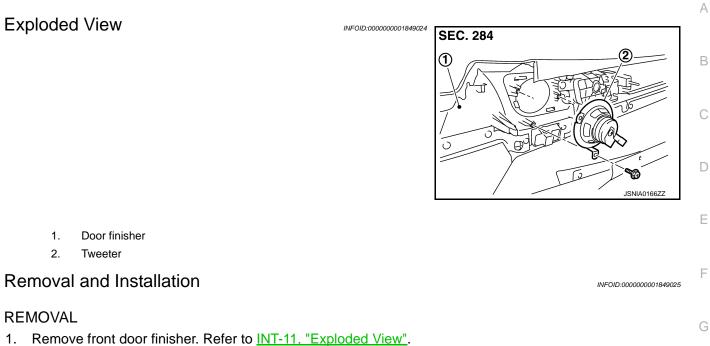
INSTALLATION

Installation is the reverse order of removal.

[BASE AUDIO WITHOUT NAVIGATION]

< REMOVAL AND INSTALLATION > TWEETER

Exploded View



Remove the tweeter from the front door finisher. 2.

INSTALLATION

REMOVAL

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2.

Installation is the reverse order of removal.

Door finisher

Tweeter

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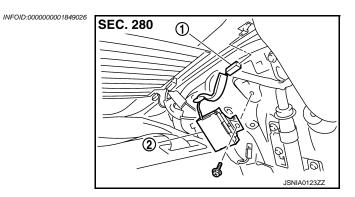
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< REMOVAL AND INSTALLATION >

ANTENNA AMP.

Exploded View



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

Removal and Installation

REMOVAL

- 1. Remove rear pillar finisher LH. Refer to INT-14, "Exploded View".
- 2. Remove antenna amp. from rear pillar LH.

INSTALLATION

Installation is the reverse order of removal.

< REMOVAL AND INSTALLATION >

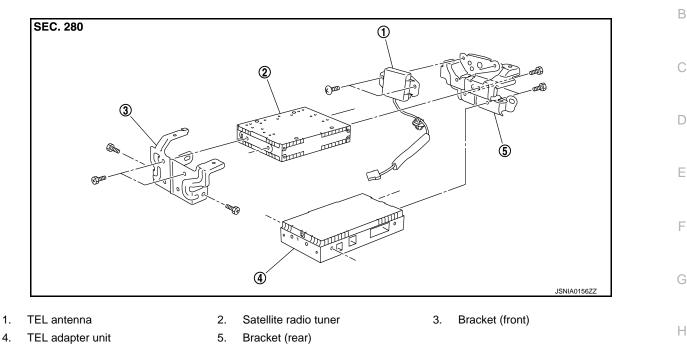
[BASE AUDIO WITHOUT NAVIGATION]

SATELLITE RADIO TUNER Exploded View

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INFOID:000000001849029

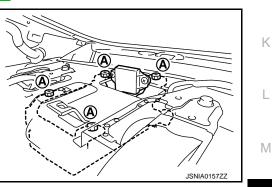
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Removal and Installation

REMOVAL

- 1. Remove trunk front finisher. Refer to INT-27, "Exploded View".
- 2. Remove rear parcel shelf finisher. Refer to INT-19, "Exploded View".
- 3. Remove screw (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.

AV

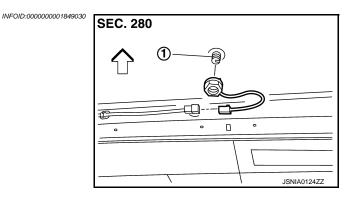
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SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

SATELLITE RADIO ANTENNA

Exploded View



- 1. Satellite radio antenna
- <⊐: Vehicle front

Removal and Installation

INFOID:000000001849031

REMOVAL

- 1. Remove head lining assembly (rear) to secure work space between vehicle and headlining. Refer to <u>INT-23. "Exploded View"</u>.
- 2. Remove nuts, and then remove satellite radio antenna from roof panel.

INSTALLATION

Installation is the reverse order of removal.

Satellite radio antenna mounting nut

P : 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

< REMOVAL AND INSTALLATION >

MULTIFUNCTION SWITCH

Exploded View

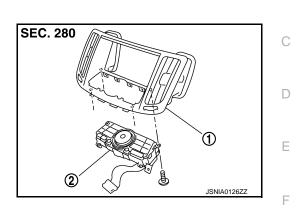
REMOVAL Refer to <u>IP-11, "Exploded View"</u>. DISASSEMBLY



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	1.	Center ventilator grille		
	2.	Multifunction switch		0
Re	moval	and Installation	INFOID:000000001849033	G
RE	MOVAL			Н
1.		e cluster lid D. Refer to IP-11, "Exploded View".		
2.	Remov	e multi function switch with center ventilator grille as a single unit.		
3.	Remov	e multi function switch from center ventilator.		
INS	TALLA	TION		
Inst	allation	is the reverse order of removal.		J
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< REMOVAL AND INSTALLATION > PRESET SWITCH

[BASE AUDIO WITHOUT NAVIGATION]

Exploded View

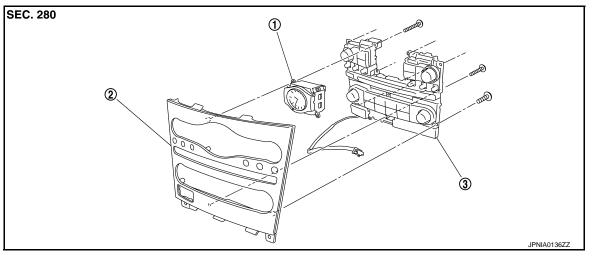
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REMOVAL

Refer to IP-11, "Exploded View".

DISASSEMBLY



1. Clock

2. Cluster lid C

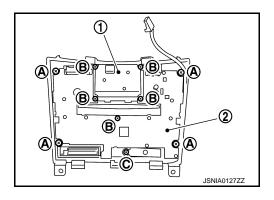
Preset switch

3.

Removal and Installation

REMOVAL

- 1. Remove cluster lid C. Refer to IP-11, "Exploded View".
- 2. Remove preset switch (2) from cluster lid C.
 - 1. Clock
 - A. Screw
 - B. Screw
 - C. Screw



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.

< REMOVAL AND INSTALLATION >

STEERING SWITCH		А
Exploded View	INFOID:000000001849036	~
Refer to <u>ST-17, "Exploded View"</u> .		В
Removal and Installation	INFOID:000000001849037	
REMOVAL Refer to <u>ST-17, "Removal and Installation"</u> .		С
INSTALLATION Installation is the reverse order of removal.		D

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AUXILIARY INPUT JACKS

< REMOVAL AND INSTALLATION >

AUXILIARY INPUT JACKS

Exploded View

REMOVAL Refer to IP-22, "Exploded View". DISASSEMBLY

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Auxiliary input jacks 1.

Removal and Installation

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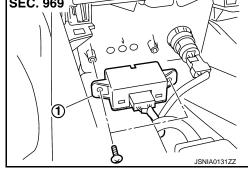
INFOID:000000001849038

REMOVAL

- 1. Remove center console. (M/T models) Refer to IP-22, "Exploded View". Remove center console cup. (A/T models) Refer to IP-22, "Exploded View".
- Remove auxiliary input jacks from center console. (M/T models) 2. Remove auxiliary input jacks from center console cup. (A/T models)

INSTALLATION

Installation is the reverse order of removal.



ANTENNA FEEDER (RADIO)

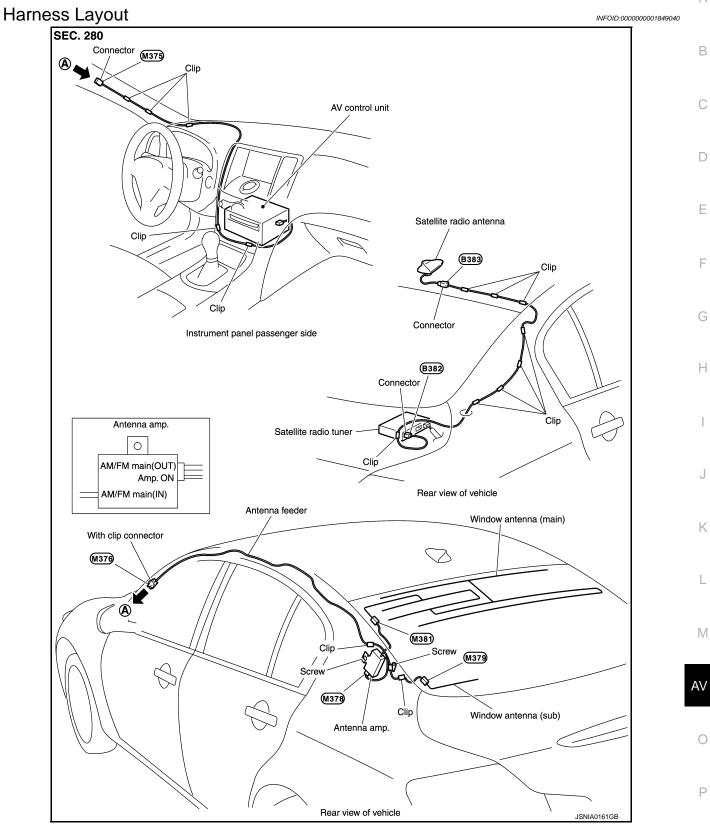
< REMOVAL AND INSTALLATION >

ANTENNA FEEDER (RADIO)

[BASE AUDIO WITHOUT NAVIGATION]

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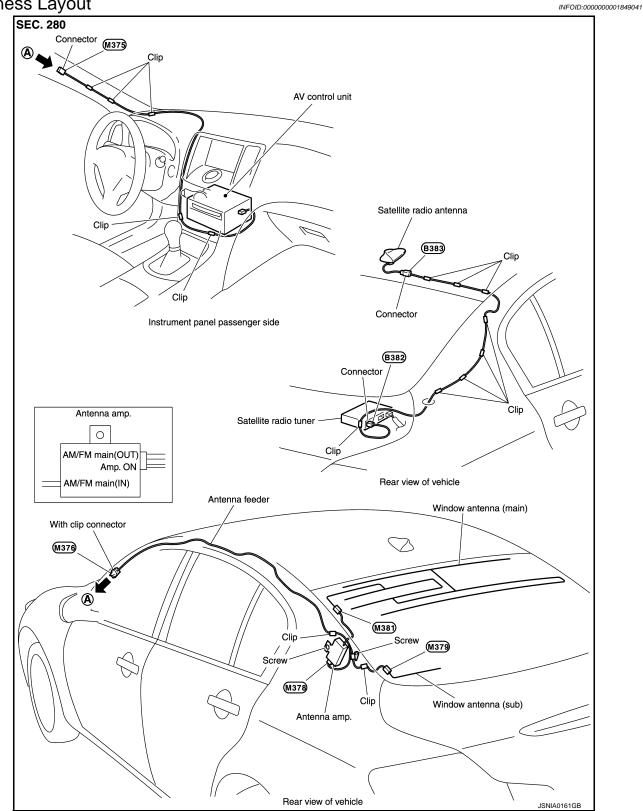
ANTENNA FEEDER (SATELLITE RADIO)

< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

ANTENNA FEEDER (SATELLITE RADIO)

Harness Layout



BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

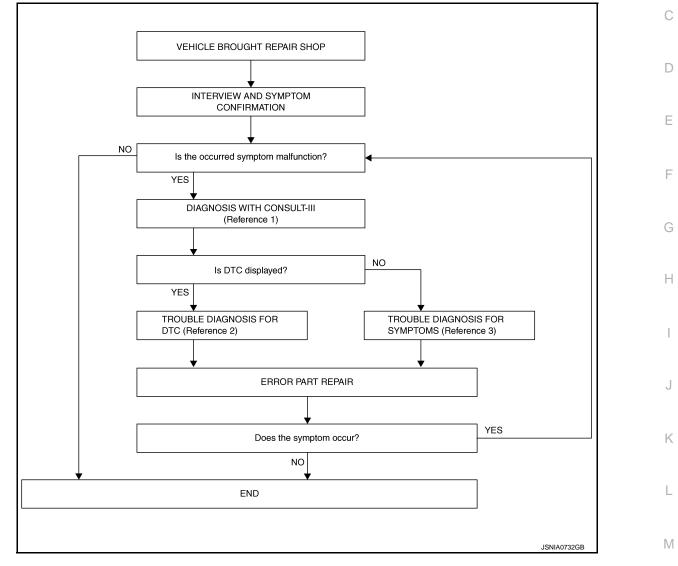
Work Flow

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[BOSE AUDIO WITHOUT NAVIGATION]

OVERALL SEQUENCE



- Reference 1... Refer to <u>AV-149, "CONSULT III Function (MULTI AV)"</u>.
- Reference 2... Refer to <u>AV-214, "DTC Index"</u>.
- Reference 3... Refer to <u>AV-313, "Symptom Table"</u>.

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

AV

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[BOSE AUDIO WITHOUT NAVIGATION]

- Connect CONSULT-III and perform a self-diagnosis for "MULTI AV". Refer to <u>AV-149</u>, "CONSULT III <u>Function (MULTI AV)"</u>. 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-214, "DTC Index".

>> GO TO 5.

4.TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to <u>AV-313</u>, "Symptom <u>Table"</u>.

>> 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?

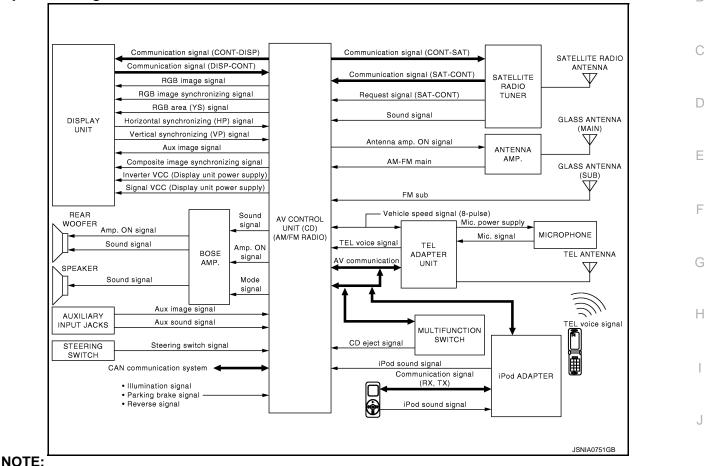
- YES >> GO TO 1.
- NO >> INSPECTION END

[BOSE AUDIO WITHOUT NAVIGATION]

SYSTEM DESCRIPTION > SYSTEM DESCRIPTION

MULTI AV SYSTEM

System Diagram



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

System Description

Multi AV system means that the following systems are integrated.

System name	System explanation
AUDIO SYSTEM	AV-134, "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 re-
	ceiving data signal through CAN communication from ECM, unified meter and A/C amp and BCM.
HANDS-FREE PHONE SYSTEM	AV-137, "System Description"
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. Trans-

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MULTI AV SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

mitting/receiving of data signal is performed by BCM. Also, it transmits the required signal of vehicle setting and receives the response signal.

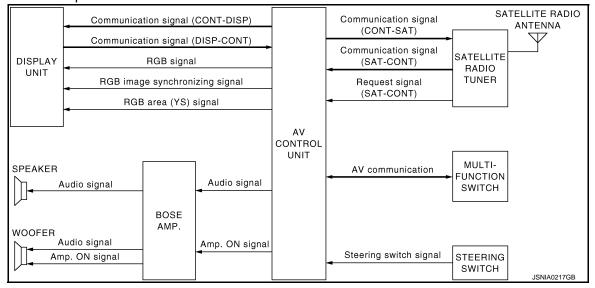
 AV control unit is connected with display and serial communication, and it transmits the required signal of display and display control and receives the response signal from front display. Also, it is connected with satellite radio by serial communication, and it transmits the operating signal and receives 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 <u>AV-149, "CONSULT III Function (MULTI AV)</u>".
- On board self-diagnosis: refer to <u>AV-140, "Diagnosis Description"</u>.
- On board self-diagnosis of TEL adapter unit can be performed.
- Refer to <u>AV-152, "Diagnosis Description"</u> for on board self-diagnosis.

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. Audio signal (satellite radio) is transmitted from AV control unit to BOSE amp. and transmitted from BOSE amp. to woofer amp. and 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.

MULTI- FUNCTION SWITCH	AV communication	1				
STEERING SWITCH	Steering switch sign	nal 🕨	AV CONTROL	_		SPEAKER
EXTERNAL EQUIPMENT		Aux sound signal	-		UNIT	SNIA0172GB

MULTI AV SYSTEM

[BOSE AUDIO WITHOUT NAVIGATION]

Component Parts Location

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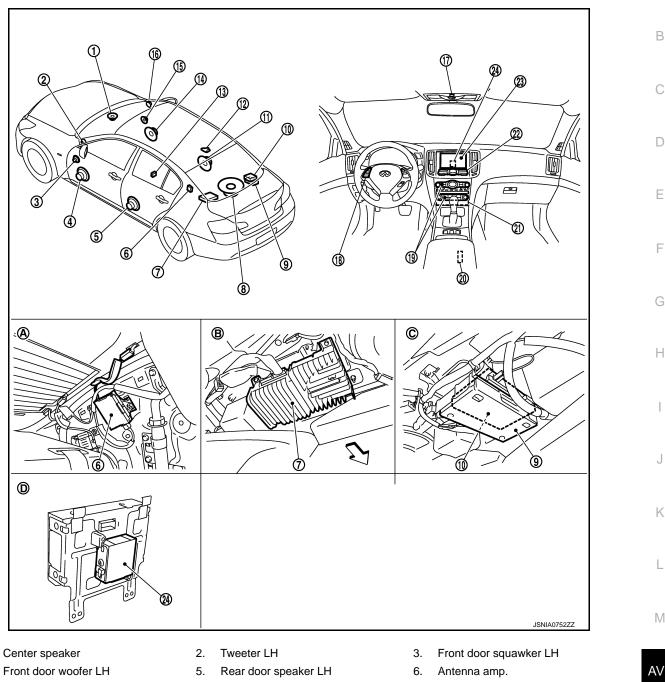
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BOSE amp. 7.

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- 10. Satellite radio tuner
- 13. Auxiliary input jacks
- Tweeter RH 16.
- 19. Preset switch
- 22. Multifunction switch
- Within rear pillar finisher LH Α.
- D. Rear view of the display
- Vehicle front <⊃:

- Rear woofer 8.
- 11. Rear door speaker RH
- 14. Front door woofer RH
- 17. Microphone
- 20. iPod connector
- 23. Display unit
- Β. Rear parcel shelf lower part (left side) C.
- TEL adapter unit 9.
- 12. Satellite radio antenna
- 15. Front door squawker RH
- 18. Steering switch
- 21. AV control unit
- 24. iPod adapter
 - Lower part of rear parcel shelf (on the right side)

< SYSTEM DESCRIPTION >

Component Description

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. BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.
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 AV control unit.
BOSE AMP.	Inputs power (amp. ON) and sound signal from AV control unit, and outputs sound signal to each speaker.
FRONT DOOR WOOFER	Outputs sound signal from BOSE amp.Outputs low-pitched sound.
FRONT DOOR SQUAWKER	Outputs sound signal from BOSE amp.Outputs midrange 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 (amp. ON signal) is supplied from BOSE amp.
MULTIFUNCTION SWITCH	 Operation panel is equipped with the centralized switch where audio and auxiliary input operations are integrated. Connected with AV control unit 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	 Operations such as audio and hands-free phone are possible. Steering switch signal (operation signal) is output to AV control unit.
MICROPHONE	 Used only when hands-free phone is operated. Outputs Mic. signal (TEL voice signal) to the TEL adapter unit. The power (Mic. power supply) is supplied from the TEL adapter unit.
AUXILIARY INPUT JACKS	The image signal of the auxiliary input is output via the AV control unit to the dis- play, 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.

MULTI AV SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

Part name	Description
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.
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.
iPod ADAPTER	 Inputs iPod sound signal from iPod[®], and outputs iPod sound signal to AV control unit. Receiving/transmitting of iPod[®] operation signals are performed as follows: between AV control unit and iPod adapter: AV communication. between iPod[®] and iPod adapter: serial communication.

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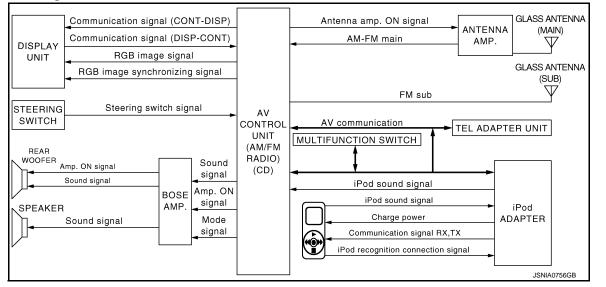
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< SYSTEM DESCRIPTION > AUDIO SYSTEM

System Diagram



System Description

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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	
iPod connection	
Driver's Audio Stage	

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. Audio signal is input to BOSE amp. and BOSE amp. outputs to each speaker for AV control unit.

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.

iPod Connection

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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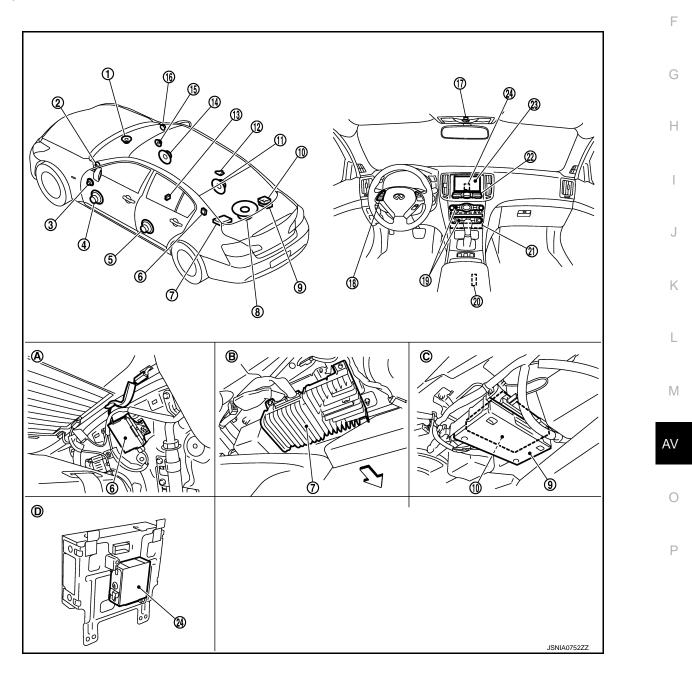
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- Connect iPod[®] and iPod adapter with wire harness and iPod adapter input iPod sound signal from iPod[®]. When iPod mode is selected, iPod adapter output iPod sound signal to AV control unit. AV control unit output sound signal to BOSE amp., and BOSE amp. output sound signal to each speaker.
- Receiving/transmitting of iPod[®] operation signals are performed as follows:
 between AV control unit and iPod adapter: AV communication.
- between iPod[®] and iPod adapter: serial communication.
- The iPod[®] connection status can be recognized whether iPod adapter receives iPod connection recognition signal.
- The iPod adapter is possible to charge iPod[®].

Driver's Audio Stage Mode

- D 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 signal.

Component Parts Location



AUDIO SYSTEM

< SYSTEM DESCRIPTION >

- 1. Center speaker
- 4. Front door woofer LH
- 7. BOSE amp.
- 10. Satellite radio tuner
- 13. Auxiliary input jacks
- 16. Tweeter RH
- 19. Preset switch
- 22. Multifunction switch
- A. Within rear pillar finisher LH
- D. Rear view of the display
- ∠→ Vehicle front

Component Description

- 2. Tweeter LH
- 5. Rear door speaker LH
- 8. Rear woofer
- 11. Rear door speaker RH
- 14. Front door woofer RH
- 17. Microphone
- 20. iPod connector
- 23. Display unit
- B. Rear parcel shelf lower part (left side) C.

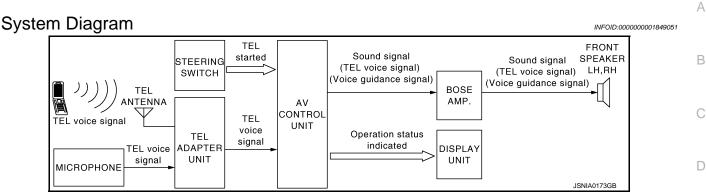
- 3. Front door squawker LH
- 6. Antenna amp.
- 9. TEL adapter unit
- 12. Satellite radio antenna
- 15. Front door squawker RH
- 18. Steering switch
- 21. AV control unit
- 24. iPod adapter
 - Lower part of rear parcel shelf (on the right side)

Part name	Description
AV CONTROL UNIT	 The AM/FM receiving function and the CD playing function are equipped. BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.
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.
BOSE AMP.	Inputs power (amp. ON) and sound signal from AV control unit, and outputs sound signal to each speaker.
FRONT DOOR WOOFER	Outputs sound signal from BOSE amp.Outputs low-pitched sound.
FRONT DOOR SQUAWKER	Outputs sound signal from BOSE amp.Outputs midrange 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 (amp. ON signal) is supplied from BOSE amp.
MULTIFUNCTION SWITCH	 Each audio operation can be operated. Connected with AV control unit via cable, and operation signal is transmitted to AV control unit via AV communication.
PRESET SWITCH	 Each audio operation can be operated. It is connected to the multifunction switch by AV communication. The operation signal is transmitted to the AV control unit. 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.
iPod ADAPTER	 Inputs iPod sound signal from iPod[®], and outputs iPod sound signal to AV control unit. Receiving/transmitting of iPod[®] operation signals are performed as follows: between AV control unit and iPod adapter: AV communication. between iPod[®] and iPod adapter: serial communication.

HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

HANDS-FREE PHONE SYSTEM



System Description

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[BOSE AUDIO WITHOUT NAVIGATION]

- TEL adapter unit is controlled with AV communication from AV control unit.
- The connection between portable telephone and TEL adapter unit is performed with Bluetooth[®].
- 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 and center speaker when operating the TEL.
- TEL adapter unit has the on board self-diagnosis function. Refer to AV-152, "Diagnosis Description".

When receiving a call

TEL voice signal received with the portable telephone is input from TEL antenna via TEL adapter unit to AV control unit with Bluetooth communication and output via BOSE amp. to the front speaker. The operation is H performed with the steering switch or voice recognition function (TEL operation only).

When a call is transmitted

Speech sound (TEL voice signal) is input from the microphone to the TEL adapter unit. It is input from the TEL antenna via Bluetooth communication to the portable telephone. It is transmitted to the phone on the other side. The operation is performed with the steering switch or voice recognition function (TEL operation only).

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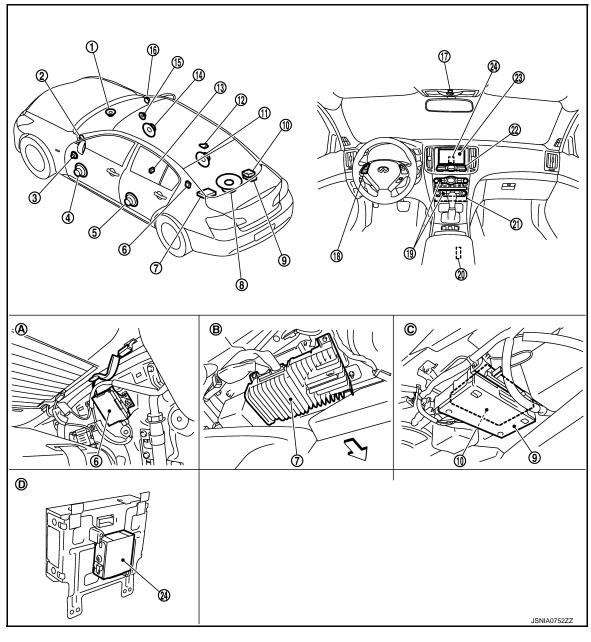


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HANDS-FREE PHONE SYSTEM

[BOSE AUDIO WITHOUT NAVIGATION]

Component Parts Location



- 1. Center speaker
- 4. Front door woofer LH
- 7. BOSE amp.
- 10. Satellite radio tuner
- 13. Auxiliary input jacks
- 16. Tweeter RH
- 19. Preset switch
- 22. Multifunction switch
- A. Within rear pillar finisher LH
- D. Rear view of the display
- → Vehicle front

- 2. Tweeter LH
- 5. Rear door speaker LH
- 8. Rear woofer
- 11. Rear door speaker RH
- 14. Front door woofer RH
- 17. Microphone
- 20. iPod connector
- 23. Display unit
- B. Rear parcel shelf lower part (left side) C.

- 3. Front door squawker LH
- 6. Antenna amp.
- 9. TEL adapter unit
- 12. Satellite radio antenna
- 15. Front door squawker RH
- 18. Steering switch
- 21. AV control unit
- 24. iPod adapter
 - Lower part of rear parcel shelf (on the right side)

< SYSTEM DESCRIPTION >

Component Description

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[BOSE AUDIO WITHOUT NAVIGATION]

Part name	Description	
AV CONTROL UNIT	 Inputs TEL voice signal or voice guidance signal from TEL adapter unit and outputs it to BOSE amp. during reception. Connects with TEL adapter unit and AV communication and controls hands free phone system. 	
DISPLAY UNIT	 Display image is controlled by the serial communication from AV control unit. Inputs RGB image signal (RGB, RGB area and RGB synchronizing) from AV control unit and displays the status of hands free phone system. 	
BOSE AMP.	Inputs TEL voice signal or voice guidance signal from AV control unit and outputs it to front speaker and center speaker.	
FRONT DOOR WOOFER		
FRONT DOOR SQUAWKER	Outputs the TEL voice signal or voice guidance signal from Bose amp.	
TWEETER		
PRESET SWITCH	 Adjust the sound when using TEL. The operation signal is transmitted to the AV control unit via AV communication. 	
STEERING SWITCH	The hands free phone system can be operated.Steering switch signal (operation signal) is output to AV control unit.	
Uses when operating the hands-free phone. Outputs Mic. signal (TEL voice signal) to the TEL adapter unit. The power (Mic. power supply) is supplied from the TEL adapter unit.		
TEL ADAPTER UNIT	 Receives the steering switch signal (operation signal) from the steering switch. Inputs the TEL voice signal from TEL antenna during reception and outputs it to the AV control unit. Inputs the TEL voice signal from microphone during speech recognition and outputs it to the TEL antenna. Controlled by AV communication transmitted from AV control unit. 	
TEL ANTENNA	Connects with the portable telephone via Bluetooth [®] and communicates the TEL voice signal.	

HANDS-FREE PHONE SYSTEM

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< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Diagnosis Description

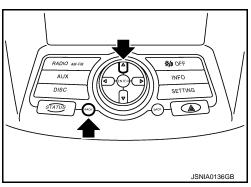
MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

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 selfdiagnosis 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 generally requires human intervention and judgment (the system cannot make judgment automatically).

On board diagnosis item

Mode	Description
Self Diagnosis	AV control unit diagnosisPerform the connection diagnosis between each of the units.

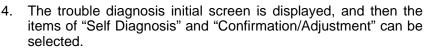
< SYSTEM DESCRIPTION >

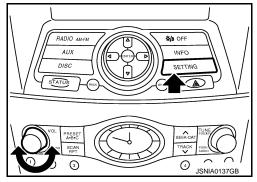
[BOSE AUDIO WITHOUT NAVIGATION]

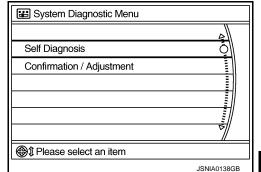
Mode		Description	
	Display Diagnosis	The confirmations of the tint with the color spectrum bar display and shading of color with the gradation bar display can be performed.	
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition switch, and reverse.	
Confirmation/ Adjustment	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.







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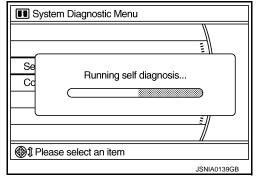
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SELF-DIAGNOSIS MODE

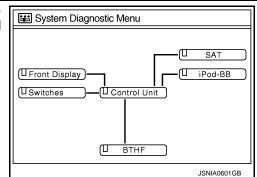
- 1. Start the self-diagnosis function and select "Self-diagnosis".
- Self-diagnosis subdivision screen is displayed, and the selfdiagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.



< SYSTEM DESCRIPTION >

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.

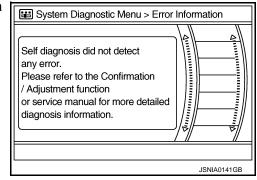
Diagnosis results	Unit	Con- nection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green



[BOSE AUDIO WITHOUT NAVIGATION]

l 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. Refer to AV-322. "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.

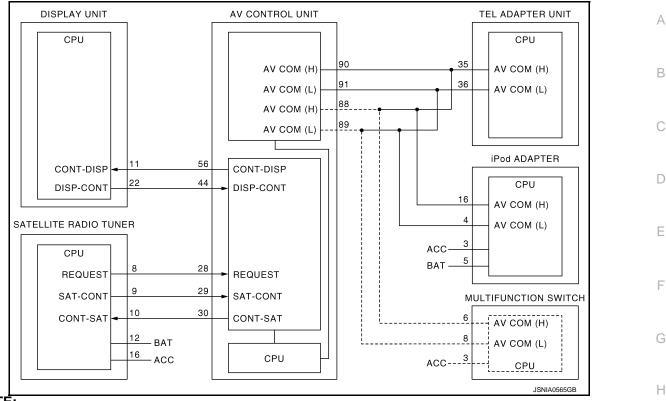


Detection range of self-diagnosis mode

- 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.

DIAGNOSIS SYSTEM (AV CONTROL UNIT) ON > [BOSE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION >



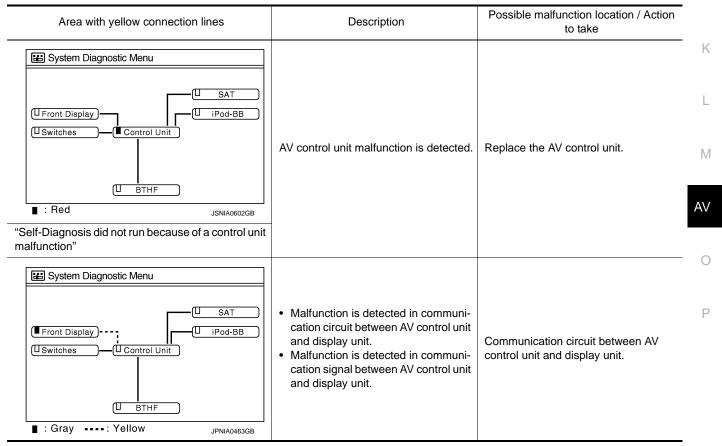
NOTE:

Onboard 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



< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take
System Diagnostic Menu SAT SAT I Front Display Control Unit BTHF SAT JSNIA0603GB	 Satellite radio tuner power supply and ground circuit malfunction is de- tected. Malfunction is detected in communi- cation circuits between AV control unit and satellite radio tuner. Malfunction is detected in communi- cation 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.
System Diagnostic Menu	 TEL adapter unit power supply and ground circuit malfunction is detected. Malfunction is detected in AV communication circuit between AV control unit and TEL adapter unit. Malfunction is detected in AV communication signal between AV control unit and TEL adapter unit. 	 TEL adapter unit power supply and ground circuit. AV communication circuit between AV control unit and TEL adapter unit.
System Diagnostic Menu	 iPod adapter power supply and ground circuit malfunction is detect- ed. Malfunction is detected in AV com- munication circuit between AV con- trol unit and iPod adapter. Malfunction is detected in AV com- munication signal between AV con- trol unit and iPod adapter. 	 iPod adapter power supply and ground circuit. AV communication circuit between AV control unit and iPod adapter.

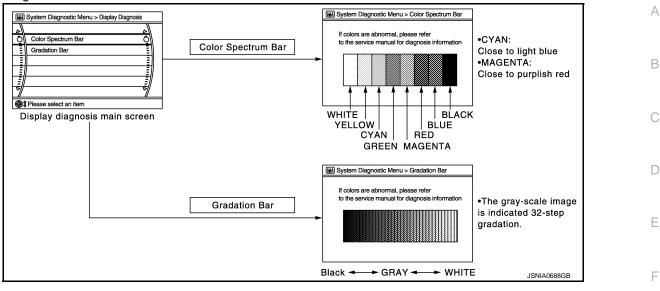
CONFIRMATION/ADJUSTMENT MODE

- 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 "RETURN" switch to return to the initial Confirmation/Adjustment Mode screen.

4			UP
	Display Diagnosis		Õ
Ō	Vehicle Signals		
	Speaker Test		
	Climate Control		
	Error History		
		1/9	DOWN
(ھ	Please select an item		
			JSNIA0147GB

DIAGNOSIS SYSTEM (AV CONTROL UNIT) [BOSE AUDIO WITHOUT NAVIGATION] < SYSTEM DESCRIPTION >

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

: Yellow tint

- G (green) signal error : Purple (Magenta) tint
- **B** (blue) signal error

Vehicle Signals

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

Vehicle speed	OFF	
Parking brake	ON	
Lights	OFF	
Ignition	ON	
Reverse	OFF	

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Diagnosis item	Display	Vehicle status	Remarks	M
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)		
venicie speed	OFF	Vehicle speed = 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.	
Parking brake	ON	Parking brake is applied.	Changes in indication may be delayed. This is normal.	AV
Faiking blake	OFF	Parking brake is released.		
Lights	ON	Light switch ON		0
Lights	OFF	Light switch OFF		0
Ignition	ON	Ignition switch ON		-
Ighillon	OFF	Ignition switch in ACC position		Ρ
Reverse	ON	Shift the selector lever to "R" posi- tion	Changes in indication may be delayed. This is normal.	-
itevelse	OFF	Shift the selector lever other than "R" position	Changes in indication may be delayed. This is normal.	_

Speaker Test

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

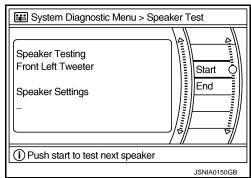
[BOSE AUDIO WITHOUT NAVIGATION]

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.

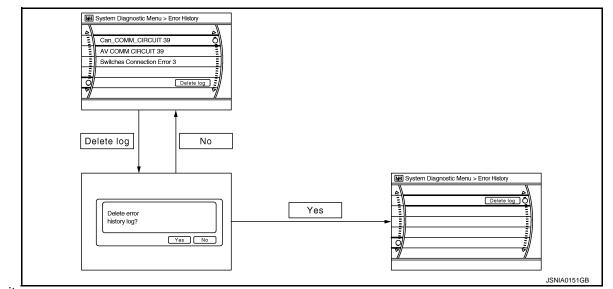
Count up method A

- 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 occur- rence frequency	Error history display item
Count up method A CAN communication line, control unit (CAN), AV communication line, control unit (AV comm	
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

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detect- ed.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to <u>AV-154</u> , " <u>Diagnosis Procedure</u> ".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detect- ed.	
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the AV control unit.
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
CAN Controller Memory Error	Av control unit manufiction is detected.	
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 communi- cation circuit between AV control unit and multifunction switch. Malfunction is detected in AV communi- cation signal between AV control unit and multifunction switch. 	 Multifunction switch power supply and ground circuit. AV communication circuit between AV control unit and multifunction switch.
 AV COMM CIRCUIT iPod Connection Error 	 iPod adapter unit power supply and ground circuit malfunction is detected. Malfunction is detected in AV communi- cation circuit between AV control unit and iPod adapter. Malfunction is detected in AV communi- cation signal between AV control unit and iPod adapter. 	 iPod adapter power supply and ground circuit. AV communication circuit between AV control unit and iPod adapter unit.
 AV COMM CIRCUIT H/F Unit Connection Error 	 TEL adapter unit power supply and ground circuit malfunction is detected. Malfunction is detected in AV communi- cation circuit between AV control unit and TEL adapter unit. Malfunction is detected in AV communi- cation signal between AV control unit and TEL adapter unit. 	 TEL adapter unit power supply and ground circuit. AV communication circuit between AV control unit and TEL adapter unit.
 AV COMM CIRCUIT Switches Connection Error iPod Unit Connection Error H/F Unit Connection Error 	Malfunction is detected in AV communica- tion circuit between AV control unit and the branch point multifunction switch and AV control unit.	AV communication circuit between AV con- trol unit and the branch point multifunction switch and AV control unit.

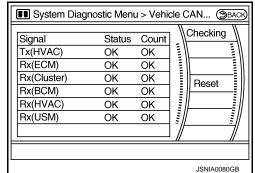
Vehicle CAN Diagnosis

DIAGNOSIS SYSTEM (AV CONTROL UNIT) ON > [BOSE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION >

- 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

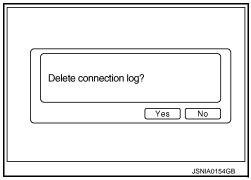
- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays "OK" if any malfunction was not detected in the past and displays "0" if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. 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(BTHF–ITM)	OK / UNKWN	OK / 0 - 39
C Rx(iPod Adpt.–ITM)	OK / UNKWN	OK / 0 - 39

E System Diagnostic Menu > AV COMM Diagnosis Checking Signal StatusCount CTx(ITM-SW) OK OK C Rx(PrimarySW-ITM) OK OK Reset C Rx(BTHF-ITM) OK Ē OK C Rx(iPod Adpt-ITTM) OK OK JPNIA0512GB

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)



The memory of a system is eliminated. Are you sure? Yes No
 JSNIA0155GB

Initialize Settings Initializes the AV control unit memory. < SYSTEM DESCRIPTION >

CONSULT - III Function (MULTI AV)

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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.	F

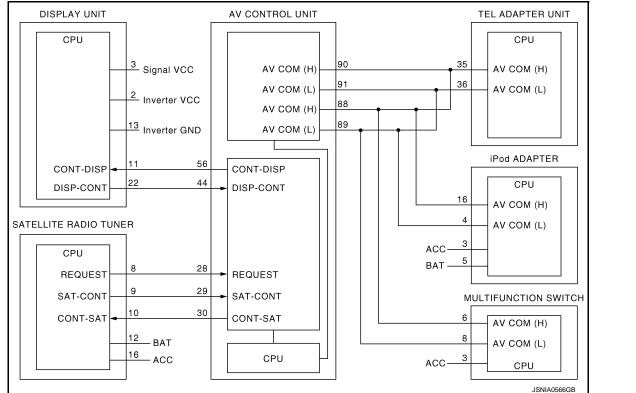
ECU IDENTIFICATION

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

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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 accord- ing to the diagnosis results. Refer to <u>AV-154</u> , " <u>Diagnosis Procedure</u> ".	
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.		
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	Replace the AV control unit	
Cont Unit FLASH-ROM [U1200]			
CAN CONT [U1216]	AV control unit malfunction is detected.		
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. 	
SAT CONN [U1255]	 Satellite radio tuner power supply and ground circuit malfunction is detected. Malfunction is detected in communication signal between AV control unit and satellite radio tuner. Malfunction is detected in communication circuit 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 communi- cation circuit between AV control unit and multifunction switch. Malfunction is detected in AV communi- cation signal between AV control unit and multifunction switch. 	 Multifunction switch power supply and ground circuit. AV communication circuit between AV control unit and multifunction switch. 	
 AV COMM CIRCUIT [U1300] IPod CONN [U1254] 	 iPod adapter power supply and ground circuit malfunction is detected. Malfunction is detected in AV communication circuit between AV control unit and iPod adapter. Malfunction is detected in AV communication signal between AV control unit and iPod adapter. 	 iPod adapter power supply and ground circuit. AV communication circuit between AV control unit and iPod adapter. 	
 AV COMM CIRCUIT [U1300] HAND FREE CONN [U1256] 	 TEL adapter unit power supply and ground circuit malfunction is detected. Malfunction is detected in AV communi- cation circuit between AV control unit and TEL adapter unit. Malfunction is detected in AV communi- cation signal between AV control unit and TEL adapter unit. 	 TEL adapter unit power supply and ground circuit. AV communication circuit between TEL adapter unit and AV control unit. 	
 AV COMM CIRCUIT [U1300] SWITCH CONN [U1240] IPOD CONN [U1254] HAND FREE CONN [U1256] 	Malfunction is detected in AV communica- tion circuit between AV control unit and the branch point multifunction switch and AV control unit.	AV communication circuit between AV con- trol unit and the branch point multifunction switch and AV control unit.	

DATA MONITOR

DIAGNOSIS SYSTEM (AV CONTROL UNIT) TION > [BOSE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION > 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	Dis- play	Vehicle status	Remarks	
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)		
VHUL SPD SIG	Off	Vehicle speed =0 km/h (0 MPH)	Changes in indication may be delayed. This is nor-	
	On	Parking brake is applied.	mal.	
PKB SIG	Off	Parking brake is released.		
	On	Light switch ON		
ILLUM SIG	Off	Light switch OFF		
	On	Ignition switch ON		
IGN SIG	Off	Ignition switch in ACC position		
	On	Shift the selector lever to "R" position	Changes in indication may be delayed. This is not	
REV SIG	Off	Shift the selector lever other than "R" position	Changes in indication may be delayed. This is nor- mal.	

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		
PKB SIG		
ILLUM SIG	The same as when "ALL SIGNALS" is selected.	
IGN SIG		
REV SIG		

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INFOID:000000001849057

DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

Diagnosis Description

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 indi- cates 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 and indicates DTC on the display. **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. The DTC displays are combined and displayed. For example, DTC 01100 is displayed when DTC 01000 and DTC 00100 are indicated at the same time.

f-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	Stearing owitch
DTC 00001	STEERING REMOTE BUTTON STUCK B	Steering switch
DTC 00000	THERE ARE NO FAILURE RECORDS TO REPORT	_

The details of error count

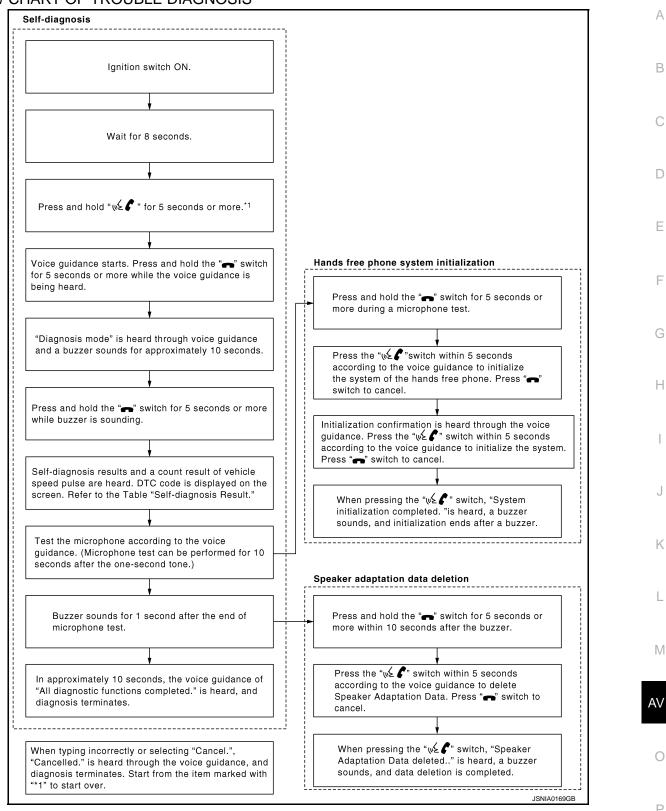
The error count guides "0" when the error occurs. The next time it counts up "1" if it is normal with the ignition switch ON. It continues the count up unless the initialization of hands-free phone system is performed.

DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

FLOW CHART OF TROUBLE DIAGNOSIS



[BOSE AUDIO WITHOUT NAVIGATION]

DTC/CIRCUIT DIAGNOSIS U1000 CAN COMM CIRCUIT

Description

INFOID:000000001849058

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-28, "CAN System Specification Chart".

DTC Logic

INFOID:000000001849059

DTC DETECTION LOGIC

DTC	Display contents of CON- SULT-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:000000001849060

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-19, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI section. Refer to GI-39, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description

Initial diagnosis of AV control unit.

DTC Logic

INFOID:000000001849062

INFOID:000000001849061

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DTC DETECTION LOGIC

DTC	Display contents of CON- SULT-III	Diagnostic item is detected when	Probable malfunction location	D
U1010	CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	AV control unit.	
Diagno	osis Procedure		INFCID:000000001849063	E
1. REPI	LACE AV CONTROL UN	NIT		
When D	TC U1010 is detected, r	replace AV control unit.		F
	>> INSPECTION END			G
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[BOSE AUDIO WITHOUT NAVIGATION]

U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1310 AV CONTROL UNIT

Description

INFOID:000000001849064

Replace the AV control unit if this DTC is displayed. Refer to AV-322, "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. BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.

DTC Logic

INFOID:000000001849065

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

< DTC/CIRCUIT DIAGNOSIS >

U1200 AV CONTROL UNIT

Description

INFOID:000000001849066

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Part name	Description
	 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 construction signals for a system according to according to a system according to a syste
V 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. BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.

DTC Logic

INFOID:000000001849067

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

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[BOSE AUDIO WITHOUT NAVIGATION]

U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1216 AV CONTROL UNIT

Description

INFOID:000000001849068

Replace the AV control unit if this DTC is displayed. Refer to AV-322, "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. BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.

DTC Logic

INFOID:000000001849069

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

< DTC/CIRCUIT DIAGNOSIS >

U1243 DISPLAY UNIT

Description

INFOID:000000001849070

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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

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DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes	Е
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. 	F

Diagnosis Procedure

1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check of	display unit power supply and ground circuit. Refer to <u>AV-164, "DISPLAY UNIT : Diagnosis Procedure"</u> .	
Is the in	nspection result normal?	
YES	>> GO TO 2.	1
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 terminals 11, 22 and AV control unit harness Κ connector terminals 56, 44.

	11 - 56 22 - 44	: Continuity should exist. : Continuity should exist.	L
4. C	Check continuity between di 11, 22 - Ground	splay unit harness connector terminals 11, 22 and ground. : Continuity should not exist.	Μ
<u>ls the</u> YES	<u>e inspection result normal?</u>S >> GO TO 3.		AV

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 terminal 11 and ground.

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[BOSE AUDIO WITHOUT NAVIGATION]

U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal	Condition		Reference value
11 - Ground	Ignition switch ON	When adjusting display bright- ness.	(V) 6 4 2 0 ••••1ms ••••1ms •••••1ms ••••••1ms ••••••••••••••••••••••••••••••••••••

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 terminal 22 and ground.

Terminal		Condition	Reference value	
22 - Ground	Ignition switch ON	When adjusting display bright- ness.	(V) 6 4 2 0 + 1ms PKIB5039J	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace display unit.

U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

U1255 SATELLITE RADIO TUNER

Description

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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. • Satellite radio tuner power supply and ground circuit. • Satellite radio tuner power supply and ground circuit. U1255 SAT CONN [U1255] • Malfunction is detected in communication circuit between AV control unit and satellite radio tuner. • Communication circuit between AV control unit and satellite radio tuner. Malfunction is detected in request signal circuit be- tween AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure • Weatween AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure • Weatween AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure". • Malfunction is group and ground circuit. Refer to AV-167. "SATELLITE RADIO TUNER : Diagnosis Procedure". Is the inspection result normal? YES >> GO TO 2. NO >> Repair malfunctioning parts. • Continuity communication and satellite radio tuner connector. 2. Check contrinuity communication and satellite radio tuner connector. • Continuity should exist. 28 - 8		Part name Description		ription
DTC Display contents of CONSULT-III DTC Detection Condition Possible causes u1255 SAT CONN [U1255] • Satellite radio tuner power supply and ground circuit maffunction is detected. • Satellite radio tuner power supply and ground circuit to tween AV control unit and satellite radio tuner. • Satellite radio tuner communication circuit be- tween AV control unit and satellite radio tuner. U1255 SAT CONN [U1255] • Maffunction is detected in communication signal be- tween AV control unit and satellite radio tuner. • Communication circuit between AV control unit and satellite radio tuner. • Maffunction is detected in request signal circuit be- tween AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure • Maffunction is detected in communication signal be- tween AV control unit and satellite radio tuner. Diagnosis Procedure • Maffunction is ground circuit. Refer to AV-167. "SATELLITE RADIO TUNER : Diagnosis Procedure". Is the inspection result normal? YES 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 harness connector terminals 28, 29, 30 and satellite radio tuner harmess connector terminals 8, 9, 10.	SATELL	ITE RADIO TUNER	AV control unit. • It is controlled with the communication	
Dit CONSULT-III Dit Defection containing Possible causes U1255 SAT CONN * Satellite radio tuner power supply and ground circuit terviewen AV control unit and satellite radio tuner. * Satellite radio tuner. * Satellite radio tuner. * Satellite radio tuner. * Communication signal between AV control unit and satellite radio tuner. * Communication signal between AV control unit and satellite radio tuner. * Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure * Malfunction is detected in request signal circuit between AV control unit and satellite radio tuner. * Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure * eracessecond satellite radio tuner. * Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure * eracessecond satellite radio tuner. * Request signal circuit between AV control unit and satellite radio tuner. 1. CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT Check satellite radio tuner power supply and ground circuit. Refer to AV-167. "SATELLITE RADIO TUNER : Diagnosis Procedure". 1. State inspection result normal? YES > GO TO 2. NO > Repair malfunctionin defected and tuner connector. Check continuity between AV control unit harness connector terminals 28, 29, 30 and satellite radio tuner harness connector terminals 28, 29, 30 and satellite radio tuner harness connector terminals 28, 29	DTC L	ogic		INFOID:000000001849074
u1255 SAT CONN maifunction is detected in communication circuit between AV control unit and satellite radio tuner. and ground circuit. Communication circuit between AV control unit and satellite radio tuner. Communication circuit between AV control unit and satellite radio tuner. Communication circuit between AV control unit and satellite radio tuner. Request signal circuit between AV control unit and satellite radio tuner. Request signal circuit between AV control unit and satellite radio tuner. Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure Maifunction is detected in request signal circuit between AV control unit and satellite radio tuner. Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure Maifunction is detected in communication circuit between AV control unit and satellite radio tuner. Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure Maifunction is detected in communication circuit. Request signal circuit between AV control unit and satellite radio tuner. Diagnosis Procedure// Is the inspection result normal? Yes >> GO TO 2. NO >> Repair maifunctioning parts. Check continuity between AV control unit harness connector terminals 28, 29, 30 and satellite radio tuner harness connector terminals 28, 9, 10. 28 - 8 Is Continuity should exist. 29 - 9 Is Continuity should not exist. 29 - 9	DTC		DTC Detection Condition	Possible causes
 1. CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT 1. CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT 1. Check satellite radio tuner power supply and ground circuit. Refer to <u>AV-167, "SATELLITE RADIO TUNER :</u> Diagnosis Procedure". 1. 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 terminals 28, 29, 30 and satellite radio tuner harness connector terminals 8, 9, 10. 28 - 8 : Continuity should exist. 29 - 9 : Continuity should exist. 30 - 10 : Continuity should exist. 30 - 10 : Continuity should exist. 29 - 9 : Continuity should not exist. 29 - 9 : Continuity should not exist. 29 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. 	U1255		 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 be- 	 and ground circuit. Communication circuit between AV control unit and satellite radio tuner. Request signal circuit between AV control unit and satellite radio tun-
 1. CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT 1. CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT 1. Check satellite radio tuner power supply and ground circuit. Refer to <u>AV-167, "SATELLITE RADIO TUNER :</u> Diagnosis Procedure". 1. 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 terminals 28, 29, 30 and satellite radio tuner harness connector terminals 8, 9, 10. 28 - 8 : Continuity should exist. 29 - 9 : Continuity should exist. 30 - 10 : Continuity should exist. 30 - 10 : Continuity should exist. 29 - 9 : Continuity should not exist. 29 - 9 : Continuity should not exist. 29 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. 	Diagno	osis Procedure		INFOID:000000001849075
29 - 9 : Continuity should exist. 30 - 10 : Continuity should exist. 4. Check continuity between AV control unit harness connector terminals 28, 29 and 30. 28 - Ground : Continuity should not exist. 29 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. 13 - Ground : Continuity should not exist. 15 the inspection result normal? YES >> GO TO 3.	Is the in: YES NO 2. CHE 1. Turr 2. Disc 3. Che	spection result norma >> GO TO 2. >> Repair malfunction CK CONTINUITY CC n ignition switch OFF. connect AV control ur eck continuity betwee	oning parts. OMMUNICATION CIRCUIT AND REQUEST SIG nit connector and satellite radio tuner connector. n AV control unit harness connector terminals 2	
29 - 9 : Continuity should exist. 30 - 10 : Continuity should exist. 4. Check continuity between AV control unit harness connector terminals 28, 29 and 30. 28 - Ground : Continuity should not exist. 29 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. 13 - Ground : Continuity should not exist. 15 the inspection result normal? YES >> GO TO 3.	:	28 - 8	: Continuity should exist.	
 4. Check continuity between AV control unit harness connector terminals 28, 29 and 30. 28 - Ground : Continuity should not exist. 29 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. Is the inspection result normal? YES >> GO TO 3. 			-	
28 - Ground : Continuity should not exist. 29 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. Is the inspection result normal? YES >> GO TO 3.	3	30 - 10	-	
29 - Ground : Continuity should not exist. 30 - Ground : Continuity should not exist. Is the inspection result normal? : Continuity should not exist. YES >> GO TO 3.	4. Che	eck continuity betwee	n AV control unit harness connector terminals 2	8, 29 and 30.
Is the inspection result normal? YES >> GO TO 3.	2	29 - Ground	: Continuity should not exist.	
YES >> GO TO 3.				
3. CHECK AV CONTROL UNIT VOLTAGE	12 116 111	-+		

1. Connect AV control unit connector.

2. Turn ignition switch ON.

3. Check voltage between AV control unit harness connector terminal 28, 29 and ground.

AV-161

- 28 Ground 29 - Ground
- : Approx 7.5 V : Approx 7.0 V

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 voltage between satellite radio tuner harness connector terminal 10 and ground.

10 - Ground

: Approx 7.0 V

Is the inspection result normal?

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

U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

U1300 AV COMM CIRCUIT

Description

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.
U1300 U1254	 AV COMM CIRCUIT [U1300] IPod CONN [U1254] 	 iPod adapter power supply and ground circuit malfunction is detected. Malfunction is detected in AV communication circuit between AV control unit and iPod adapter. A malfunction is detected in AV communication signal between AV control unit and iPod adapter. 	 iPod adapter power supply and ground circuits. AV communication circuit between AV control unit and iPod adapter.
U1300 U1256	 AV COMM CIRCUIT [U1300] HAND FREE CONN [U1256] 	 TEL adapter unit power supply and ground circuit malfunction is detected. Malfunction is detected in AV communication circuit between AV control unit and TEL adapter unit. Malfunction is detected in AV communication signal between AV control unit and TEL adapter unit. 	 TEL adapter unit power supply and ground circuit. AV communication circuit between AV control unit and TEL adapter unit.
U1300 U1240 U1254 U1256	 AV COMM CIRCUIT [U1300] SWITCH CONN [U1240] IPod CONN [U1254] HAND FREE CONN [U1256] 	Malfunction is detected in AV communication circuit be- tween AV control unit and the branch point multifunction switch and AV control unit.	AV communication circuit between AV control unit and the branch point multifunction switch and AV control unit.

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[BOSE AUDIO WITHOUT NAVIGATION]

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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION] POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID-000000001849077

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	12 V
ACC power supply	M81	7	ACC	12 V
Ignition signal	M85	104	ON	12 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between AV control unit and fuse.

${f 3}.$ 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:000000001849078

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		3 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

- 1. Turn ignition switch OFF.
- 2. Disconnect the harness connector between display unit and AV control unit.
- Check continuity between display unit harness connector M71 and AV control unit harness connector M83.

Signal name	Display unit (M71)	AV control unit (M83)	Continuity	-
Inverter VCC	2	59	Existed	С
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	E
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	WI05	47	ACC	9 V

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

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.

Revision: 2008 September

AV-165

INFOID:000000001849079

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< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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	12 V

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.

BOSE AMP.

BOSE AMP. : Diagnosis Procedure

INFOID:000000001849080

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	OFF	12 V
	DHZ	11	011	12 V

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	Ground B42	7	OFF	Existed
		12	011	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

iPod ADAPTER

1.CHECK FUSE

Chack for blown fucos

Power source			Fuse No.		
Battery			34		
Ignitic	on switch ACC or ON		19		
2.CHECK POWER S	eliminate cause of ma UPPLY CIRCUIT				
Check voltage betwee	n iPod adapter harnes	s connector an	nd ground.		
Signal name	Connector No.	Terminal No	o. Ignition switch position	Value (Approx.)	
Battery power supply	M111	5	OFF	12 V	
ACC power supply	M111	3	ACC	12 V	
SATELLITE RAD SATELLITE RAD 1.CHECK FUSE Check for blown fuses	IO TUNER : Diag	nosis Proce	edure	INFOID:000000001849083	
	Power source		Fuse No.		
	Battery		34		
Ignitic	on switch ACC or ON		19		
Is the inspection resul YES >> GO TO 2. NO >> Be sure to	eliminate cause of ma UPPLY CIRCUIT				
•	n satellite radio tuner l	namess conne	J		
2.CHECK POWER S Check voltage betwee	n satellite radio tuner l	Terminal No	-	Value (Approx.)	
2.CHECK POWER S			-	Value (Approx.) 12 V	
2.CHECK POWER S Check voltage betwee Signal name	Connector No.	Terminal No	o. Ignition switch position		

Check for blown fuses.

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INFOID:000000001849082

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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 TEL adapter unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B237	1	OFF	12 V
ACC power supply	B237	2	ACC	12 V
Ignition signal	B237	3	ON	12 V

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, 14, 19, 23, 24	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

RGB (R: RED) SIGNAL CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >	
RGB (R: RED) SIGNAL CIRCUIT	

А Description INFOID:000000001849086 Transmit the image displayed with AV control unit with RGB signal to the display unit. В Diagnosis Procedure INFOID:000000001849087 1. CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT 1. Turn ignition switch OFF. Disconnect display unit connector and AV control unit connector. 2. Check continuity between display unit harness connector terminal 17 and AV control unit harness connec-D 3. tor terminal 40. 17 - 40 : Continuity should exist. Е 4. Check continuity between display unit harness connector terminal 17 and ground. 17 - Ground F : Continuity should not exist. 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 terminal 17 and ground.

Terminal		Condition	Reference value	1
17 - Ground	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} (V) \\ 0, 4 \\ 0 \\ -0, 4 \\ \hline \\$	J

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

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RGB (G: GREEN) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RGB (G: GREEN) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001849089

INFOID:000000001849088

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 terminal 6 and AV control unit harness connector terminal 39.

6 - 39 : Continuity should exist.

4. Check continuity between display unit harness connector terminal 6 and ground.

6 - Ground : Continuity should not exist.

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 terminal 6 and ground.

Terminal	Condition		Reference value	
6 - Ground	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} V \\ 0 \\ 0 \\ -0 \\ 4 \\ \hline \\ -0 \\ -0 \\ -0 \\ -0 \\ -0 \\ -0 \\ -0 $	

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

RGB (B: BLUE) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > RGB (B' BLUE) SIGNAL CIRCUIT

(BOSE AUDIO WITHOUT NAVIGATION)

RGE	B (B: BLUE) SIG	INAL C	IRCUIT		А
Desc	cription			INFOID:000000001849090	
	mit the image displayed nosis Procedure	d with AV	control unit with RGB signal to	o the display unit.	В
1.сн	IECK CONTINUITY RO	GB (B: BL	UE) SIGNAL CIRCUIT		С
 Di Di Ci 		connector	and AV control unit connector unit harness connector termin	r. al 18 and AV control unit harness connec-	D
	18 - 38	: C	ontinuity should exist.		Е
4. Cl	heck continuity betwee	n display	unit harness connector termin	nal 18 and ground.	
	18 - Ground	: C	ontinuity should not exist.		F
YES NO	inspection result norm >> GO TO 2. >> Repair harness of IECK RGB (B: BLUE) \$	or connec	tor.		G
2. Tu	urn ignition switch ON.		d AV control unit connector. harness connector terminal 1	8 and ground.	Н
	Terminal		Condition	Reference value	
		Ignition	Start confirmation/adjustment	(V) 0.4 mm + http://www.institution.com	J

 18 - Ground
 Ignition switch ON
 mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.
 0

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

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RGB SYNCHRONIZING SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001849093

INFOID:000000001849092

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 terminal 19 and AV control unit harness connector terminal 41.

19 - 41

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 19 and ground.

19 - Ground

: Continuity should not exist.

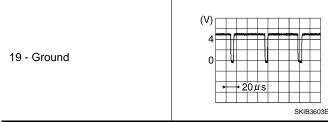
Is the inspection result normal?

- 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 terminal 19 and ground.



Is the inspection result normal?

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

RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RGB AREA (YS) SIGNAL CIRCUIT

Description

Transmits the display area of RGB image displayed by AV control unit with RGB area (YS) signal to display $_{\rm B}$ unit.

Di	agnosis Procedu	INFOID:000000001849095	
1.	CHECK CONTINUIT	Y RGB AREA (YS) SIGNAL CIRCUIT	С
1. 2. 3.		OFF. unit connector and AV control unit connector. etween display unit harness connector terminal 9 and AV control unit harness connec-	D
	9 - 43	: Continuity should exist.	E
4.	Check continuity be	etween display unit harness connector terminal 9 and ground.	_
	9 - Ground	: Continuity should not exist.	F
<u>ls 1</u>	he inspection result	normal?	
Y N	ES >> GO TO 2. O >> Repair harr	ness or connector.	G
2.	CHECK RGB AREA	(YS) SIGNAL	Н
1.	Connect display un	it connector and AV control unit connector.	

- 2. Turn ignition switch ON.
- 3. Check signal between display unit harness connector terminal 9 and ground.

Terminal		Condition	Reference value		
		At RGB image is displayed	: Approx. 5 V	J	
9 - Ground	Ignition switch ON	At AUX image is displayed	(V) 6 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1	K	

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

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INFOID:000000001849094

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

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 guality adjusting menu, etc.

Diagnosis Procedure

INFOID:000000001849097

INFOID:000000001849096

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 terminal 8 and AV control unit harness connector terminal 45.

8 - 45

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 8 and ground.

8 - Ground

: Continuity should not exist.

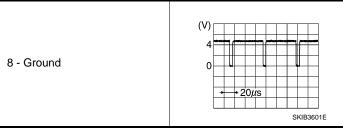
Is the inspection result normal?

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 terminal 8 and ground.



Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace display unit.

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

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

< DTC/CIRCUIT DIAGNOSIS >

1. CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect display unit connector and AV control unit connector.
- Check continuity between display unit harness connector terminal 20 and AV control unit harness connector terminal 57.

20 - 57

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 20 and ground.

20 - Ground

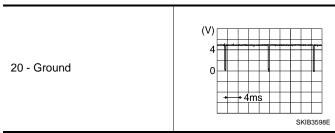
: Continuity should not exist.

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 terminal 20 and ground.



Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace display unit.

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INFOID:000000001849098

INFOID:000000001849099

AUX IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

AUX IMAGE SIGNAL CIRCUIT

Description

• 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:000000001849101

INFOID:000000001849100

1. CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT (AUX INPUT JACKS AND AV CONTROL UNIT)

- 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 terminal 7 and AV control unit harness connector terminal 66.

7 - 66

: Continuity should exist.

4. Check continuity between auxiliary input jacks harness connector terminal 7 and ground.

7 - Ground

: Continuity should not exist.

Is the inspection result normal?

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

2. CHECK AUX IMAGE SIGNAL (AUX INPUT JACKS TO AV CONTROL UNIT)

1. Connect display unit connector and AV control unit connector.

- 2. Turn ignition switch ON.
- 3. Check signal between auxiliary input jacks harness connector terminal 7 and ground.

Terminal	Condition		Reference value	
7 - Ground	Ignition switch ON	At AUX image is displayed.	$ \begin{array}{c} (V)\\ 0.4\\ 0\\ -0.4\\ \hline + 40\mu s\\ \end{array} $ 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 terminal 15 and AV control unit harness connector terminal 36.

15 - 36

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 15 and ground.

15 - Ground

: Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

4.CHECK AUX IMAGE SIGNAL

AUX IMAGE SIGNAL CIRCUIT [BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

- 1. Connect AV control unit connector and display unit connector.
- 2. Turn ignition switch ON.
- 3. Check signal between display unit harness connector terminal 15 and ground.

Terminal		Condition	Reference value
15 - Ground	lgnition switch ON	At AUX image is displayed.	(V) (V)

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

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CD EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

CD EJECT SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001849103

INFOID:000000001849102

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 terminal 14 and AV control unit harness connector terminal 103.

14 - 103 : Continuity should exist.

4. Check continuity between multifunction switch harness connector terminal 14 and ground.

14 - Ground

: Continuity should not exist.

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 terminal 103 and ground.

103 - Ground

Except for above : Approx. 3.3 V

Is the inspection result normal?

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

MICROPHONE SIGNAL CIRCUIT

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Description

Supply power from TEL adapter unit to microphone. The microphone transmits the sound/voice to the micro- $_{\rm B}$ phone.

Diagnosis Procedure

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 terminals 7, 8, 29 and microphone harness connector terminals 1, 2, 4.

7 - 1	: Continuity should exist.	E
8 - 2	: Continuity should exist.	
29 - 4	: Continuity should exist.	F
29 - 4	: Continuity should exist.	F

- 4. Check continuity between TEL adapter unit harness connector terminals 7, 29 and ground.
- 7, 29 Ground : Continuity should not exist. Is the inspection result normal? >> GO TO 2. YES NO >> Repair harness or connector. 2.CHECK VOLTAGE MICROPHONE VCC 1. Connect TEL adapter unit connector. Turn ignition switch ON. 2. Check voltage between TEL adapter unit harness connector terminal 29 and 8. 3. 29 - 8 : Approx. 5 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace TEL adapter unit.

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.

2. Check signal between TEL adapter unit harness connector terminals 7 and 8.

Terminal		Condition	Reference value	Μ
7 - 8	lgnition switch ON	Give a voice	(V) 2.5 2.0 1.5 1.0 0.5 0 • • • 2ms PKIB5037J	AV

Is the inspection result normal?

YES >> Replace TEL adapter unit.

NO >> Replace microphone.

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INFOID:000000001849104

INFOID-000000001849105

< DTC/CIRCUIT DIAGNOSIS >

CONTROL SIGNAL CIRCUIT

Description

TEL adapter unit identifies the vehicle model according to the control signal and performs the control.

Diagnosis Procedure

INFOID:000000001849107

INFOID:000000001849106

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 terminals 23, 24 and ground.

23, 24 - Ground : Continuity should exist.

Is the inspection result normal?

- YES >> Replace TEL adapter unit.
- NO >> Repair harness or connector.

MODE CHANGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS > MODE CHANGE SIGNAL CIRCUIT

OSIS > [BOSE AUDIO WITHOUT NAVIGATION]

MODE CHANGE SI	JNAL CI	RCUII		А
Description			A	
 AV control unit transmits th Driver's Audio Stage contro be the center of sounds. 			by BOSE amp. so that the driver's seat is to	В
Diagnosis Procedure			INFOID:000000001908817	С
1. CHECK CONTINUITY MC	DE CHANG	E SIGNAL CIRCUIT		
1. Turn ignition switch OFF		d AV control unit connect		D
		d AV control unit connect p. harness connector terr	or. ninal 37 and AV control unit harness con-	Е
37 - 27	: Cont	inuity should exist.		
4. Check continuity betwee	n BOSE amp	b. harness connector term	inal 37 and ground.	F
37 - Ground	: Cont	inuity should not exist.		
Is the inspection result norma	<u>al?</u>			G
YES >> GO TO 2. NO >> Repair harness of	or connector			
2. CHECK MODE CHANGE				Н
1. Connect BOSE amp. cor	nnector.			
 Turn ignition switch ON. Check signal between B 	OSE amp. ha	arness connector terminal	37 and ground.	
Terminal		Condition	Reference value	
37 - Ground	Ignition switch	_	8.5 V	J

Is the inspection result normal?

YES >> Replace AV control unit.

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NO >> Replace BOSE amp.

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COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

Description

INFOID:000000001849108

Satellite radio tuner and AV control unit are connected with a serial communication. They transmit the operation signal from AV control unit to satellite radio tuner, and transmit the display signal from satellite radio tuner to AV control unit.

Diagnosis Procedure

INFOID:000000001849109

1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner connector and AV control unit connector.
- 3. Check continuity between satellite radio tuner harness connector terminals 9, 10 and AV control unit harness connector terminals 29, 30.

9 - 29	: Continuity should exist.
10 - 30	: Continuity should exist.

4. Check continuity between satellite radio tuner harness connector terminals 9, 10 and ground.

9, 10 - Ground

: Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK COMMUNICATION SIGNAL

- 1. Connect satellite radio tuner connector and AV control unit connector.
- 2. Turn ignition switch ON.
- 3. Check signal between satellite radio tuner harness connector terminal 9 and ground.

Terminal		Condition	Reference value
9 - Ground	lgnition switch ON	When satellite radio mode is se- lected.	(V) 10 0 -10 + 1ms SKIA9300J

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace satellite radio tuner.

3.CHECK COMMUNICATION SIGNAL

Check signal between satellite radio tuner harness connector terminal 10 and ground.

Terminal		Condition	Reference value
10 - Ground	Ignition switch ON	When satellite radio mode is se- lected.	(V) 10 0 -10 ••••1ms SKIA9301J

Is the inspection result normal?

YES >> Replace satellite radio tuner.

COMMUNICATION SIGNAL CIRCUIT (CONT-SAT) AGNOSIS > [BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Replace AV control unit.

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REQUEST SIGNAL CIRCUIT (SAT \rightarrow CONT)

< DTC/CIRCUIT DIAGNOSIS >

REQUEST SIGNAL CIRCUIT (SAT→CONT)

Description

Request signal transmits the signal to recognize the connection of satellite radio tuner from satellite radio tuner to AV control unit.

Diagnosis Procedure

INFOID:000000001849111

INFOID:000000001849110

1. CHECK CONTINUITY REQUEST SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect satellite radio tuner connector and AV control unit connector.
- 3. Check continuity between satellite radio tuner unit harness connector terminal 8 and AV control unit harness connector terminal 28.

8 - 28

: Continuity should exist.

4. Check continuity between satellite radio tuner harness connector terminal 8 and ground.

8 - Ground

: Continuity should not exist.

Is the inspection result normal?

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

2. CHECK COMMUNICATION SIGNAL

1. Connect satellite radio tuner connector and AV control unit connector.

- 2. Turn ignition switch ON.
- 3. Check signal between satellite radio tuner harness connector terminal 8 and ground.

Terminal		Condition	Reference value
8 - Ground	lgnition switch ON	When satellite radio mode is se- lected.	(V) 10 0 -10 -10 -10 -10 -10 -10 -

Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace satellite radio tuner.

STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >	[BOSE AUDIO WITHOUT NAVIGATION]
STEERING SWITCH SIGNAL A CIRCUIT	
Description	A INFOID:000000001849112
Transmits the steering switch signal to AV control unit.	В
Diagnosis Procedure	INFOID:000000001849113
1. CHECK STEERING SWITCH SIGNAL A CIRCUIT	С
 Disconnect AV control unit connector and spiral cable conn Check continuity between AV control unit harness connect tor terminal 24. 	
6 - 24 : Continuity should exist.	
3. Check continuity between AV control unit harness connector	pr terminals 6 and ground.
6 - Ground : Continuity should not ex	ist.
Is the inspection result normal? YES >> GO TO 2.	F
NO >> Repair harness or connector.	G
2.CHECK SPIRAL CABLE	G
Check spiral cable.	
<u>Is the inspection result normal?</u> YES >> GO TO 3.	Н
NO >> Replace spiral cable.	
3. CHECK AV CONTROL UNIT VOLTAGE	
1. Connect AV control unit connector and spiral cable connect	tor.
 Turn ignition switch ON. Check voltage between AV control unit harness connector 	terminals 6 and 15.
-	
6 - 15 Except for above : Approx. 3.3 V	K
Is the inspection result normal?	
YES >> GO TO 4.	
NO >> Replace AV control unit.	L
4.CHECK STEERING SWITCH	
 Turn ignition switch OFF. Check steering switch. Refer to <u>AV-185</u>, "Component Inspective". 	ection"
Is the inspection result normal?	
YES >> INSPECTION END	AV
NO >> Replace steering switch.	
Component Inspection	INFOID:000000001849114
Measure the resistance between the steering switch connector	terminals 14 to 17 and 15 to 17.

STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

SOURCE	Approx.	1 <u>14</u>
MENU UP	≷121Ω Approx.	
MENU DOWN	₹2ὑὑΩ \$Approx.	
(1125	_ <u></u> 3402Ω	
VOL DOWN	Approx.	<u>15</u>
VOL UP	₹121Ω ≪Approx	
	ζ2ὑόΩ	14 15 17
		JSNIA0216GB

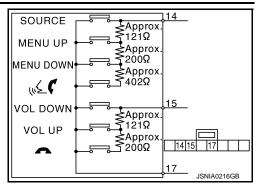
STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >	[BOSE AUDIO WITHOUT NAVIGATION]
STEERING SWITCH SIGNAL B CIRCUIT	٨
Description	A INFOID:000000001849115
Transmits the steering switch signal to AV control unit.	В
Diagnosis Procedure	INFOID:000000001849116
1. CHECK STEERING SWITCH SIGNAL B CIRCUIT	C
 Disconnect AV control unit connector and spiral cable conn Check continuity between AV control unit harness connecto tor terminal 31. 	
16 - 31 : Continuity should exist.	
3. Check continuity between AV control unit harness connector	or terminals 16 and ground.
16 - Ground : Continuity should not exi	st.
Is the inspection result normal?	F
YES >> GO TO 2. NO >> Repair harness or connector.	
2.CHECK SPIRAL CABLE	G
Check spiral cable.	
Is the inspection result normal?	Н
YES >> GO TO 3.	
NO >> Replace spiral cable.	
3.CHECK AV CONTROL UNIT VOLTAGE	-
 Connect AV control unit connector and spiral cable connect Turn ignition switch ON. 	
 Check voltage between AV control unit harness connector t 	erminals 16 and 15.
Except for above	
16 - 15 : Approx. 3.3 V	K
Is the inspection result normal?	
YES >> GO TO 4.	L
NO >> Replace AV control unit. 4.CHECK STEERING SWITCH	
1. Turn ignition switch OFF.	M
 Check steering switch. Refer to <u>AV-187, "Component Inspe</u> 	
Is the inspection result normal?	
YES >> INSPECTION END NO >> Replace steering switch.	AV
Component Inspection	
	INFOID:000000001907371
Measure the resistance between the steering switch connector	terminals 14 to 17 and 15 to 17.

STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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 S < DTC/CIRCUIT DIAGNOSIS >	SWITCH SIGNAL GN [BC	ID CIRCUIT DSE AUDIO WITHOUT NAVIGATION]
STEERING SWITCH SIGNAL	_ GND CIRCUIT	A
Description		INFOID:00000001849118
Transmits the steering switch signal to AV	control unit.	В
Diagnosis Procedure		INFOID:000000001849119
1. CHECK STEERING SWITCH SIGNAL	GND CIRCUIT	С
 Disconnect AV control unit connector Check continuity between AV control utor terminal 33. 		inal 15 and spiral cable harness connec-
15 - 33 : Conti	nuity should exist.	
 3. Connect AV control unit connector. <u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair harness or connector. 2.CHECK SPIRAL CABLE 		F
Check spiral cable.		G
Is the inspection result normal? YES >> GO TO 3. NO >> Replace spiral cable. 3. CHECK GROUND CIRCUIT		Н
 Connect AV control unit connector. Check continuity between AV control 	unit harness connector tern	ninal 15 and ground.
15 - Ground : Conti	nuity should exist.	
Is the inspection result normal?		J
YES >> GO TO 4. NO >> Replace AV control unit. 4. CHECK STEERING SWITCH		К
 Turn ignition switch OFF. Check steering switch. Refer to <u>AV-18</u> <u>Is the inspection result normal?</u> YES >> INSPECTION END 	39. "Component Inspection"	
NO >> Replace steering switch.		M
Component Inspection		INFOID:000000001907372
Measure the resistance between the steer	ing switch connector termin	AV AV AV
Standard Between terminals 14 and 17 \swarrow switch ON MENU DOWN switch ON MENU UP switch ON SOURCE switch ON	: 716 – 730 Ω : 318 – 324 Ω : 120 – 122 Ω : 0 Ω	SOURCE Approx. MENU UP Approx. MENU DOWN Approx. WOL DOWN Approx. VOL UP Approx. YOL UP Approx.
Between terminals 15 and 17		Α 3 200Ω <u>1415 17</u>
switch ON	: 318 – 324 Ω	JSNIA0216GB

STEERING SWITCH SIGNAL GND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION AV CONTROL UNIT

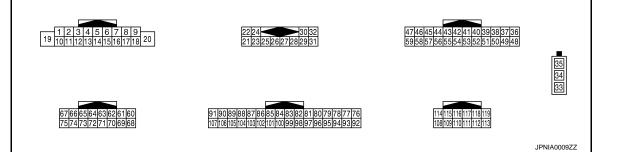
Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Display Item	Dis- play	Vehicle status	Remarks	
	/HCL SPD SIG		Changes in indication may be delayed. This is nor-	
VHCL SFD SIG			mal.	
PKB SIG	On	Parking brake is applied.	Changes in indication may be delayed. This is nor-	
PKD SIG	Off	Parking brake is released.	mal.	
ILLUM SIG	On	Light switch ON		
ILLUM SIG	Off	Light switch OFF		
IGN SIG	On	Ignition switch ON		
IGN SIG	Off	Ignition switch in ACC position	—	
	On	Shift the selector lever to "R" position	- Changes in indication may be delayed. This is nor- mal.	
REV SIG	Off	Shift the selector lever other than "R" position		

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value			
+	-	Signal name	Input/ Output		Condition	(Approx.)	Μ		
					Keep pressing SOURCE switch.	0 V	AV		
				Ignition switch ON	Keep pressing Δ switch.	0.7 V			
6 (P)	15 (B)	Steering switch signal A	Input		Keep pressing $ abla$ switch.	1.3 V	0		
					Keep pressing _w ≨ <i>✔</i> switch	2 V			
								Except for above.	3.3 V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage			
9	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0 V			
(L)	Ciouna	indimination Signal	mput		Lighting switch is ON.	12 V			

[BOSE AUDIO WITHOUT NAVIGATION]

INFOID:000000001849121 B

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< ECU DIAGNOSIS INFORMATION >

	minal e color)	Description		Condition		Reference value
+	-	Signal name	Input/ Output			(Approx.)
15 (B)	Ground	Steering switch signal GND	_	lgnition switch ON	_	0 V
					Keep pressing VOL DOWN switch.	0 V
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch	Keep pressing VOL UP switch.	0.7 V
				ON	Keep pressing 🗪 switch.	1.3 V
					Except for above.	3.3 V
19 (Y)	Ground	Battery power supply	Input	lgnition switch OFF	_	Battery voltage
20 (B)	Ground	GND	_	Ignition switch ON	_	0 V
22 (B)	21 (W)	Satellite radio sound signal LH	Input	lgnition switch ON	When satellite radio mode is selected	(V) 1 0 -1 + 2ms SKIB3609E
24 (G)	23 (R)	Satellite radio sound signal RH	Input	lgnition switch ON	When satellite radio mode is selected	(V) 1 0 -1 -1 -2ms SKIB3609E
25		Shield	_	_		
26		Shield			—	_
27				Ignition	Driver's Audio Stage ON	0 V
(SB)	Ground	Mode change signal	Output	switch ON	Driver's Audio Stage OFF	8.5 V
28 (P)	Ground	Request signal (SAT→CONT)	Input	lgnition switch ON	When satellite radio mode is selected	(V) 10 0 -10 ++10ms SKIA9299J
29 (G)	Ground	Communication signal (SAT→CONT)	Input	lgnition switch ON	When satellite radio mode is selected	(V) 10 0 -10 -10 -10 -10 -10 -10 -

< ECU DIAGNOSIS INFORMATION >

Terminal (Wire color)		Description			Condition	Reference value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	
30 (L)	Ground	Communication signal (CONT→SAT)	Output	lgnition switch ON	When satellite radio mode is selected	(V) 10 0 -10 •••••1ms SKIA9301J	
33	—	FM sub	Input		—	_	
34	_	AM-FM main	Input		—		
35	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	_	12 V	
36 (SB)	Ground	AUX image signal	Output	Ignition switch ON	At AUX image is displayed	(V) 0.4 0 -0.4 • 40µs skiB2251J	
37 (V)	Ground	AUX image ground	_	Ignition switch ON	_	0 V	
38 (P)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 A A A A A A A A A A	
39 (L)	Ground	RGB signal (G: green)	Output	lgnition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 + + + + + + + + + + + + + + + + + + +	
40 (G)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} V \\ 0 \\ 0 \\ -0 \\ 4 \\ \hline \\ \bullet \\ \bullet$	

< ECU DIAGNOSIS INFORMATION >

	minal e color)	Description		Condition		Reference value
+	_	Signal name	Input/ Output			(Approx.)
41 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	_	(V) 4 0 → 20µs SKIB3603E
42		Shield	—	—	—	_
					At RGB image displayed	5 V
43 (V)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At AUX image is displayed	(V) 64 20 • + 200 µ s • + 200 µ s • ► + 200 µ s
44 (L)	Ground	Communication signal (DISP→CONT)	Input	lgnition switch ON	When adjusting display brightness.	(V) 6 2 0 + + 1ms PKiB5039J
45 (R)	Ground	Horizontal synchronizing (HP) signal	Input	lgnition switch ON		(V) 4 0 ↓ ↓ 20µs SKIB3601E
46 (LG)	Ground	Signal GND		lgnition switch ON	_	0 V
47 (O)	Ground	Signal VCC	Output	Ignition switch ACC	_	9 V
49		Shield	—	—	—	—
50		Shield	—	_	—	—
55		Shield	—	_	—	_
56 (LG)	Ground	Communication signal (CONT→DISP)	Output	lgnition switch ON	When adjusting display brightness.	(V) 6 4 2 0 •••••1ms •••••1ms •••••

< ECU DIAGNOSIS INFORMATION >

	minal e color)	Description		Condition		Reference value
+	_	Signal name	Input/ Output			(Approx.)
57 (G)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON		(V) 4 0 ++4ms SKIB3598E
58 (BR)	Ground	Inverter GND		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	At AUX image is displayed	(V) 0.4 −0.4 ++40µs SKIB2251J
73		Shield			—	_
74 (R)	Ground	AUX image signal GND	_	Ignition switch ON	_	0 V
80 (L)	79 (P)	TEL voice signal	Input	Ignition switch ON	During voice guide output with the 🌠 switch pressed	(V) 1 0 -1 ++2ms SKIB3609E
81		Shield	—		_	_
83 (B)	82 (G)	iPod sound signal RH	Input	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 + 2ms −1 −1 −1 −1 −1 −1 −1
85 (B)	Ground	GND	_	Ignition switch ON	_	0 V
86 (L)	_	CAN-H	Input/ Output		_	_
87 (P)		CAN-L	Input/ Output	_	_	_
88 (V)		AV communication signal (H)	Input/ Output			

< ECU DIAGNOSIS INFORMATION >

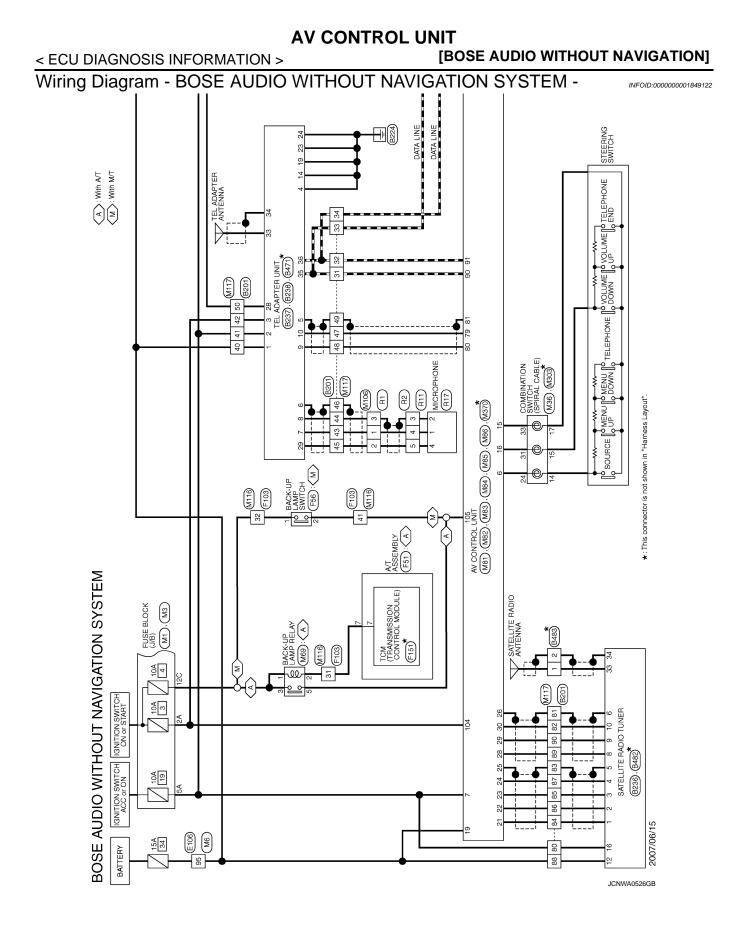
	minal e color)	Description		- Condition		Reference value
+	-	Signal name	Input/ Output			(Approx.)
89 (LG)	_	AV communication signal (L)	Input/ Output	_	_	_
90 (SB)	_	AV communication signal (H)	Input/ Output	_	_	_
91 (Y)	_	AV communication signal (L)	Input/ Output	_	_	_
95 (W)	Ground	AUX sound signal RH	Input	lgnition switch ON	When AUX mode is select- ed	(V) 1 0 -1 • • 2ms SKIB3609E
96 (R)	Ground	AUX sound signal LH	Input	lgnition switch ON	When AUX mode is select- ed	(V) 1 0 -1 -1 -1 -1 SKIB3609E
97	_	Shield (AUX sound signal GND)	_		_	_
99 (R)	98 (W)	iPod sound signal LH	Input	lgnition switch ON	When iPod mode is select- ed	(V) 1 0 -1 -1 -1 SKIB3609E
101 (BR)	Ground	SW GND	_	Ignition switch ON	_	0 V
103 (SB)	Ground	Eject signal	Input	_	Pressing the eject switch Except for above	0 V 3.3 V
104 (G)	Ground	Ignition signal	Input	Ignition switch ON		Battery voltage
105	Ground	Reverse signal	Input	Ignition switch	R position	12 V
(O)		<u> </u>		ON	Other than R position	0 V
106 (SB)	Ground	Parking brake signal	Input	lgnition switch ON	Parking brake ON Parking brake OFF	0 V

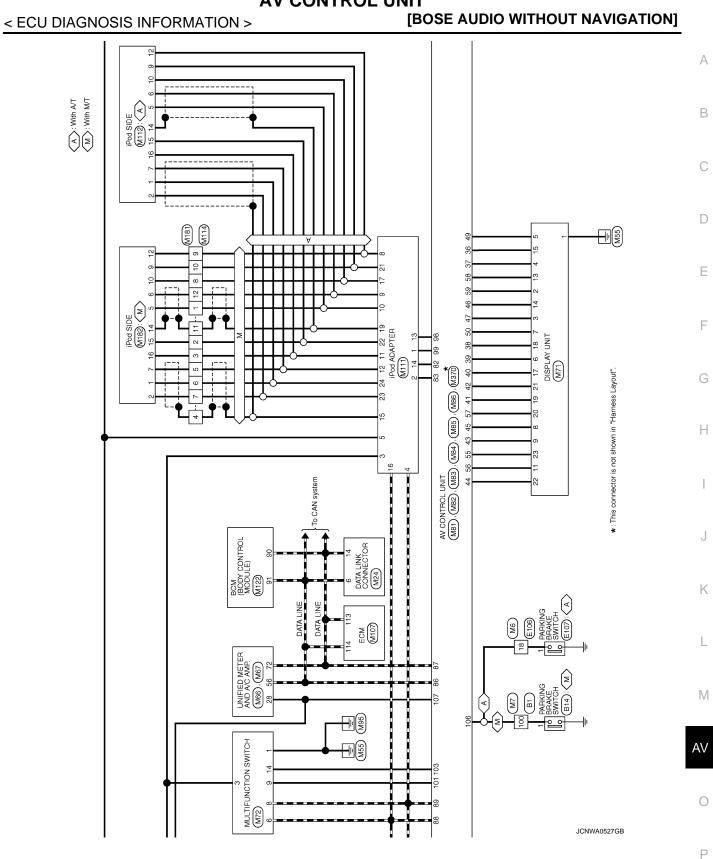
< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

	minal e color)	Description			Condition	Reference value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	
107 (GR)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	NOTE: Maximum voltage may be 12 V due to specifications (connected units). (V) 6 4 2 0 4 2 0 4 2 0 5 KIA6649J	B C D
108 (BR)	114 (Y)	Sound signal rear RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 • • 2ms SKIB3609E	F
109 (R)	115 (G)	Sound signal front RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E	H
110 (SB)	Ground	Amp. ON signal	Output	Ignition switch ON	_	10 V	J
112 (V)	118 (LG)	Sound signal rear LH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 • + 2ms SKIB3609E	K L M
113 (O)	119 (W)	Sound signal front LH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 • 2ms SKIB3609E	AV O

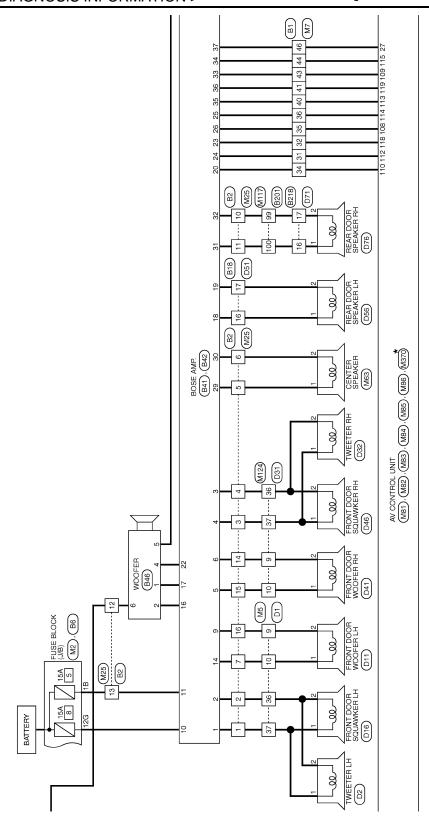
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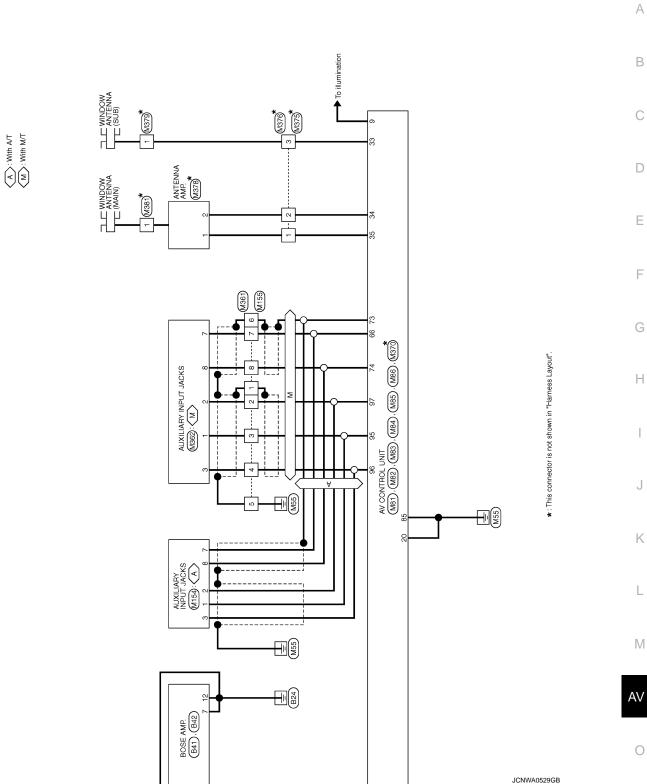
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AV CONTROL UNIT [BOSE AUDIO WITHOUT NAVIGATION]



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

JCNWA0528GB

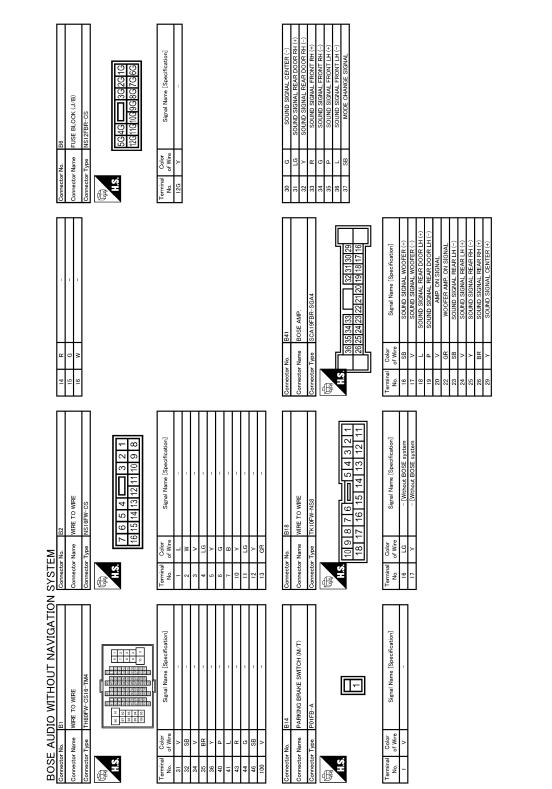


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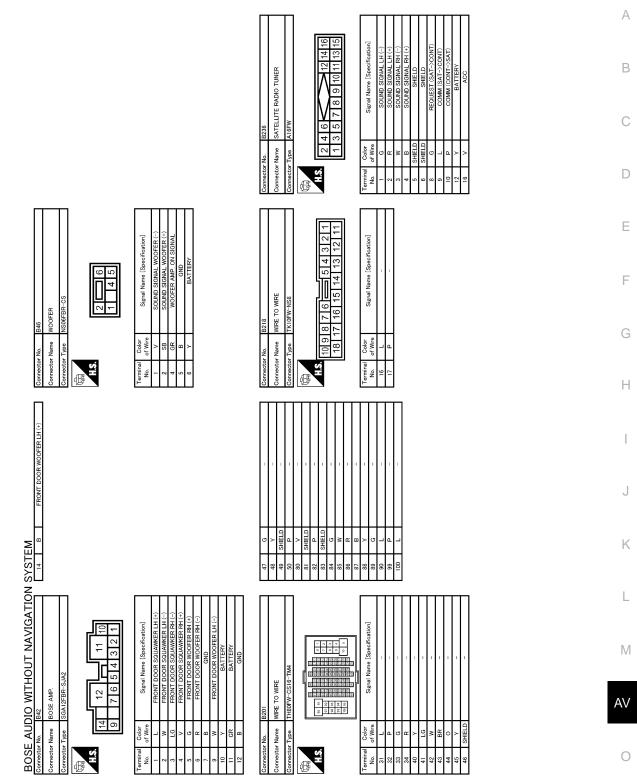


[BOSE AUDIO WITHOUT NAVIGATION]



JCNWA0530GB

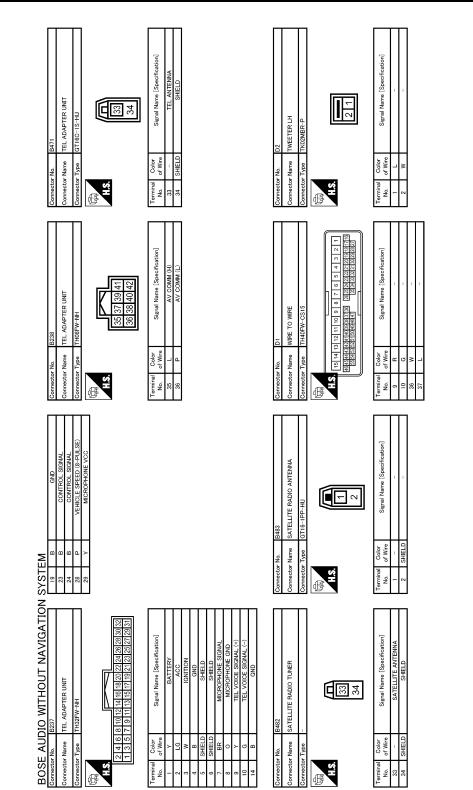
[BOSE AUDIO WITHOUT NAVIGATION]



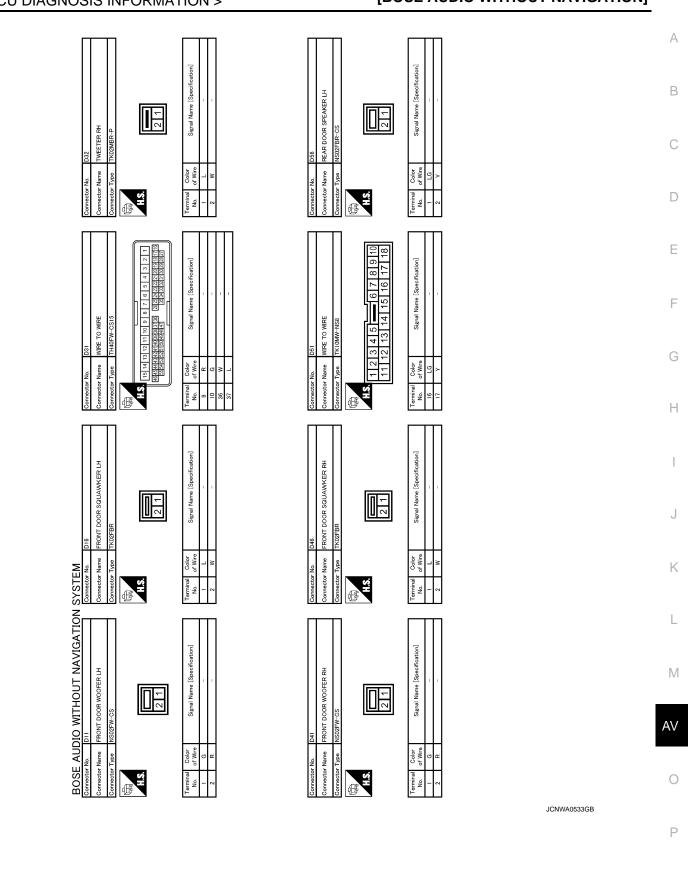
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< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]



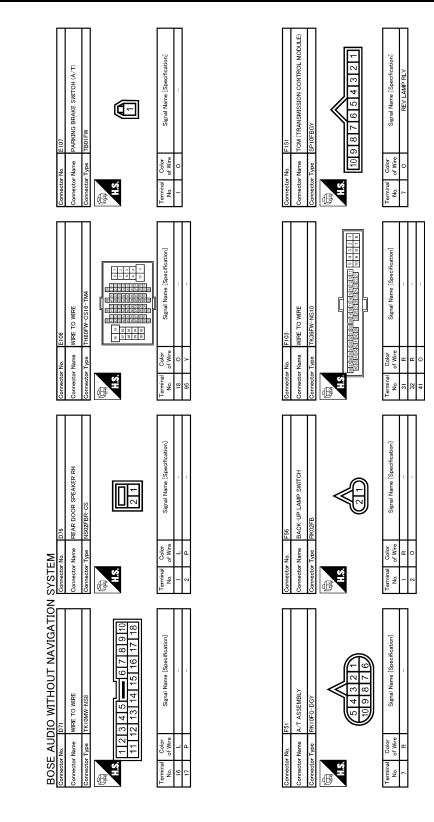
JCNWA0532GB



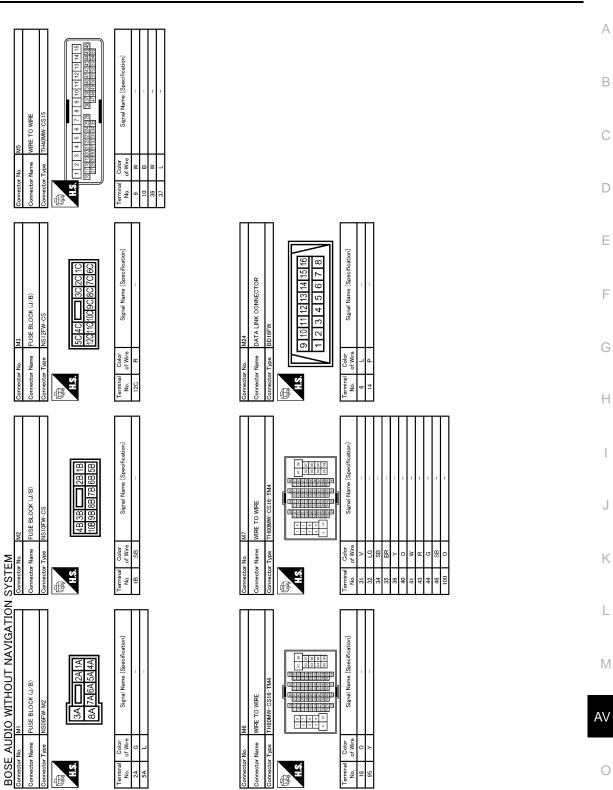
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< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]



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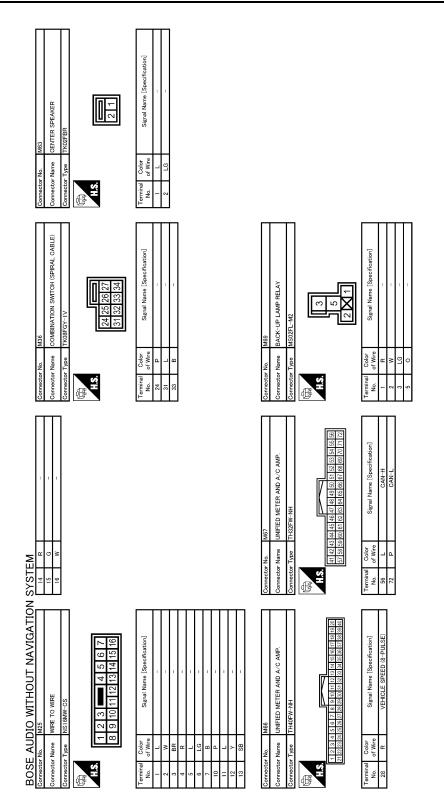
AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

< ECU DIAGNOSIS INFORMATION >

AV CONTROL UNIT

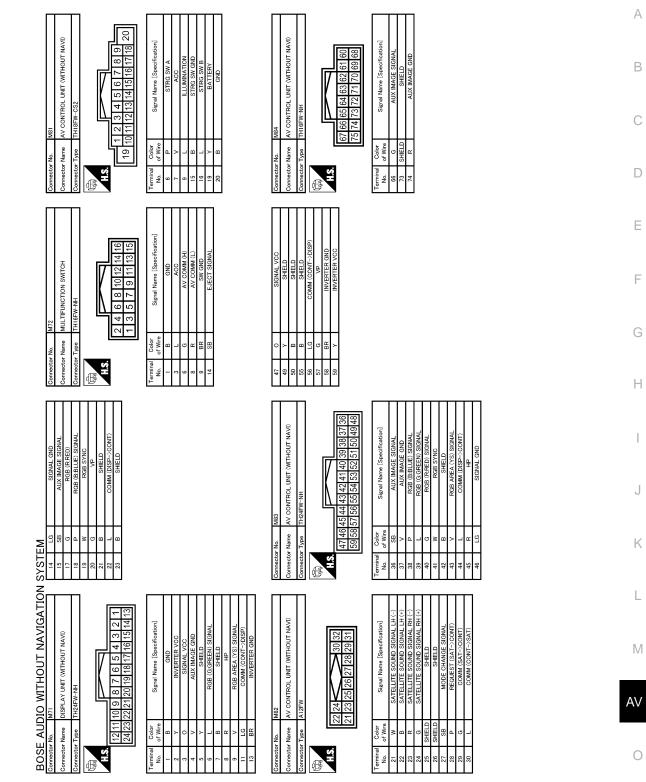
[BOSE AUDIO WITHOUT NAVIGATION]



JCNWA0536GB

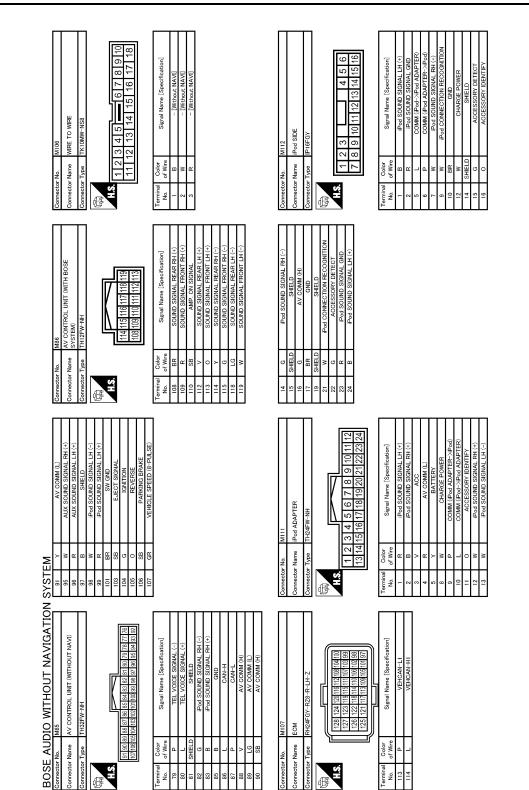
< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]



JCNWA0537GB

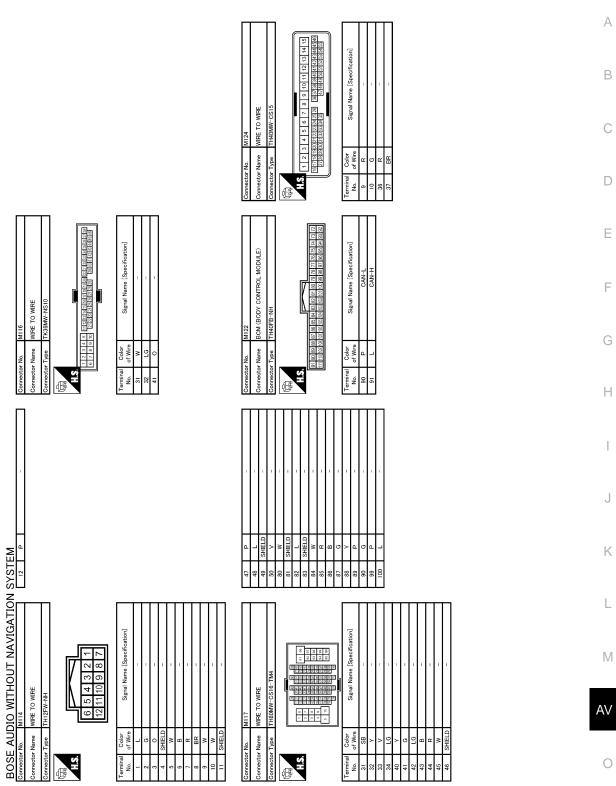
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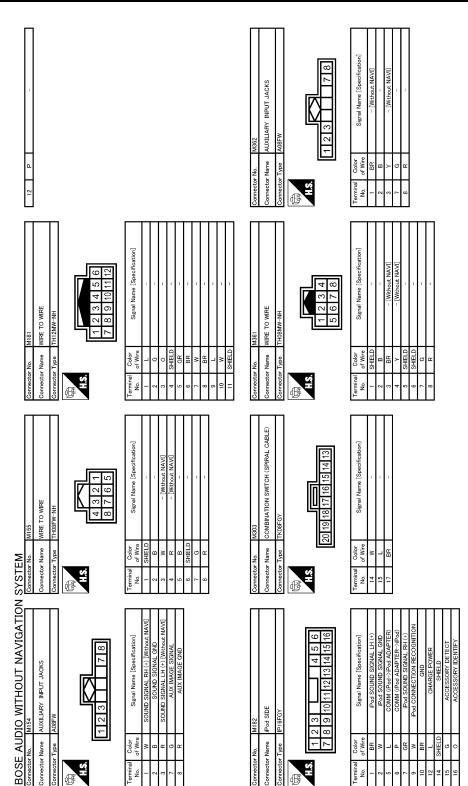
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[BOSE AUDIO WITHOUT NAVIGATION]

JCNWA0538GB



JCNWA0539GB



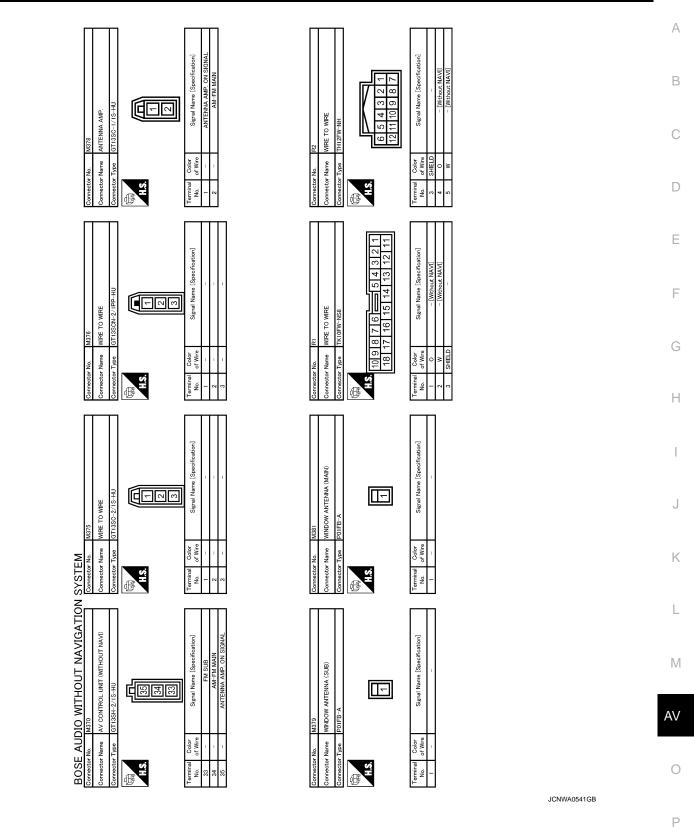
JCNWA0540GB

AV CONTROL UNIT

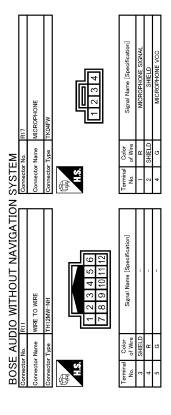
< ECU DIAGNOSIS INFORMATION >

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]



Revision: 2008 September



NOTE:

JCNWA0542GB

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

DTC Index

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

INFOID:000000001849123

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-154, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [U1010]	AV-155, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-156, "DTC Logic"
U1200	Cont Unit FLASH-ROM [U1200]	AV-157, "DTC Logic"
U1216	CAN CONT [U1216]	AV-158, "DTC Logic"
U1243	FRONT DISP CONN [U1243]	AV-159, "Diagnosis Procedure"
U1255	SAT CONN [U1255]	AV-161, "Diagnosis Procedure"
U1300 U1240	AV COMM CIRCUIT [U1300] SWITCH CONN [U1240]	AV-163, "Description"
U1300 U1254	AV COMM CIRCUIT [U1300] IPOD CONN [U1254]	AV-163, "Description"
U1300 U1256	AV COMM CIRCUIT [U1300] HAND FREE CONN [U1256]	AV-163, "Description"
U1300 U1240 U1254 U1256	 AV COMM CIRCUIT [U1300] SWITCH CONN [U1240] IPOD CONN [U1254] HAND FREE CONN [U1256] 	AV-163, "Description"

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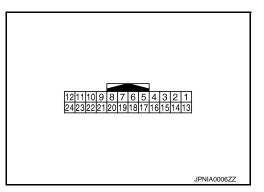
< ECU DIAGNOSIS INFORMATION >

DISPLAY UNIT

Reference Value

TERMINAL LAYOUT

INFOID:000000001849124



PHYSICAL VALUES

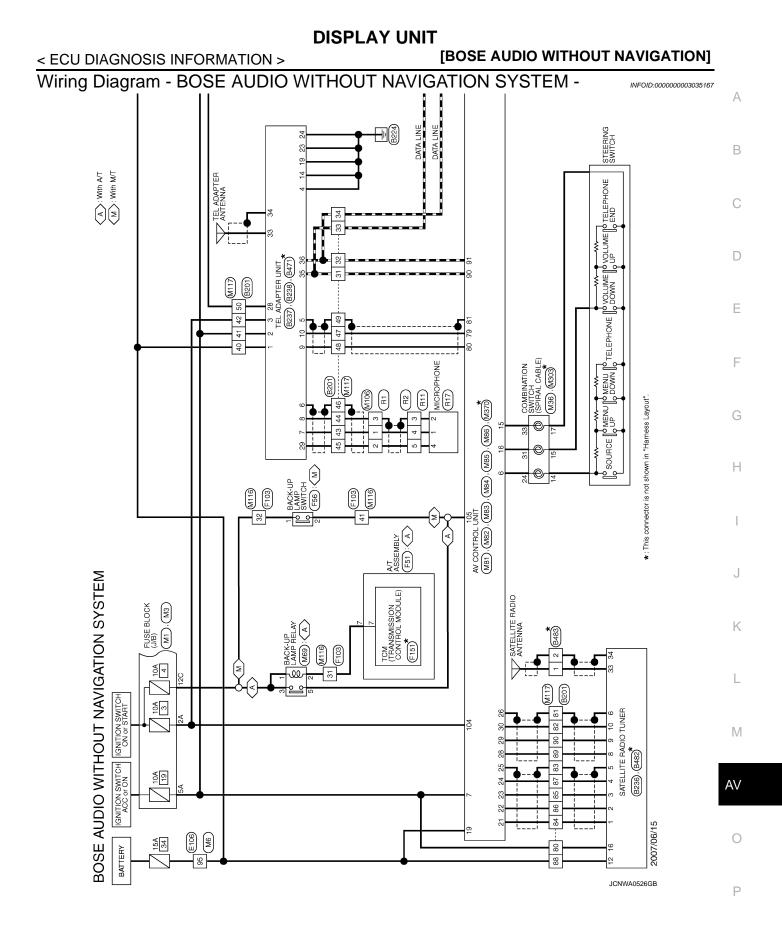
	minal e color)	Description		Condition		Reference value
+	-	Signal name	Input/ Output		Condition	(Approx.)
1 (B)	Ground	GND		Ignition switch ON	_	0 V
2 (Y)	Ground	Inverter VCC	Input	Ignition switch ACC	_	9 V
3 (O)	Ground	Signal VCC	Input	Ignition switch ACC	_	9 V
4 (V)	Ground	AUX image GND	_	Ignition switch ON	_	0 V
5		Shield		_	_	_
6 (L)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 -0.4 ••••••••••••••••••••••••••••••••••••
7		Shield	—	—	_	_
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON		(V) 4 0 • • • 20µs 5KIB3601E

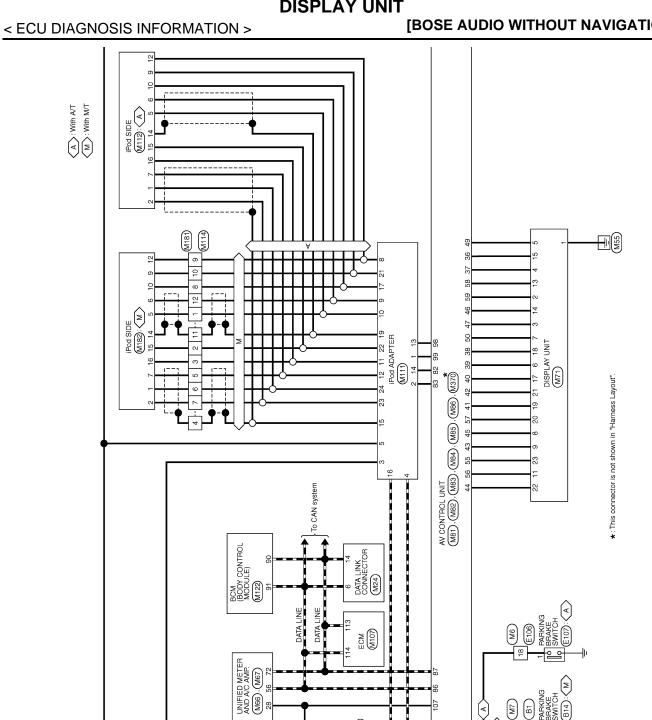
< ECU DIAGNOSIS INFORMATION >

Terminal (Wire color)		Description		Condition		Reference value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	
9 (V)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed At AUX image is displayed	5 V	B
11 (LG)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 (V) 6 4 2 0 (V) 6 4 2 0 (V) 6 4 2 0 (V) 6 4 2 0 (V) 6 4 2 0 (V) 6 4 1 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) 6 4 (V) (V) (V) (V) (V) (V) (V) (V)	D E F G
13 (BR)	Ground	Inverter GND	_	Ignition switch ON	_	0 V	
14 (LG)	Ground	Signal GND	_	Ignition switch ON	_	0 V	Н
15 (SB)	Ground	AUX image signal	Input	Ignition switch ON	At AUX image is displayed	(V) 0.4 0 −0.4 ••••40µs SKIB2251J	I J K
17 (G)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 -0.4 -0.4 +++40µs SKIB2238J	L
18 (P)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 1.4 0 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4	AV O P

< ECU DIAGNOSIS INFORMATION >

	minal color)			Reference value		
+	_	Signal name	Input/ Output		Condition	(Approx.)
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON		(V) 4 0 → 20µs SKIB3603E
20 (G)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch On		(V) 4 0 • • • 4ms 5KiB3598E
21		Shield		_	—	_
22 (L)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	(V) 6 2 0 •••••1ms PKiB5039J
23		Shield	—	—	—	





[BOSE AUDIO WITHOUT NAVIGATION]

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Revision: 2008 September

W55

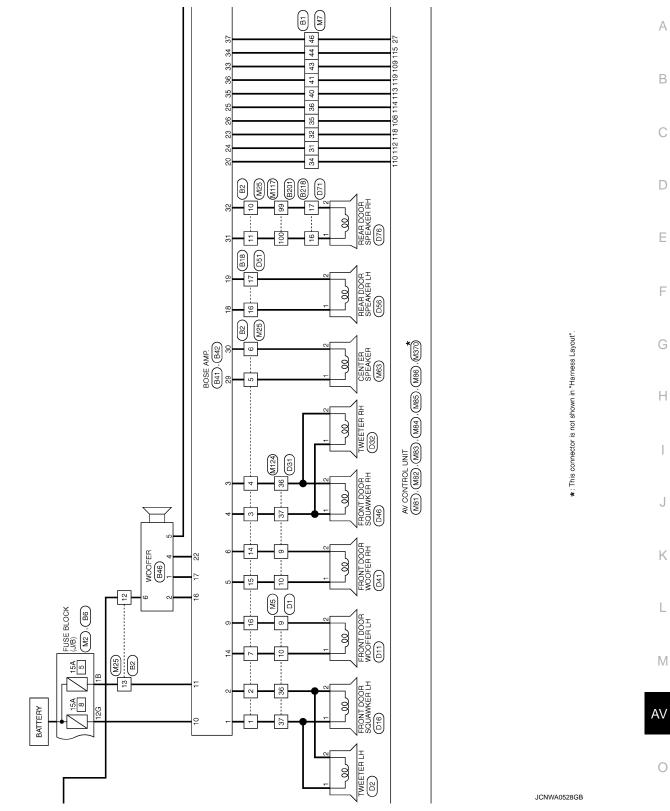
MULTIFUNCTION SWITCH

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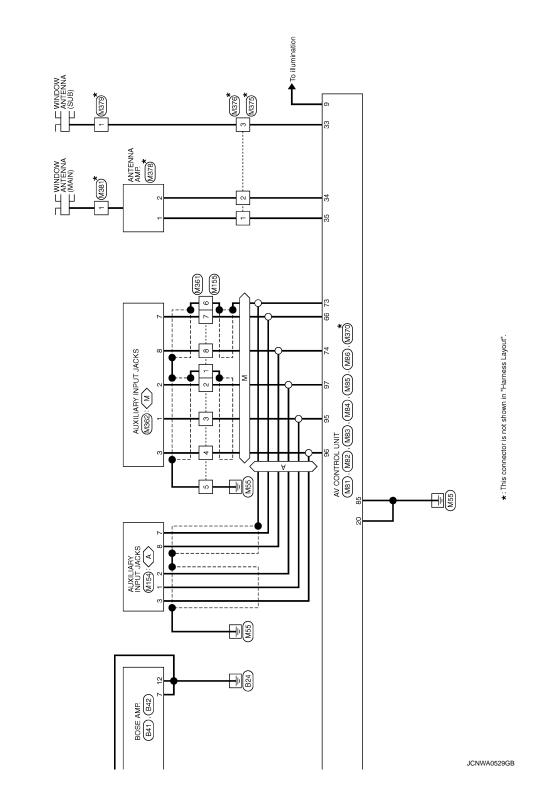
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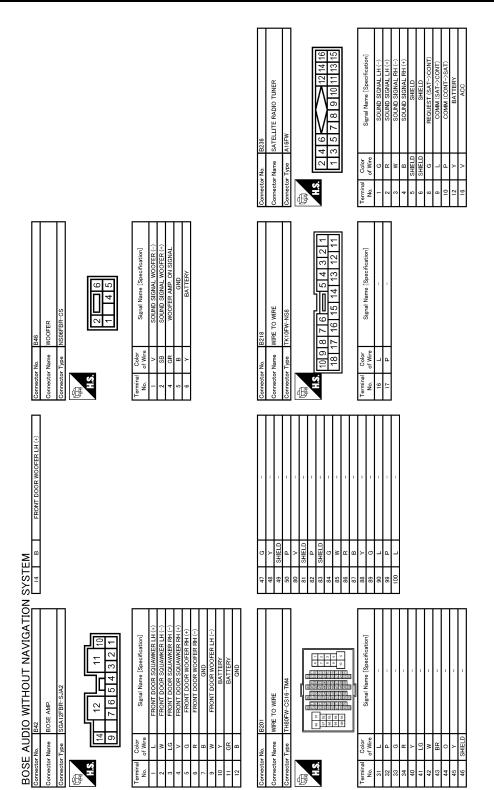
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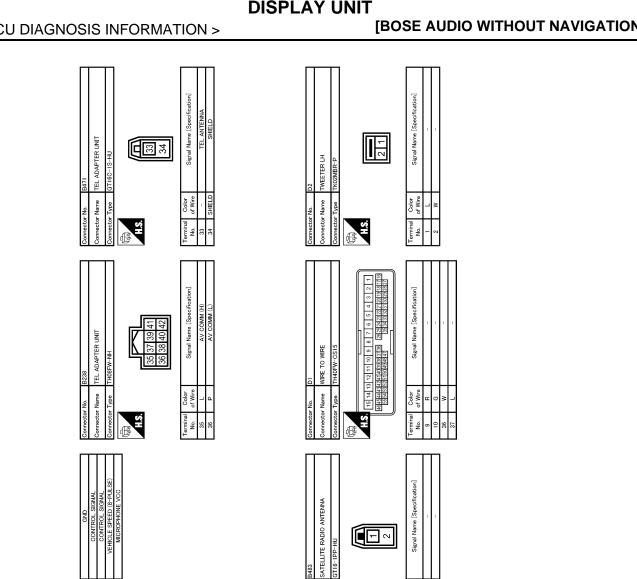
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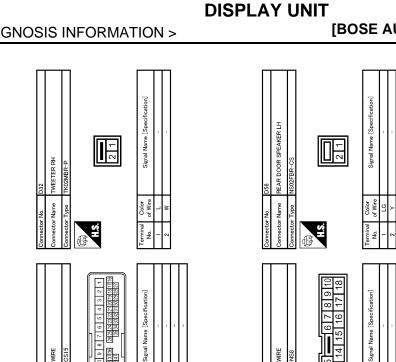
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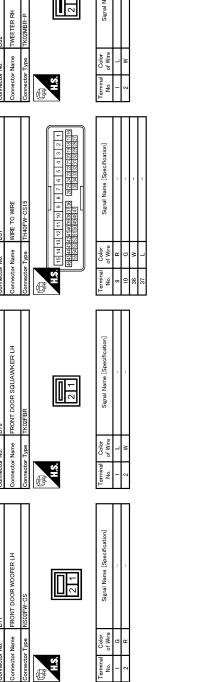
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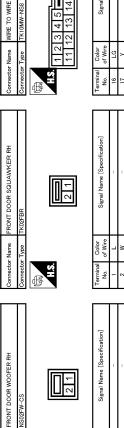
Color of Wire

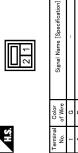


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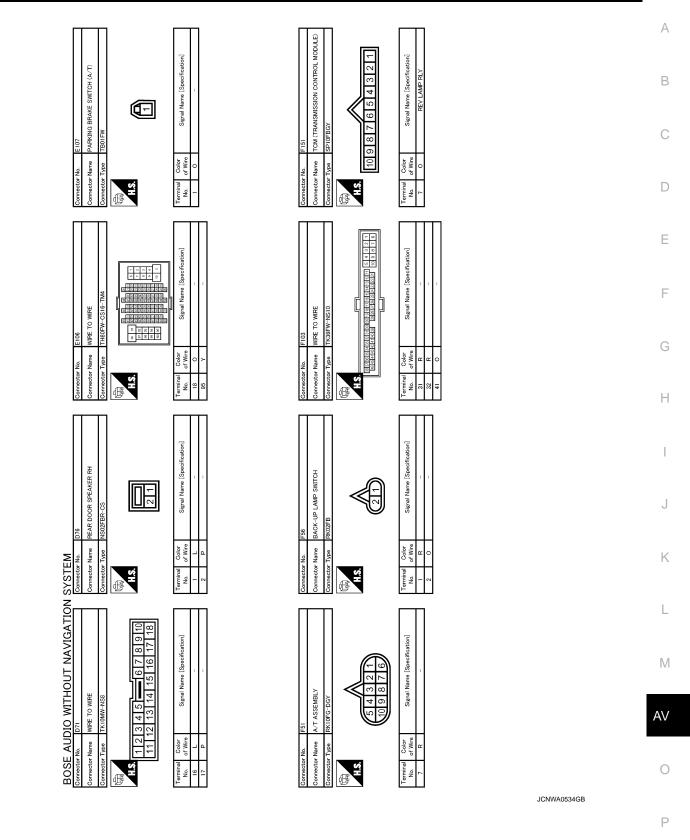
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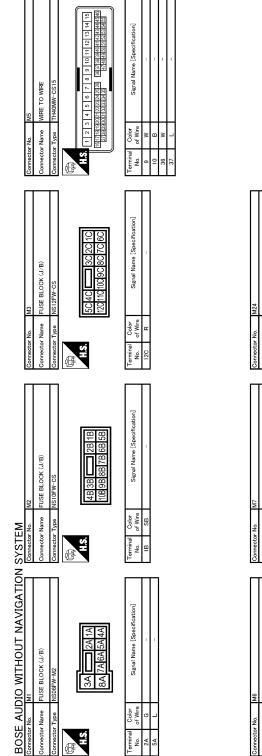
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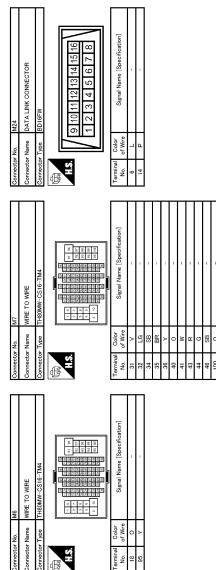
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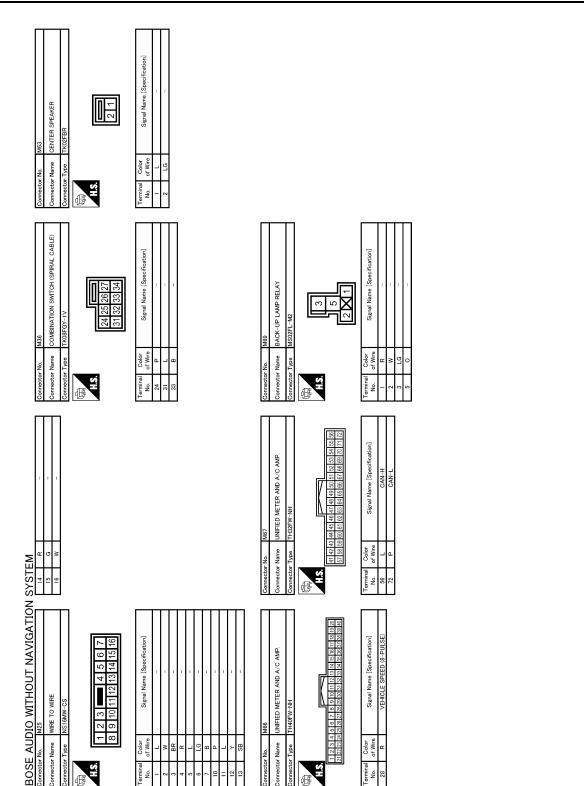


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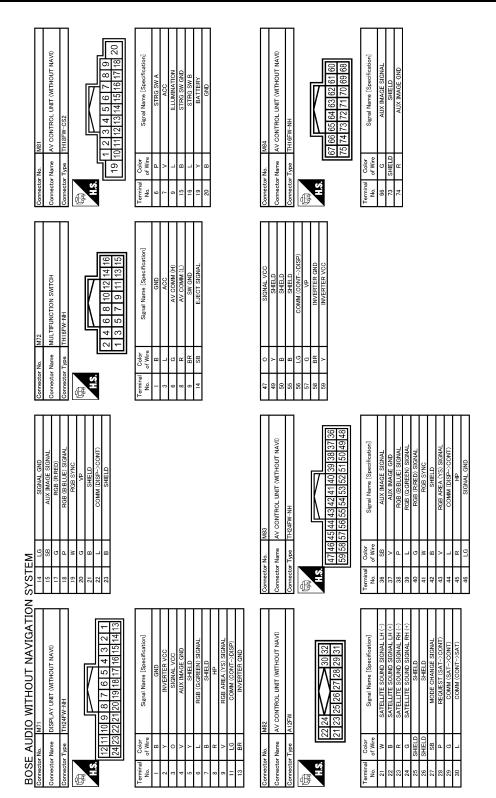
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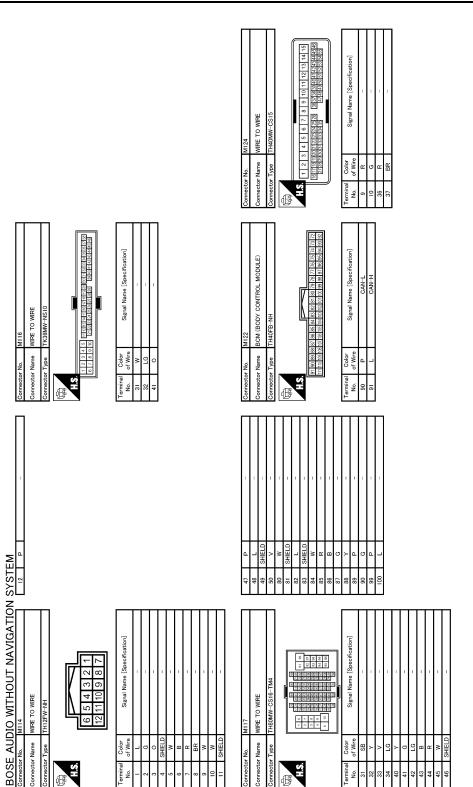
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		M382 AUXILIARY INPUT JACKS A08FW	Signal	С
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To WRE W-NH 4 3 2	Signal Name [Specification] - [Without NAVI] - [Without NAVI] - 1 	M303 COMBINATION SMITCH (SPIPAL CABLE) THOGEFCY 2019181716151413	Signal Name [Specification]	J
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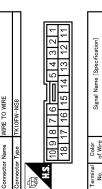
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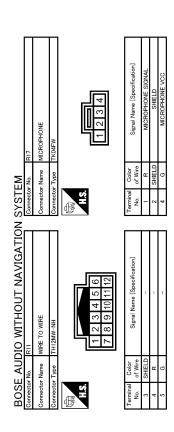
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NOTE:

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

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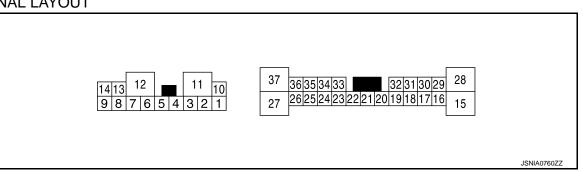
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BOSE AMP.

Reference Value

INFOID:000000001849126





PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value
+	-	Signal name	Input/ Output		Condition	(Approx.)
1 (L)	2 (W)	Sound signal front door squawker LH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 **2ms SKIB3609E
4 (V)	3 (LG)	Sound signal front door squawker RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 • • 2ms SKIB3609E
5 (G)	6 (R)	Sound signal front door woofer RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E
7 (B)	Ground	GND	_	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	GND	_	Ignition switch ON	_	0 V

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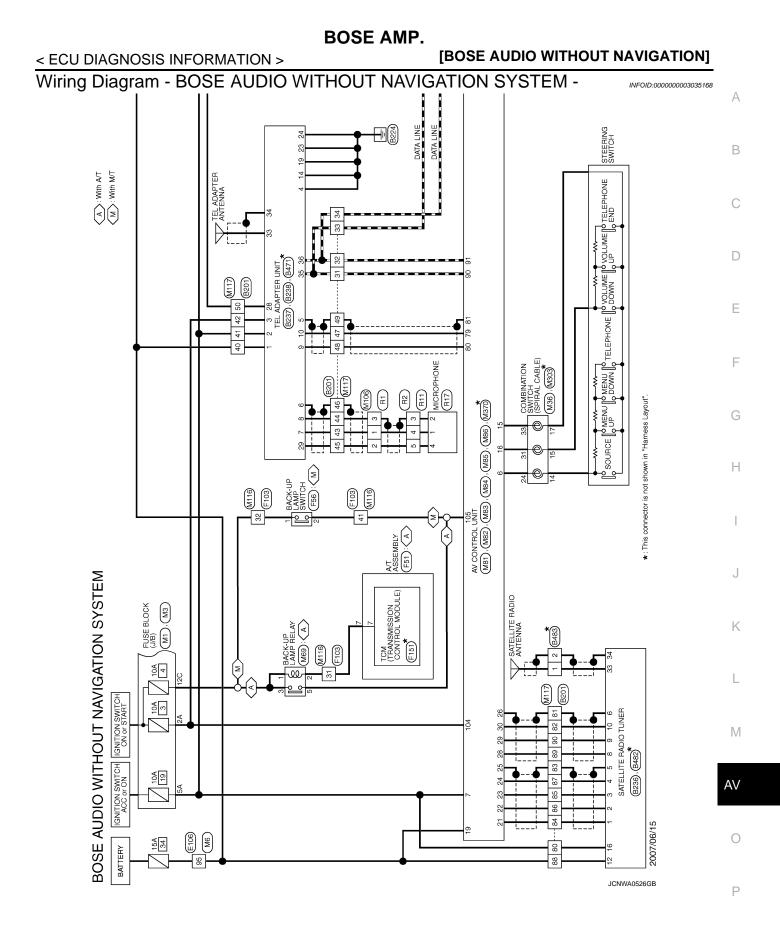
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	minal color)	Description		Condition		Reference value	А
+	-	Signal name	Input/ Output			(Approx.)	D
14 (B)	9 (W)	Sound signal front door woofer LH	Output	Ignition switch ON	Voice output	(V) 1 -1 + 2ms SKIB3609E	B C D
16 (SB)	17 (V)	Sound signal rear woofer	Output	Ignition switch ON	Voice output	(V) 1 0 -1 • 2ms SKIB3609E	E F
18 (L)	19 (P)	Sound signal rear door speaker LH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	G
20 (V)	Ground	Amp. ON signal	Input	Ignition switch ACC	_	10 V	
22 (GR)	Ground	Woofer Amp. ON signal	Output	Ignition switch ACC	_	10 V	J
24 (V)	23 (SB)	Sound signal rear LH	Input	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E	K L M
26 (BR)	25 (Y)	Sound signal rear RH	Input	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E	AV O
29 (Y)	30 (G)	Sound signal center speak- er	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E	Ρ

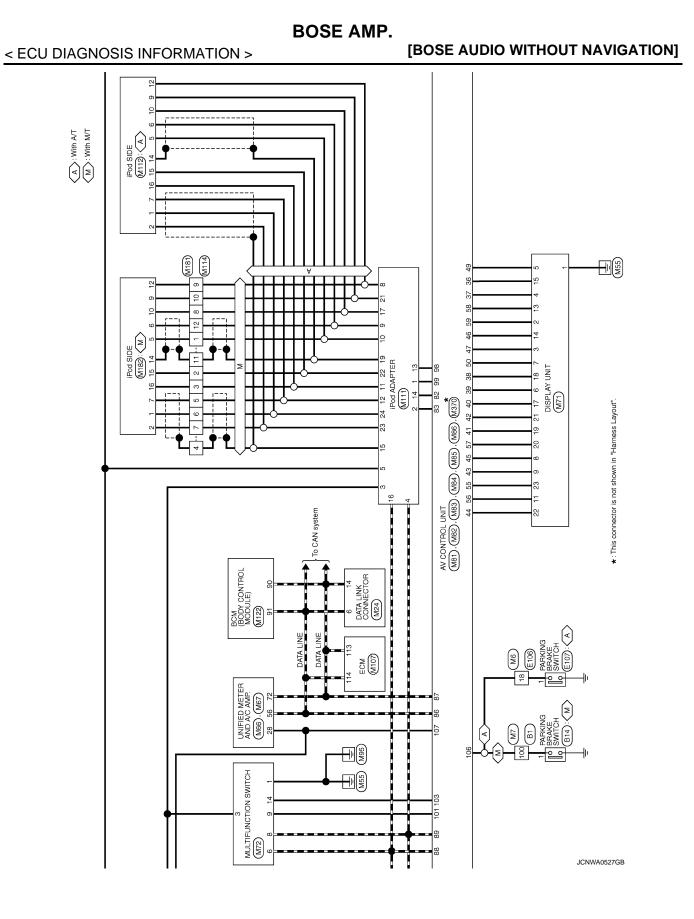
Revision: 2008 September

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Terminal (Wire color)		Description		Condition		Reference value
+	_	Signal name	Input/ Output	Condition		(Approx.)
31 (LG)	32 (Y)	Sound signal rear door speaker RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 2ms SKIB3609E
33 (R)	34 (G)	Sound signal front RH	Input	Ignition switch ON	Voice output	(V) 1 0 -1 * 2ms SKIB3609E
35 (P)	36 (L)	Sound signal front LH	Input	Ignition switch ON	Voice output	(V) 1 0 -1 * 2ms SKIB3609E
37	Ground	Mode change signal	Input	Ignition switch	Driver's Audio Stage ON	0 V
(SB)	Ground	wood change signal	input	ON	Driver's Audio Stage OFF	8.5 V



2008 G35 Sedan

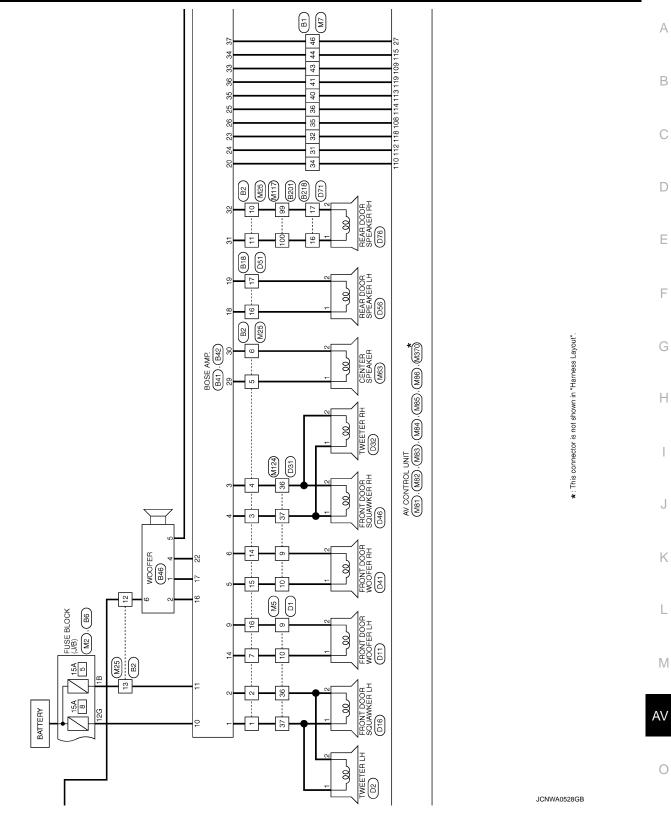


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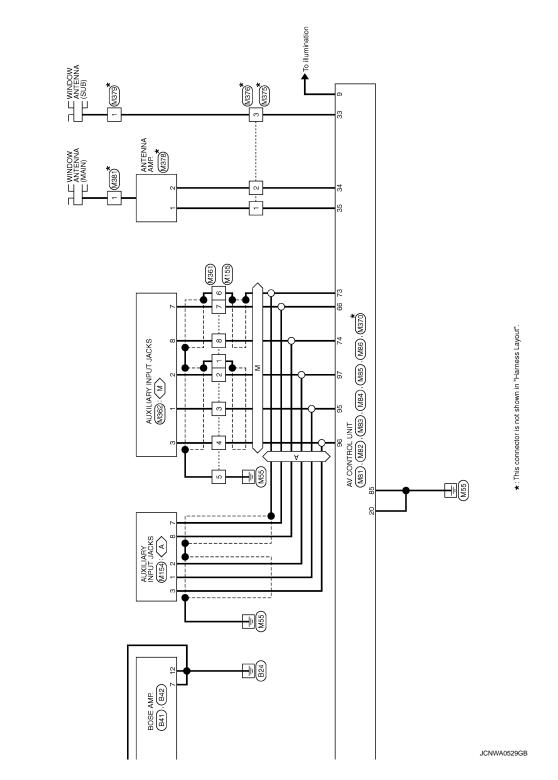


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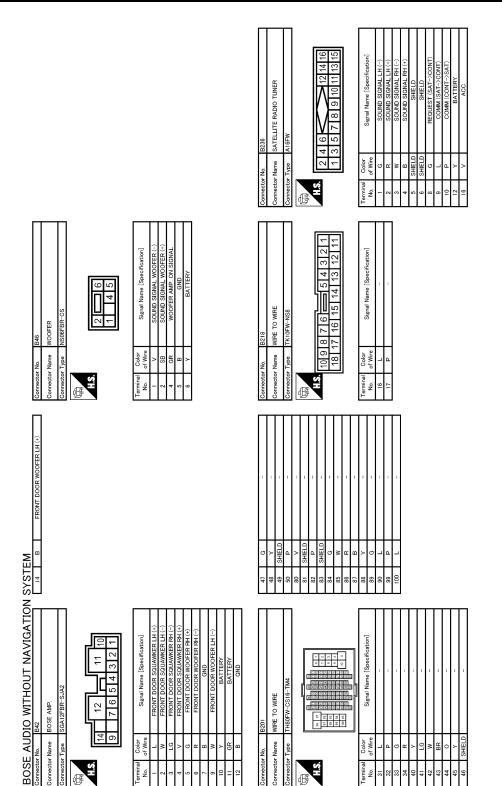
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Ormetor No. B6 Connector Name FUSE BLOCK (J/B) Connector Type NS12FBR-DS Connector Type Signal Nume (Specification) 120 V	G SOUND SIGNAL CENTER (-) LG SOUND SIGNAL FEAR DOOR PH (-) R SOUND SIGNAL FEAR DOOR PH (-) C SOUND SIGNAL FEAR TOOR FH (-) C SOUND SIGNAL FEAR TOOR FH (-) L SOUND SIGNAL FEAR TH (-) SOUND SIGNAL FEAR TH (-) SOUND SIGNAL FEAR TH (-) SOUND SIGNAL FEAR TH (-) SOUND SIGNAL FEAR TH (-) SOUND SIGNAL FEAR TH (-) SOUND SIGNAL FEAR TH (-) SG SUDUD SIGNAL FEAR TH (-) SG SUDUD SIGNAL FEAR TH (-) SG SUDUD SIGNAL FEAR TH (-)	A B C
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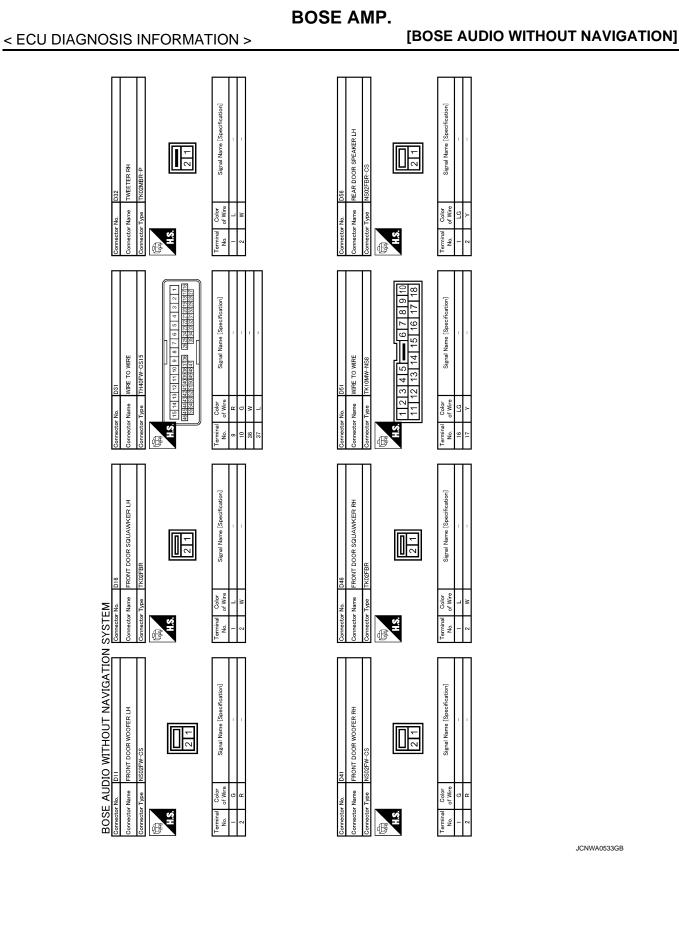


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Connector No. B471 Connector Name TEL ADAPTER UNIT Connector Type GT16C-15-HU GT16C-15-HU Strint	Connector Na. D2 Connector Name WEETER LH Connector Type TRO2MBR-P Connector Type TRO2MBR-P Connector Type Tro1 Connector Type Specification
Oomector No. B28 Connector Name EL ADAPTIR UNIT Connector Name TEL ADAPTIR UNIT Connector Type THORTWARK Terminal Color Signal Add 2d 36 L AV COMM (L)	Connector No. D1 Connector No. D1 Connector Name WIRE TO WIRE Connector Type TH40FW-C515 TH4
N SYSTEM A SYSTEM 23 B OUTFOL SIGNAL 23 P VEHILE SPEED 6-PULSE) 23 P VEHILE SPEED 6-PULSE)	Connector No. B483 Connector Name SATELLITE RADIO ANTENNA Connector Type GTI-IP-HU Connector Type GTI-IP-HU Image: State of the state of
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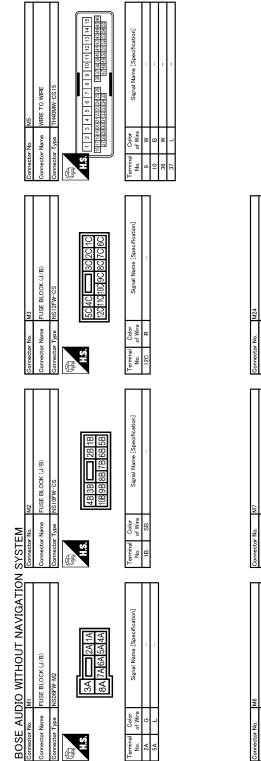
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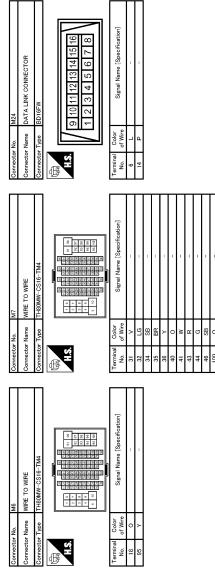
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PARKING BRAKE SWITCH (A.T) TBOLFW Signal Name [Specification]	FI51 TCM (TRANSMISSION CONTROL MODULE) Septimentation Signal Name (Specification) REV LAMP RLY	B
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OR SPEAKER RH	LAMP SWITCH Signal Name [Specification]	I
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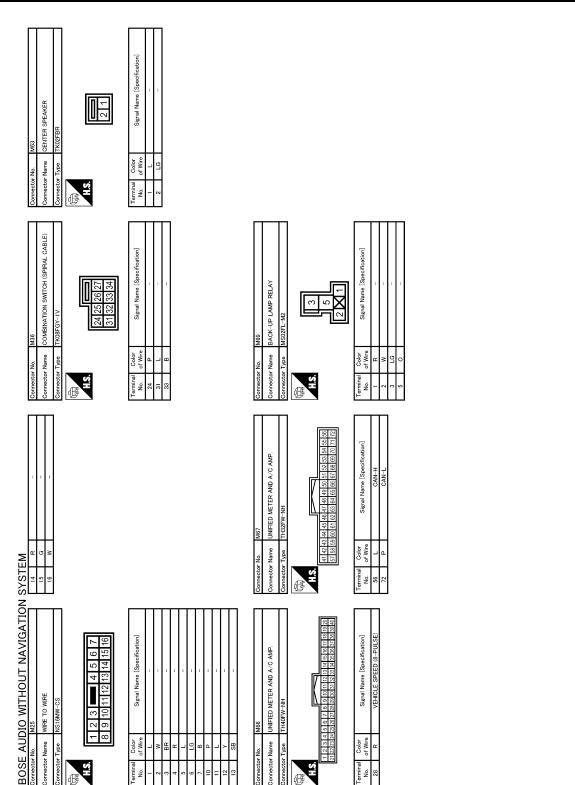
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20 AV CONTROL UNIT (WITHOUT NAVI) AV CONTROL UNIT (WITHOUT NAVI) Signal Name [Specification] Signal Name [Specification] 2 Color of Wire Color of Wire Connector Name Connector Name 19 미필요 ALS. Terminal No. H.S.H erminal No. 2 2 Ē 20 ⑮ Signal Name [Specification] MULTIFUNCTION SWITCH Color of Wire ß onnector Name 8 > H.S. 59 erminal No. 55 57 Ē AV CONTROL UNIT (WITHOUT NAVI) Signal Name [Specification 53 IXN 542 5143 47 46 45 4 59 58 57 (Color of Wire Connector Name 5 m SYSTEM S. 20 21 23 Connecto erminal No. 5 ⑮ ŏ BOSE AUDIO WITHOUT NAVIGATION AV CONTROL UNIT (WITHOUT NAVI) Signal Name [Specification] Signal Name [Specification] DISPLAY UNIT (WITHOUT NAVI) 9 б; Color of Wire Color of Wire Ш Connector Name Connector Name 24 ALS. H.S.

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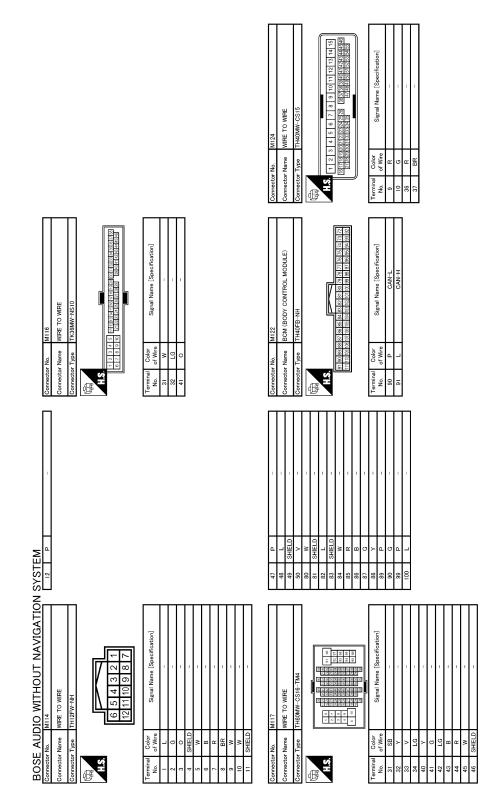
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[BOSE AUDIO WITHOUT NAVIGATION]



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	M362 AUXILIARY INPUT JACKS A06FW 123777	Signal Name (Specification) - [Without MAVI] - [Without MAVI] 	B
۵ ۲	Connector No. Connector Name Connector Type	Terminal Color No. of Wire 1 of Wire 2 B 3 C 3 C 8 R	D
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Connector Name SYSTEM

BOSE AUDIO WITHOUT NAVIGATION AV CONTROL UNIT (WITHOUT NAVI)

Connector Name

Signal Name [Specification]

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Terminal No.

Signal Name [Specification]

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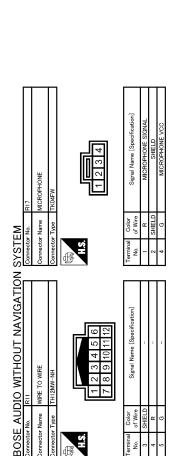
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NOTE:

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

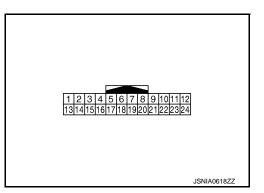
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IPOD ADAPTER

Reference Value

TERMINAL LAYOUT

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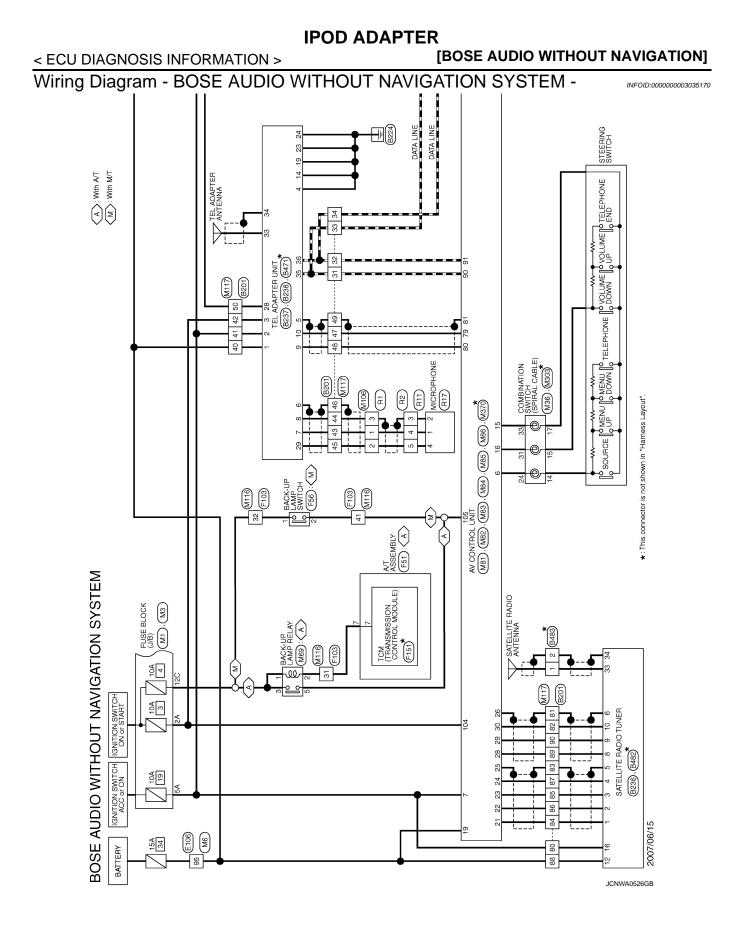


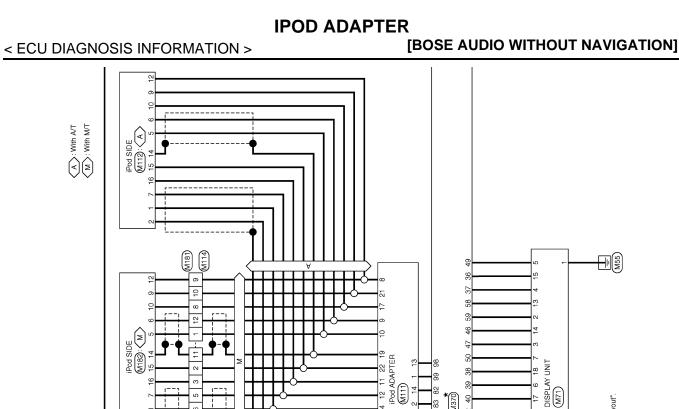
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
1 (R)	13 (W)	iPod sound signal LH	Output	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 2 ms SKIB3609E	
2 (B)	14 (G)	iPod sound signal RH	Output	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 2ms SKIB3609E	
3 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	
4 (R)	—	AV communication signal (L)	Input/ Output	—	_	_	
5 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
8 (W)	Ground	iPod battery charge	Output	Ignition switch ON	Connected to iPod [®]	12 V	

< ECU DIAGNOSIS INFORMATION >

Terminal Description		Condition		Reference value		
+	-	Signal name	Input/ Output		Condition	(Approx.)
9 (P)	Ground	Communication signal (iPod adapter→iPod [®])	Output	Ignition switch ON	The wave pattern is dis- played just after iPod con- nection.	(V) 3 1 4 4 2 1 4 4 2 m JPNIA0462GB JPNIA0462GB MOTE: After the wave pattern display, the value continues Approx 3.3 V
10 (L)	Ground	Communication signal (iPod [®] →iPod adapter)	Input	Ignition switch ON	Connected to iPod [®]	(V) 3 1 0 +++2ms JPNIA0462GB
11 (O)	Ground	ACCESSORY-IDENTIFY		Ignition switch ON	Connected to iPod [®]	0 V
12 (W)	23 (R)	iPod sound signal RH	Input	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 • • 2ms SKIB3609E
15	_	Shield	_	_	_	_
16 (G)		AV communication signal (H)	Input/ Output		_	_
17 (BR)	Ground	GND	_	Ignition switch ON	_	0 V
19	_	Shield			—	—
21	Ground	iPod connection recogni-	Input	Ignition switch	Not connected to iPod [®]	4 V
(W)		tion signal		ON	Connected to iPod [®]	0 V
22 (G)	Ground	ACCESSORY-DETECT	_	Ignition switch ON	Connected to iPod [®]	0 V
24 (B)	23 (W)	iPod sound signal LH	Input	lgnition switch ON	When iPod mode is select- ed	(V) 1 0 -1 -1 -1 SKIB3609E





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BCM (BODY CONTROL MODULE) (M122)

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3 MULTIFUNCTION SWITCH (M72)

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DATA LINK CONNECTOR M24

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113 ECM M107

To CAN system

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AV CONTROL UNIT (M81), (M82), (M83), (

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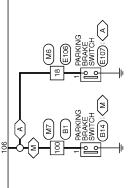
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DISPLAY UNIT 8 2 *: This connector is not shown in "Harness Layout". <u>_</u> 2 33 N (M)

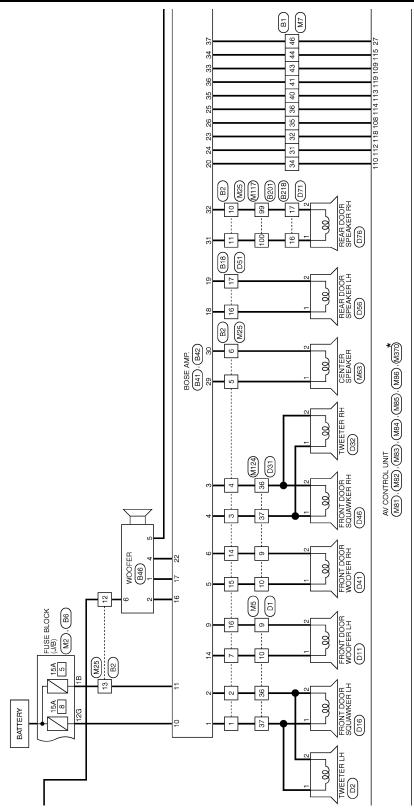


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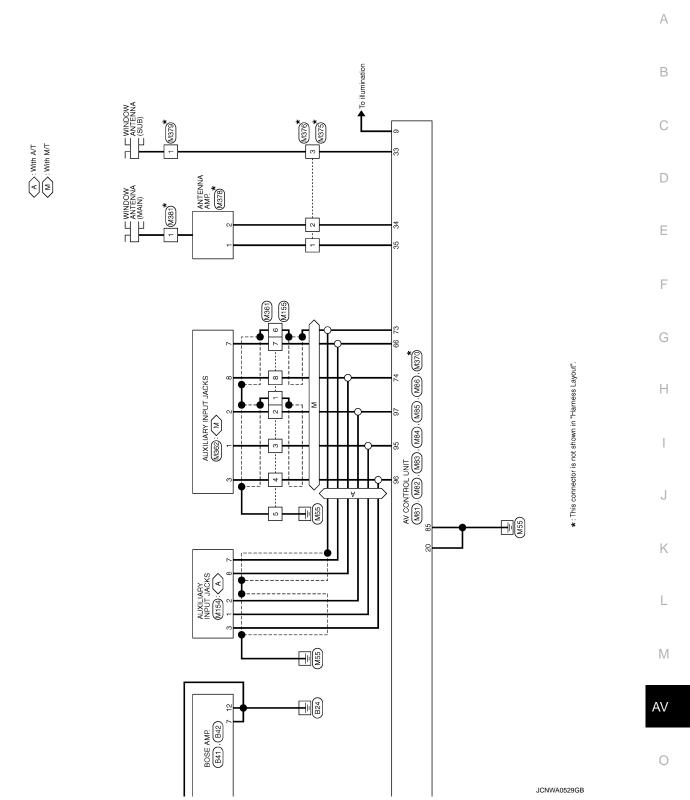
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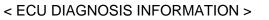


★: This connector is not shown in "Harness Layout".

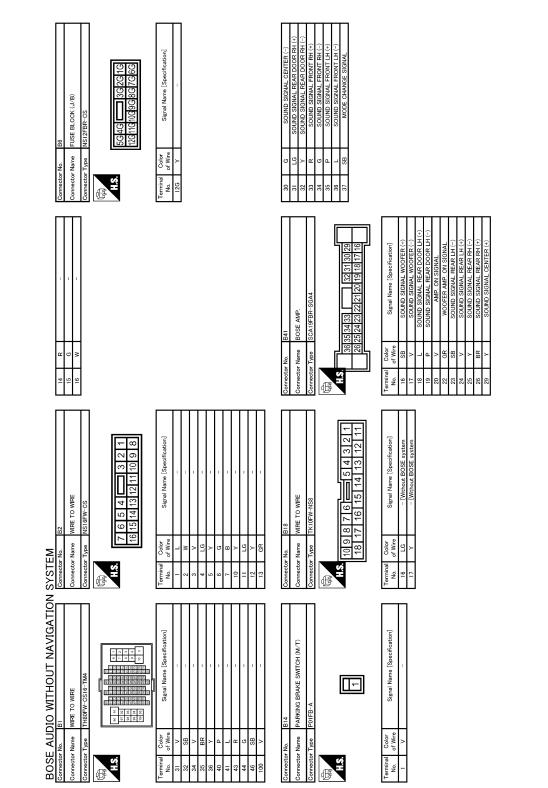
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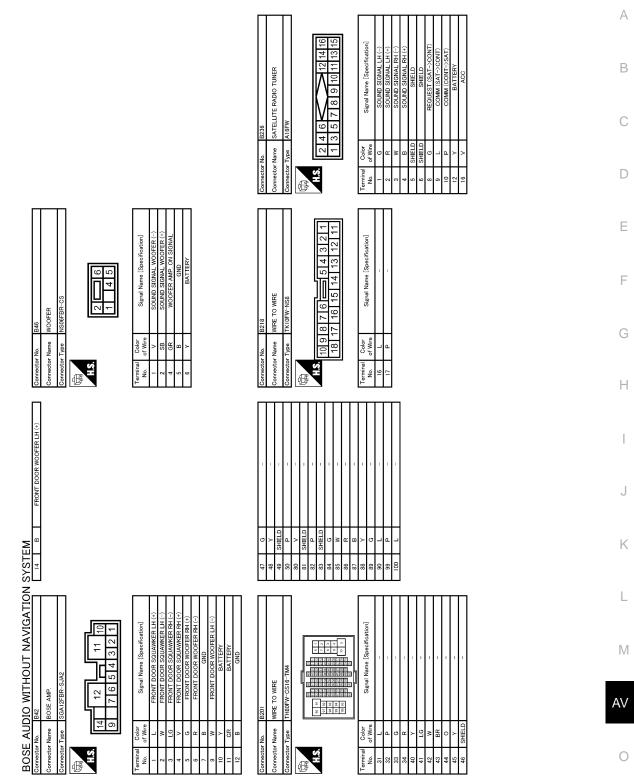


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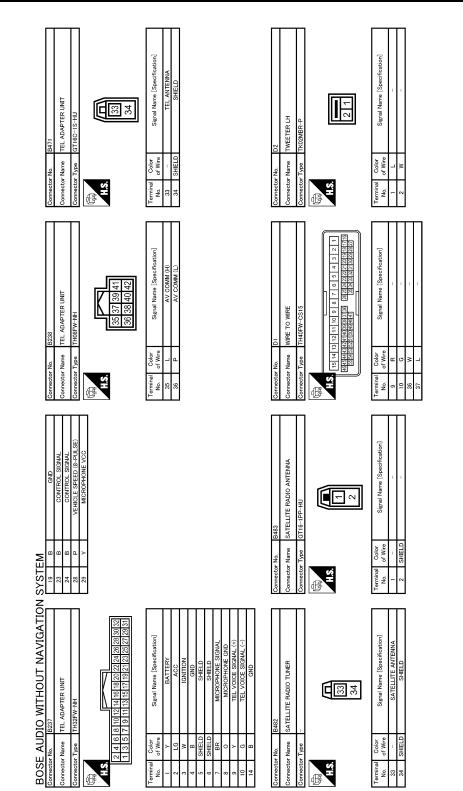
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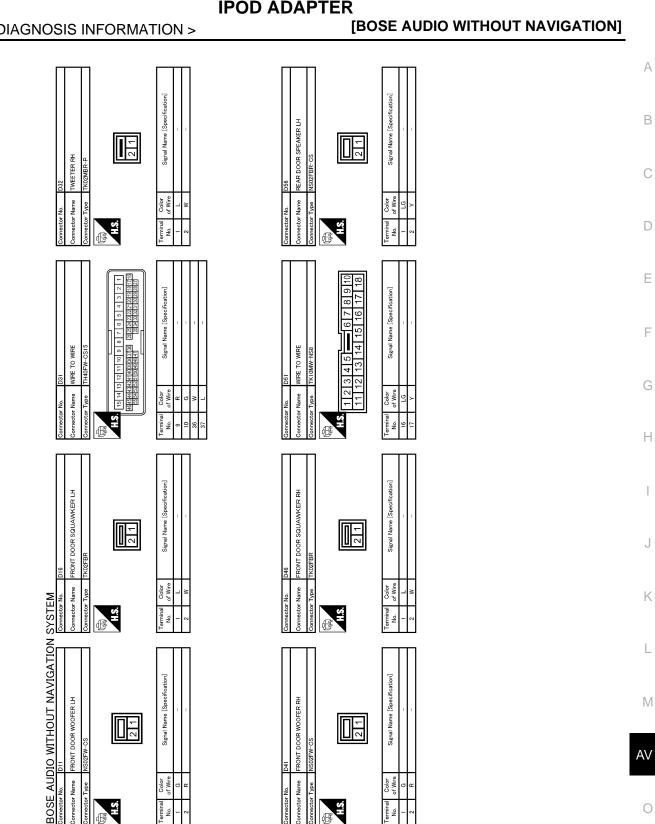
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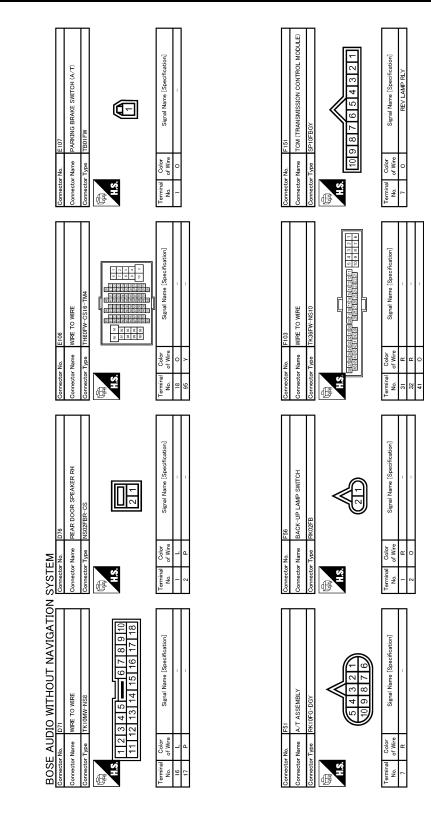
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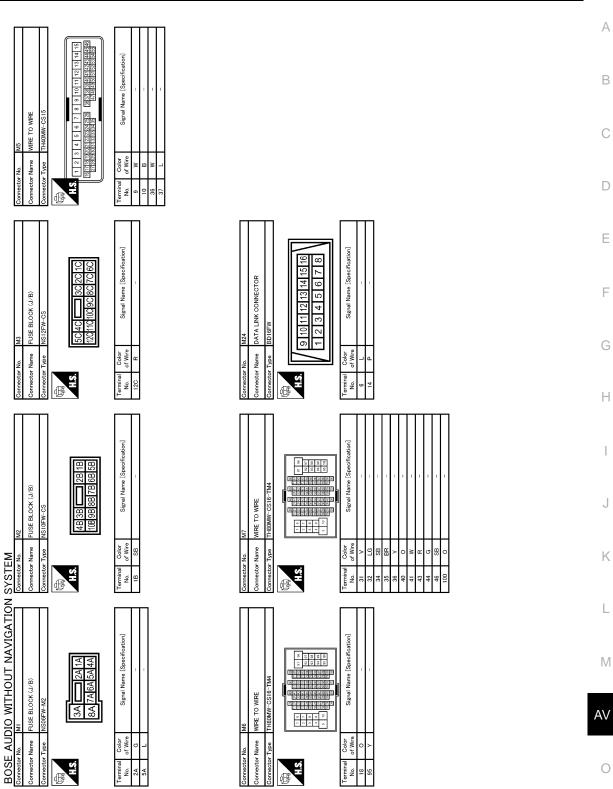
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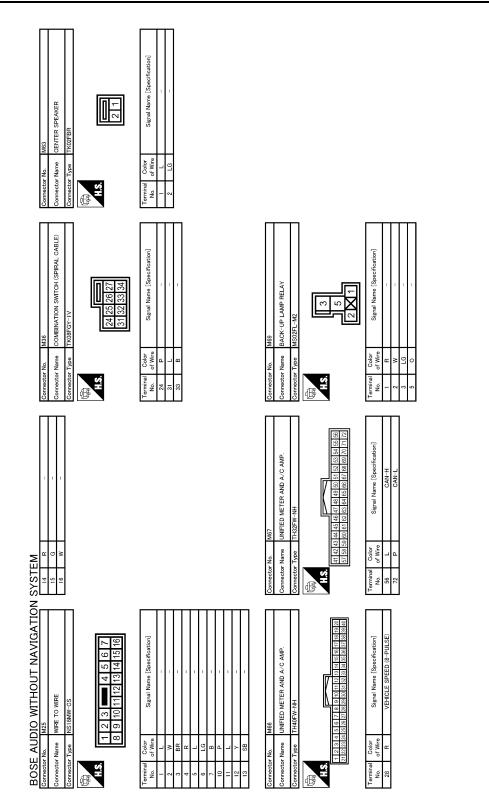


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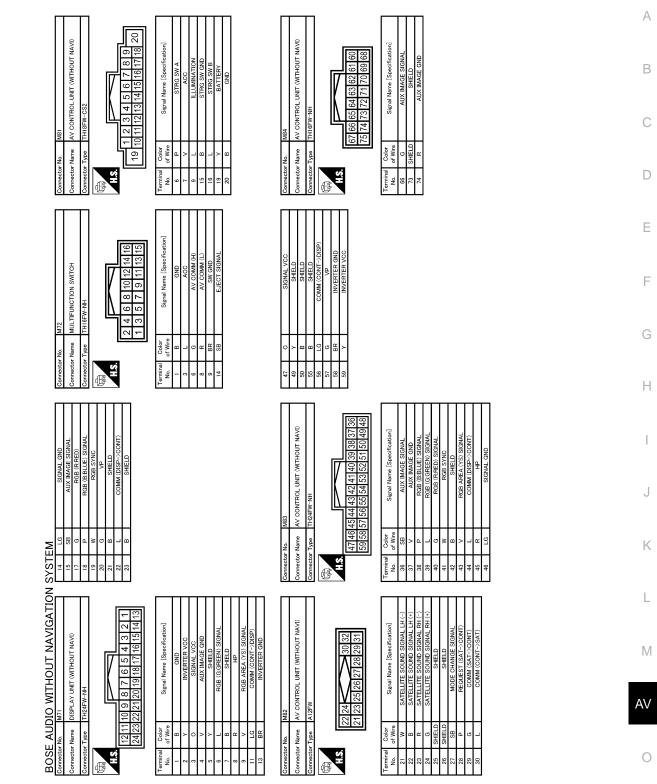


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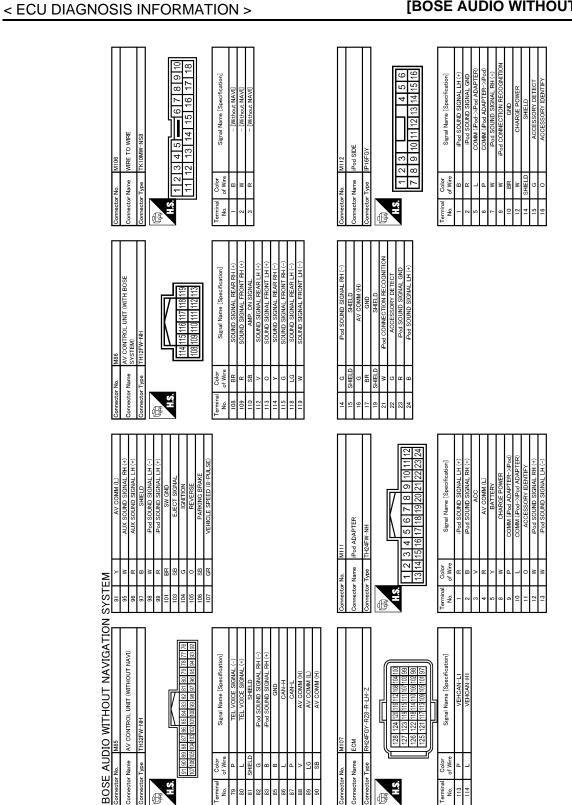
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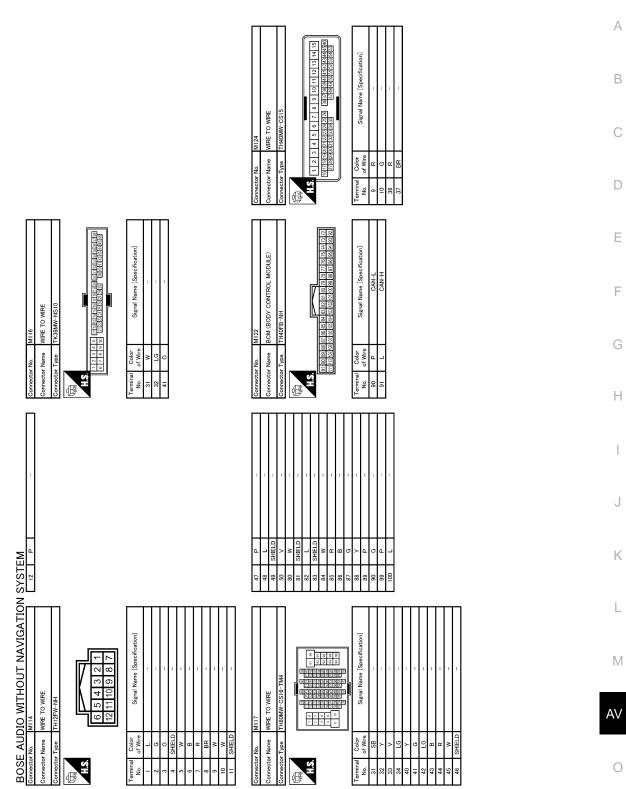
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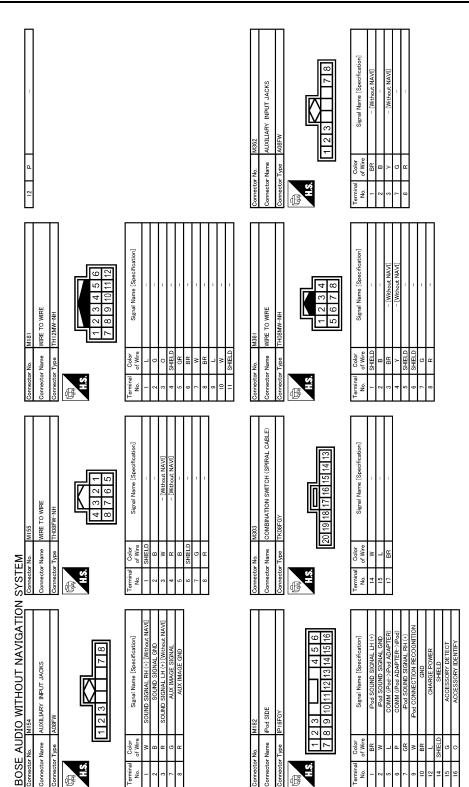
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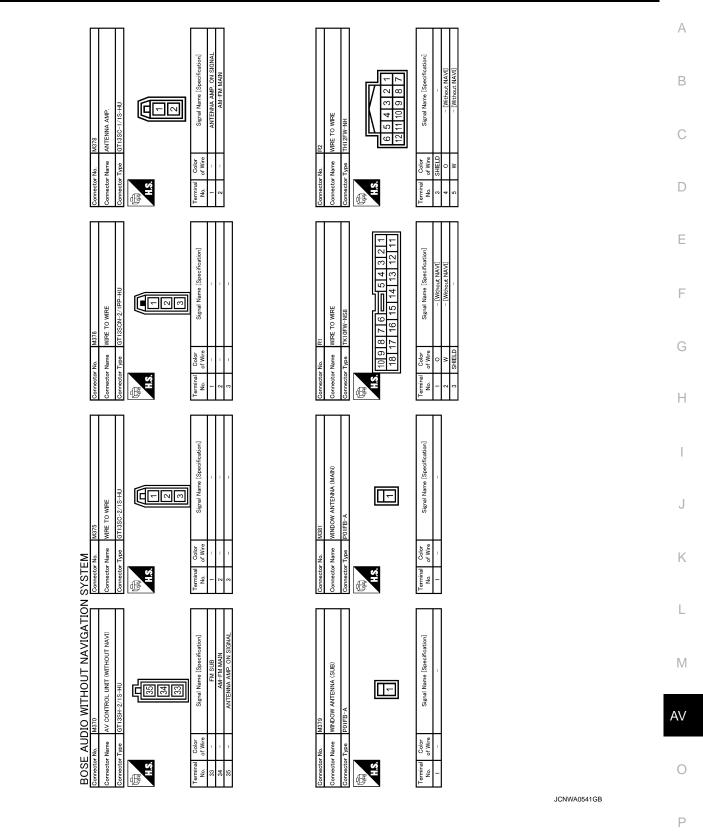


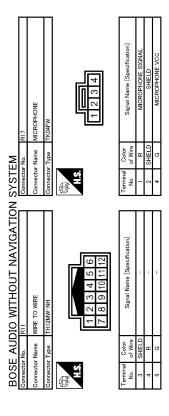
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IPOD ADAPTER

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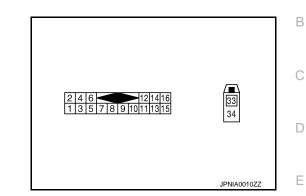
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The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

< ECU DIAGNOSIS INFORMATION >

SATELLITE RADIO TUNER

Reference Value



PHYSICAL VALUES

Terr	minal	Description				Reference value	ı
+	-	Signal name	Input/ Output		Condition	(Approx.)	G
2 (R)	1 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	(V) 1 0 -1 • • 2ms SKIB3609E	H
4 (B)	3 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	(V) 1 -1 + 2ms SKIB3609E	J K
5	_	Shield			—	—	- L
6	—	Shield			—	—	
8 (G)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 • • 10ms SKIA9299J	M AV O
9 (L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 -10 -10 -10 -10 -10 -	Ρ

[BOSE AUDIO WITHOUT NAVIGATION]

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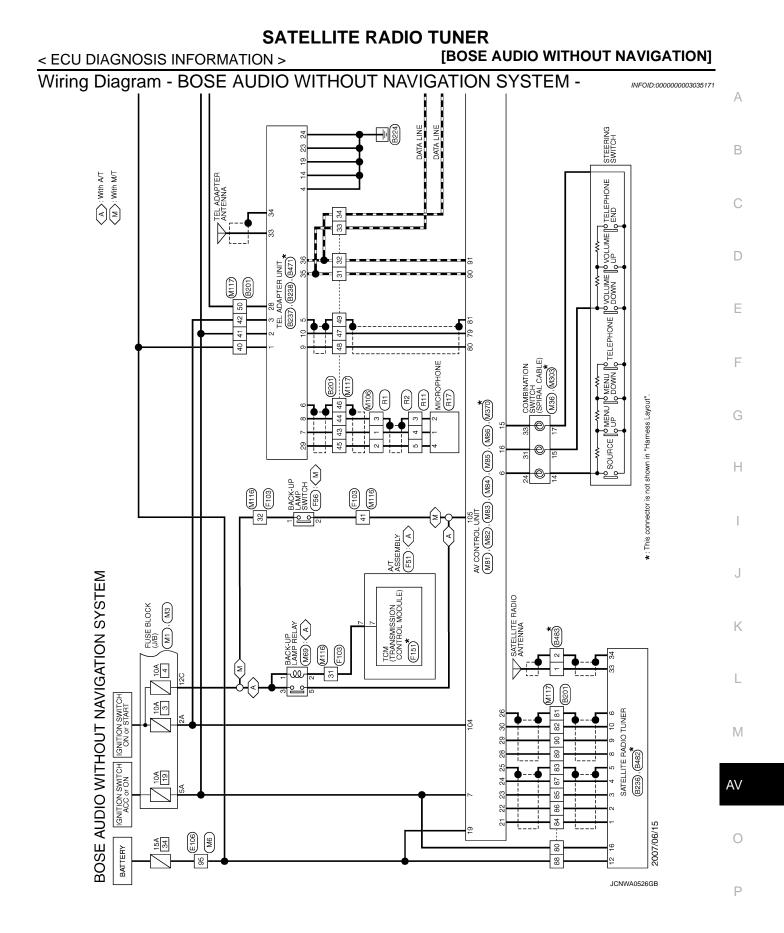
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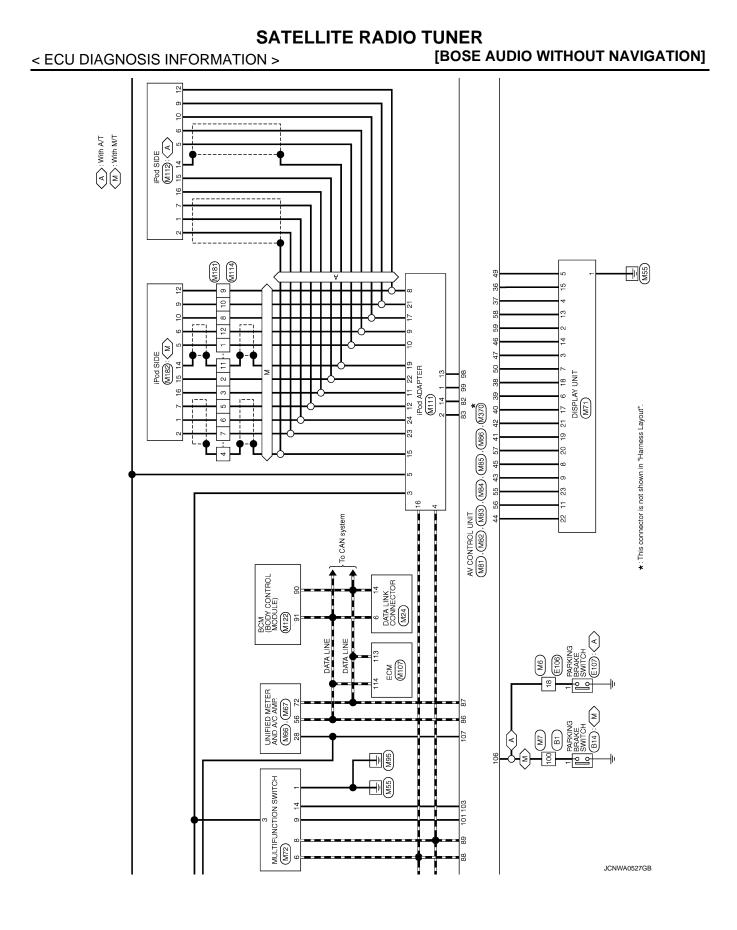
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SATELLITE RADIO TUNER

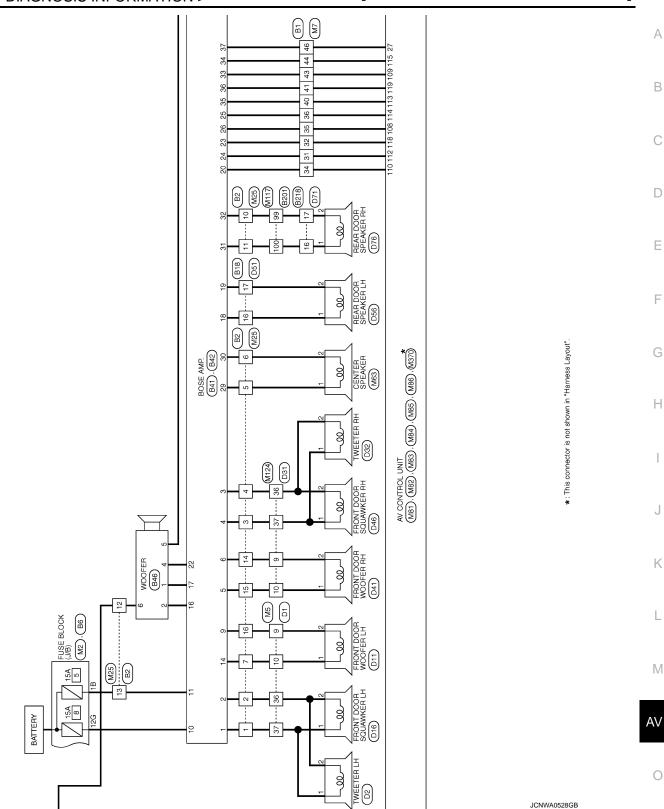
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Terr	minal	Description				Reference value	
+	-	Signal name	Input/ Output	Condition		(Approx.)	
10 (P)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	(V) 10 0 -10 -10 -10 -10 -10 -10 -	
12 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
16 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	
33	_	Satellite antenna	Input	—	—	_	
34	_	Shield	_	—	—	_	









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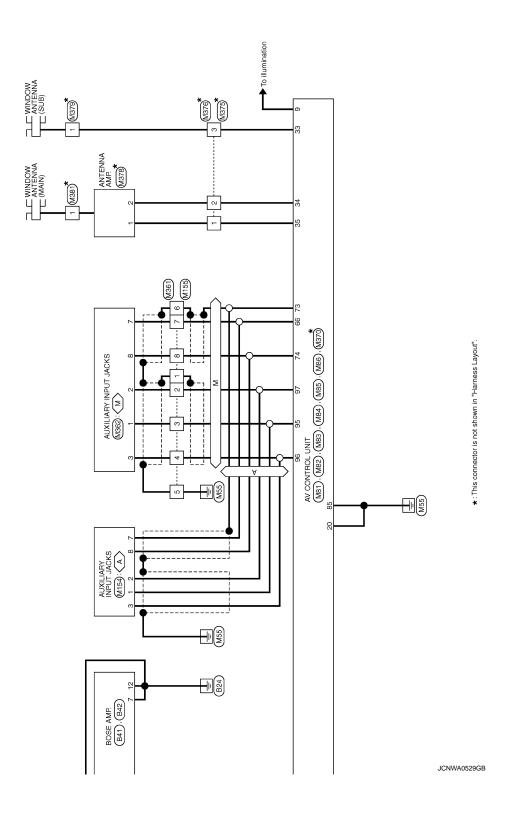
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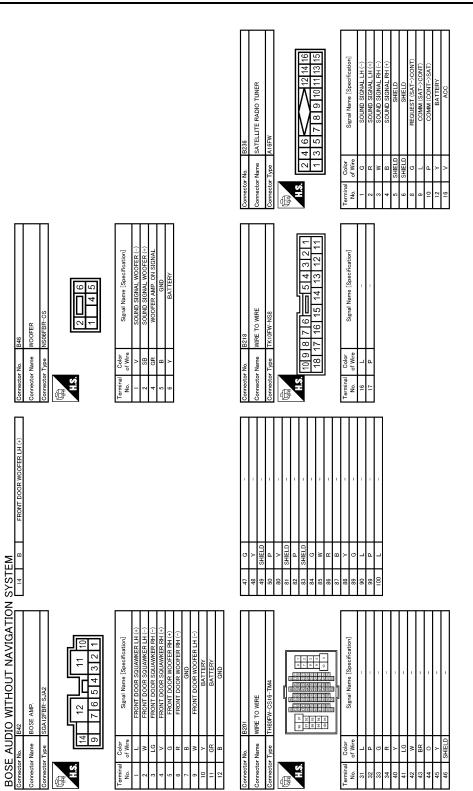
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Connector Nu. B6 Connector Nume FUSE BLOCK (J.B) Connector Type MSI2FBR-GS	q SOUND SIGNAL CENTER (-) Lid SOUND SIGNAL FEAR DOOR FH (-) R SOUND SIGNAL FEAR DOOR FH (-) R SOUND SIGNAL FEAR TH (-) C SOUND SIGNAL FEAR TH (-) L SOUND SIGNAL FEAR TH (-) L SOUND SIGNAL FEAR TH (-) L SOUND SIGNAL FEART TH (-)	A B C
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SATELLITE RADIO TUNER

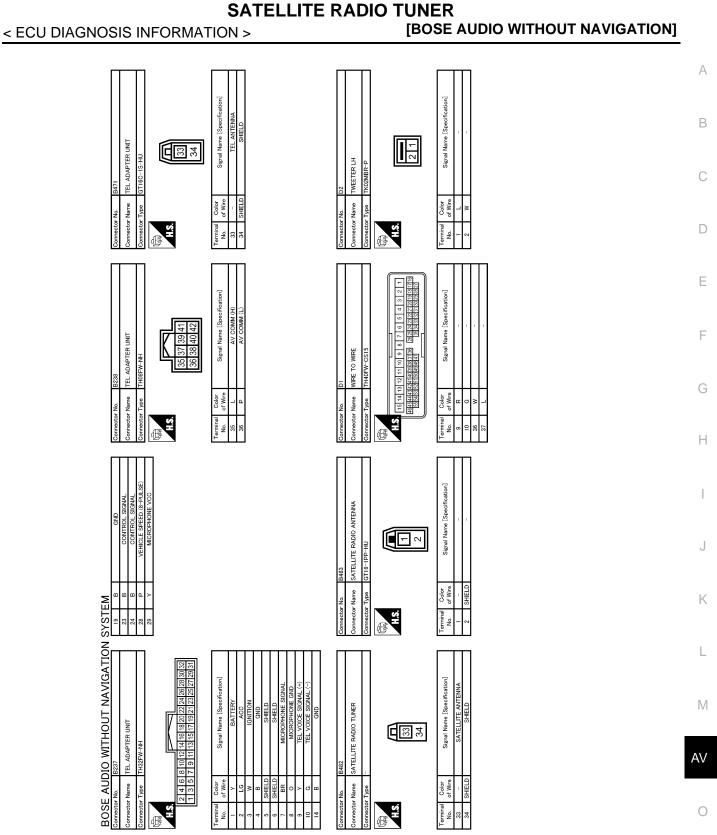
Revision: 2008 September

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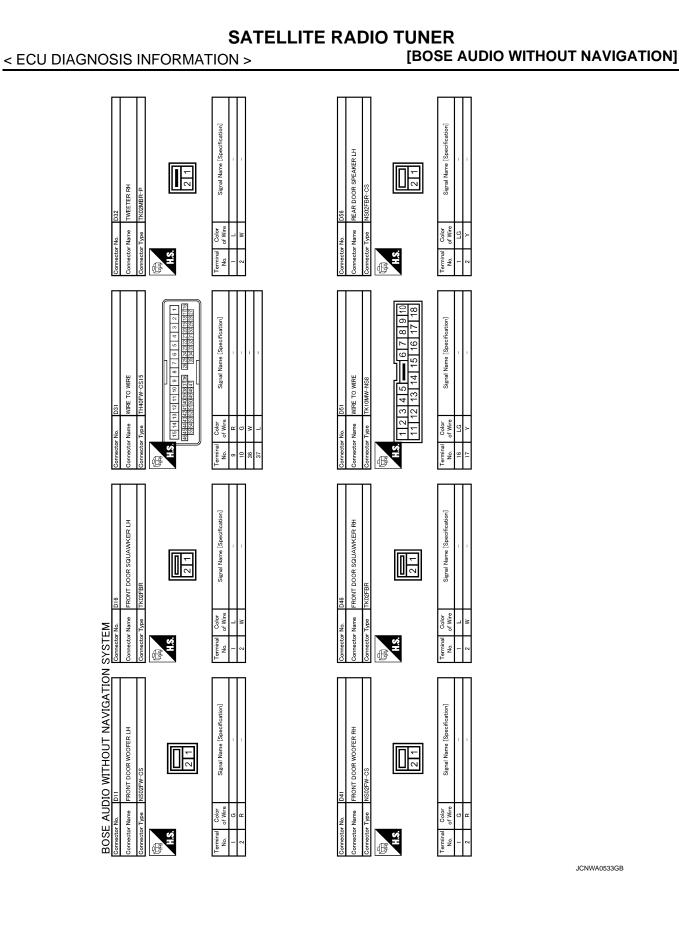
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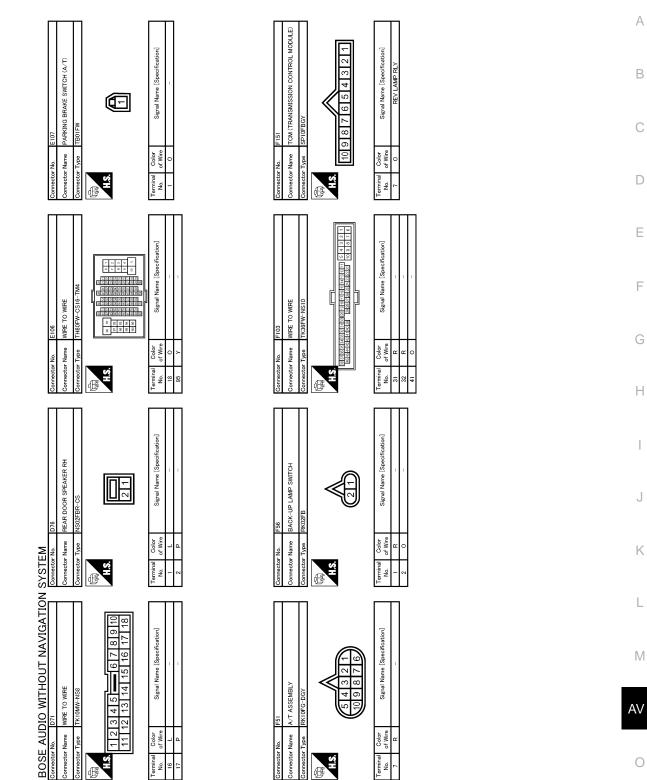
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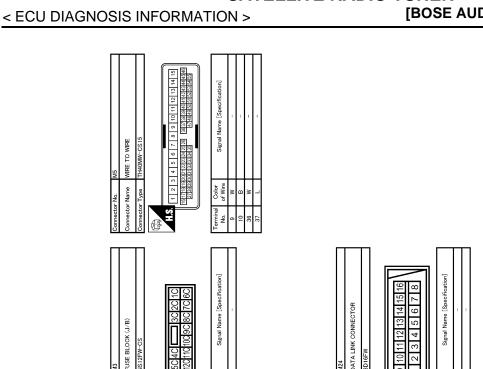
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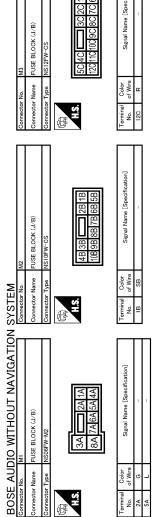


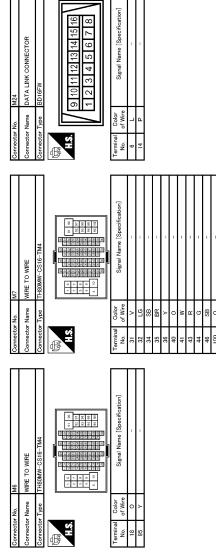
SATELLITE RADIO TUNER < ECU DIAGNOSIS INFORMATION > [BOSE AUDIO WITHOUT NAVIGATION]



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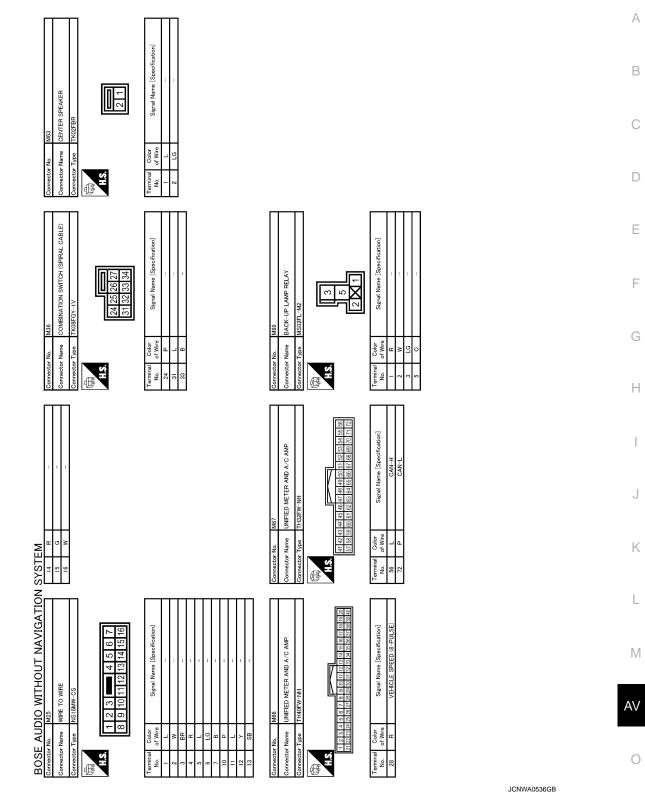
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SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]



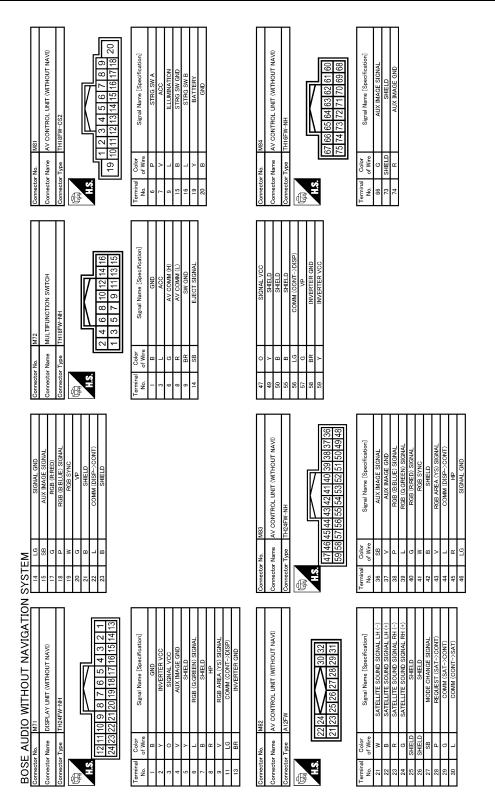
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SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >





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U DIAGNOSIS INFORMATION >	[BOSE AUDIO WITHOUT NAVIGATION]		
Opmettor No. M106 Connector Name WIRE Connector Name WIRE Connector Name WIRE Connector Name WIRE Total 14.15 11 13.14 12 3.14 Max Signal Name Signal Name Specification No. Office Signal Name Specification 2 B - [Without NAVI] 3 R - [Without NAVI]	Connector Name MI12 Connector Name Pod SIDE Connector Name Pod SIDE Connector Type Ploi FGY Mini Table 1 2 3 1 2 3 1 2 3 1 2 4 1 2 4 1 1 1 1 2 1 1 2 1 1 2 1 1 1 2 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 1 2 0 </td <td>A B C D</td>	A B C D	
M86 X. Control. UNIT (WITH BOSE SYSTEM) TH12PV-NH TH12PV-NH (1011011111111111111111111111111111111	Pod SOUND SIGNAL PH (-) SHIELD SHIELD AND AND AND Pod SOUND SIGNAL LH (-) Pod SOUND SIGNAL LH (-)	E	
Connector No. M86 Connector Name AVS1 Connector Name AVS1 Connector Type TH11 M06 F M113 O 113 V	14 15 15 ShielD 17 1 19 ShielD 19 ShielD 22 0 23 8 24 8 23 8	G	
P AV COMM (L) 91 Y 95 W 97 B 97 B 98 N 99 B 99 B 99 B 91 B 99 B 91 B 91 B 91 B 92 SHELD 93 N 94 B 95 SHELD 96 B 97 B 98 SHELL 99 B 910 BR 94 SHML 101 BR 103 C 104 C 105 G 106 C 107 GR 107 C	Connector Name Pod ADAPTER Connector Name Pod ADAPTER Connector Type TH24FW-HH Connector Type Connector Type To Connector Type	I J K	
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Revision: 2008 September

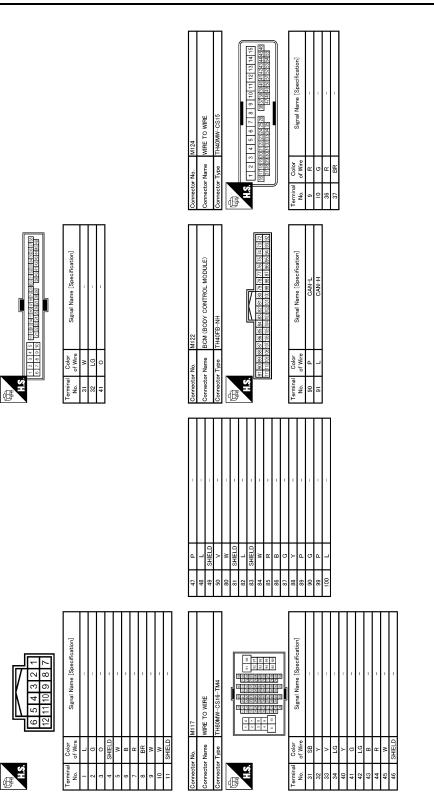
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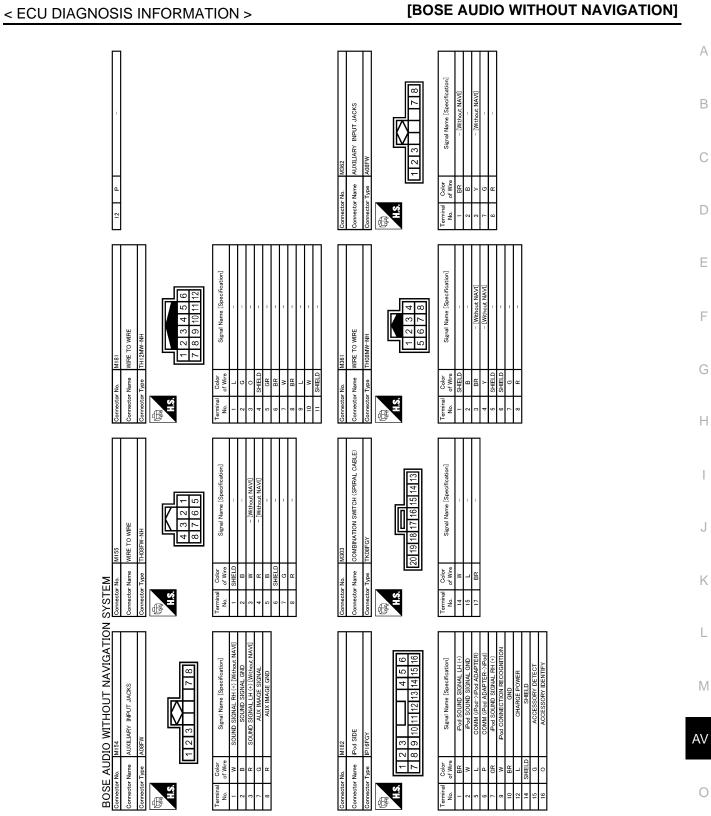
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BOSE AUDIO WITHOUT NAVIGATION SYSTEM

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Connector Name

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SATELLITE RADIO TUNER

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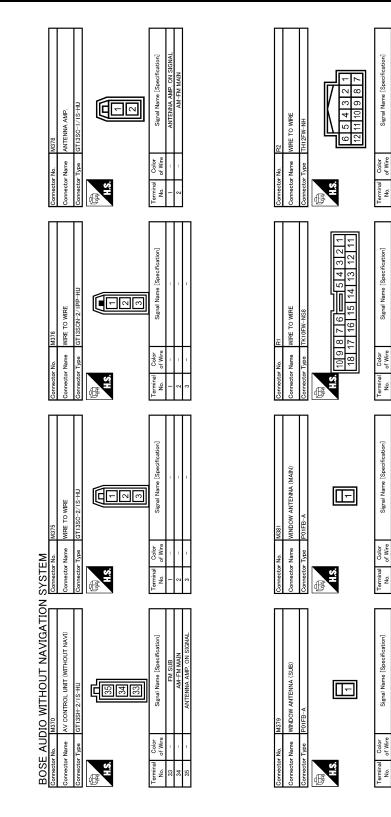
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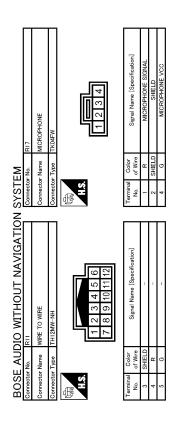
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NOTE:

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

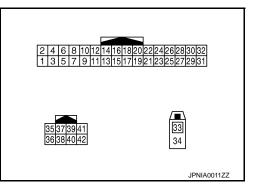
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< ECU DIAGNOSIS INFORMATION >

TEL ADAPTER UNIT

Reference Value

INFOID:000000001849134



PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value
+	-	Signal name	Input/ Output		Condition	(Approx.)
1 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
2 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage
3 (W)	Ground	Ignition signal	Input	Ignition switch ON	_	Battery voltage
4 (B)	Ground	GND	_	Ignition switch ON	_	0 V
5		Shield	_		_	
6		Shield			_	_
7 (BR)	8 (O)	Microphone signal	Input	Ignition switch ON	Give a voice	(V) 2.5 2.0 1.5 1.0 0.5 0 ••• 2ms PKIB5037J
8 (O)	Ground	Microphone GND	_	Ignition switch ON	_	0 V
9 (Y)	10 (G)	TEL voice signal	Output	Ignition switch ON	During voice guide output with the v ≰	(V) 1 0 -1 + 2ms SKIB3609E

TEL ADAPTER UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

	minal e color)	Description		Condition		Reference value
+	-	Signal name	Input/ Output		Condition	(Approx.)
14 (B)	Ground	GND	_	Ignition switch ON	_	0 V
19 (B)	Ground	GND	_	Ignition switch ON	_	0 V
23 (B)	Ground	Control signal	Input	Ignition switch ON	_	0 V
24 (B)	Ground	Control signal	Input	Ignition switch ON	_	0 V
28 (P)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25MPH)	NOTE: Maximum voltage may be 12 V due to specifications (connected units). (V) 6 4 2 0 • • • 20ms SKIA6649J
29 (Y)	8 (O)	Microphone VCC	Output	Ignition switch ON		5 V
33		TEL antenna	Input		_	_
34	—	Shield	-	—		_
35 (L)	-	AV communication signal (H)	Input/ Output		_	_
36 (P)	-	AV communication signal (L)	Input/ Output		_	_

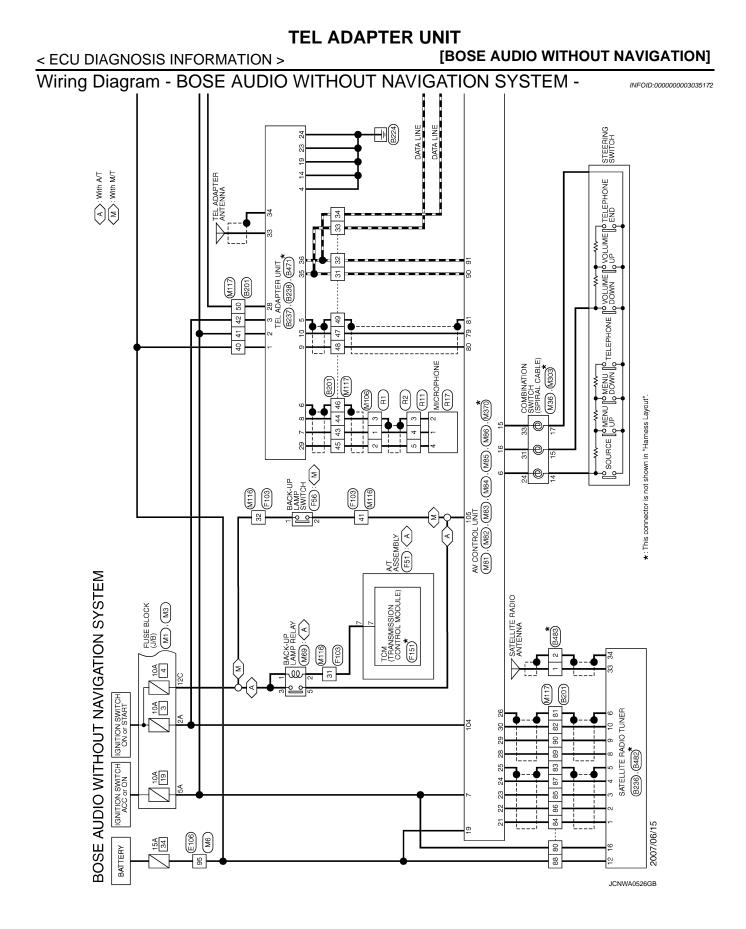
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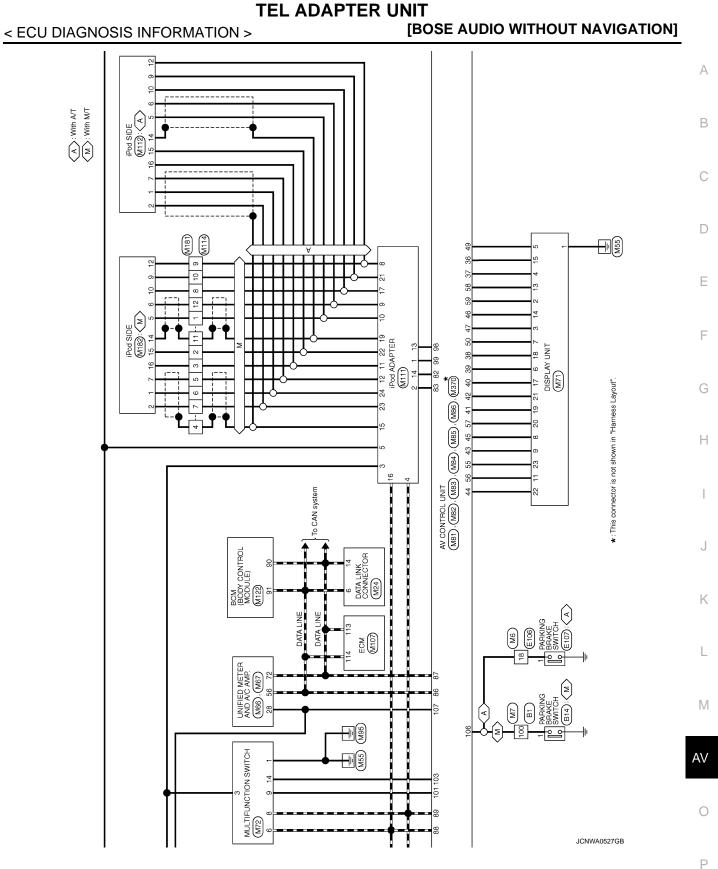
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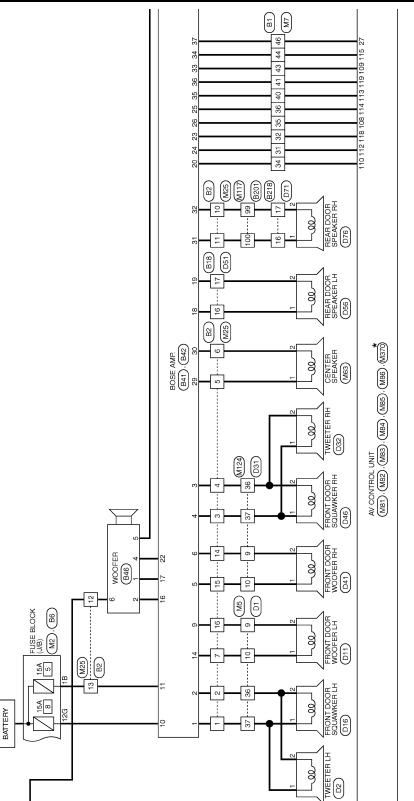
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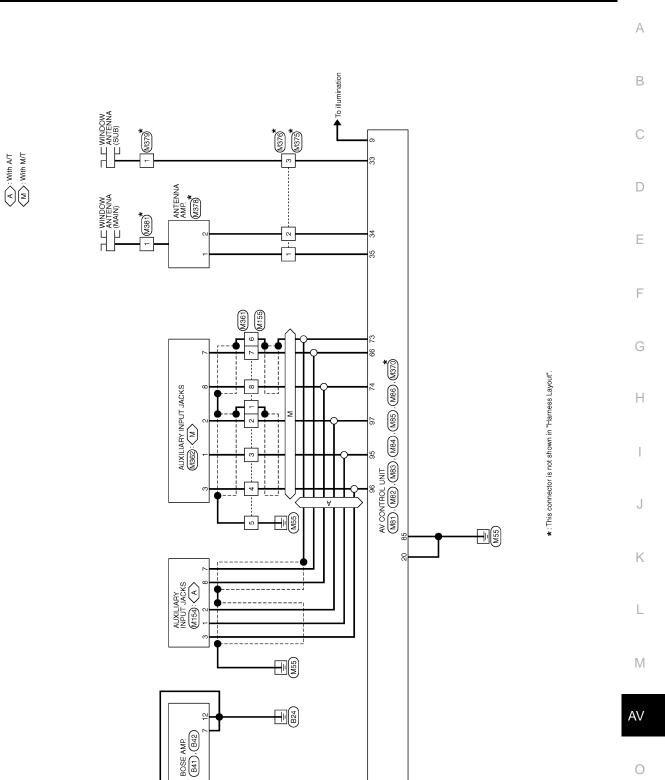


TEL ADAPTER UNIT [BOSE AUDIO WITHOUT NAVIGATION]



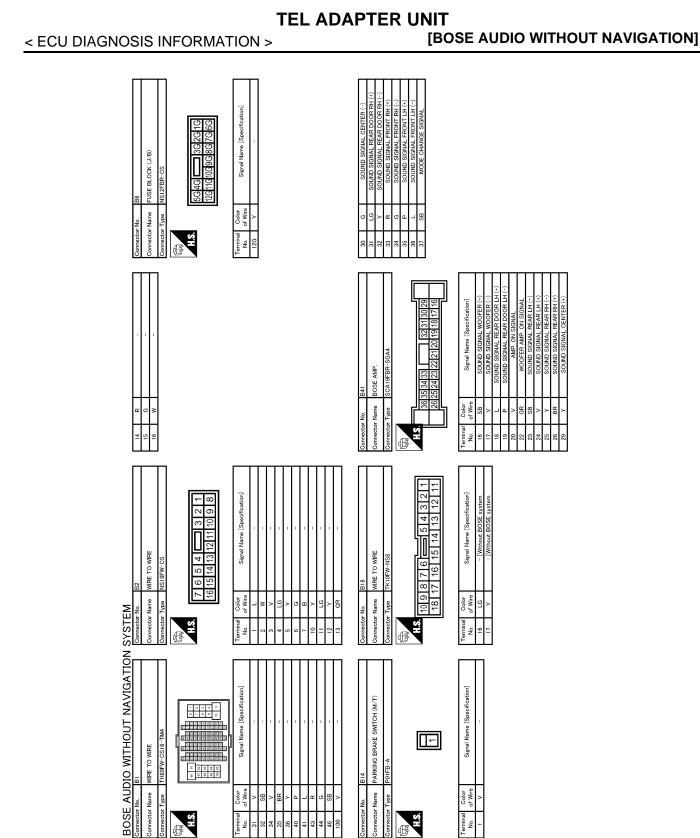
★: This connector is not shown in "Harness Layout".

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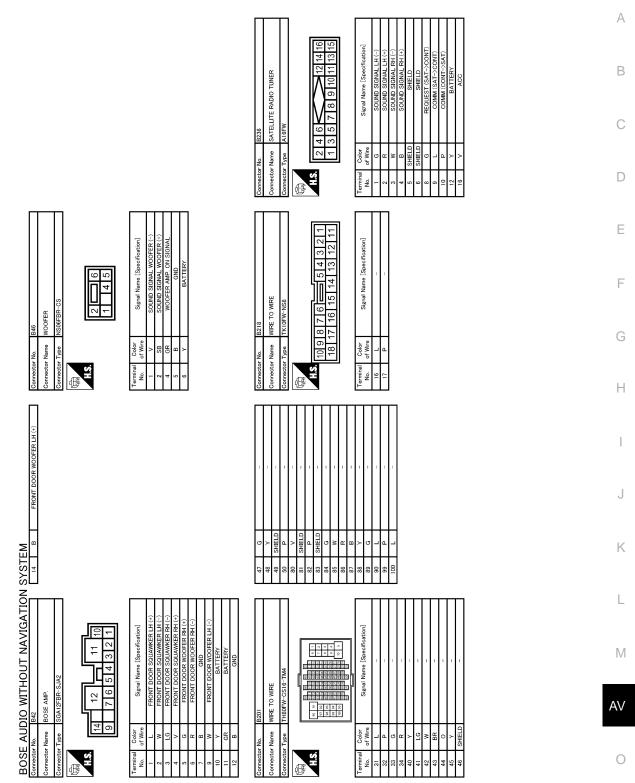
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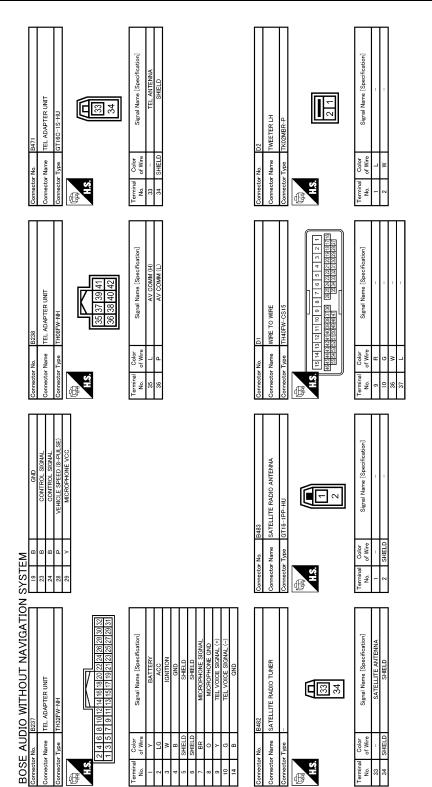


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< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]



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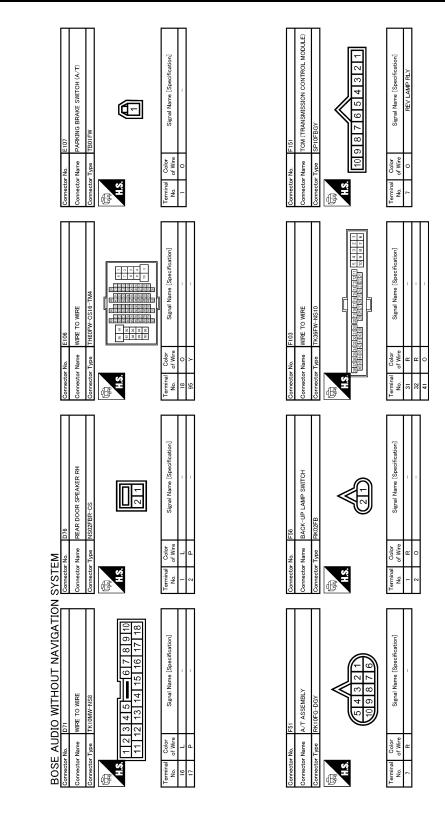
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Connector No. D31 Connector Name WRE TO WRE Connector Name WRE TO WRE Connector Type TH4DFW-C515 Main [15] 41 3 [2] 11 10 [9] [8] 7 [6] [4] 3 [2] 1 Main Signal Statistication Main Signal Name (Specification) On Of Wre	10 G - 37 L - - 37 L - - - Connector No. D51 - - - Connector No. D51 - - - Connector No. MRE TO WRE - - - Connector No. MRE TO WRE - - - Connector Type TK(IOMA-NS6) - - - M. 11/12/13/14/15/16/17/14/16/17/13 - - - Model - - - - - -	eway o draw G	
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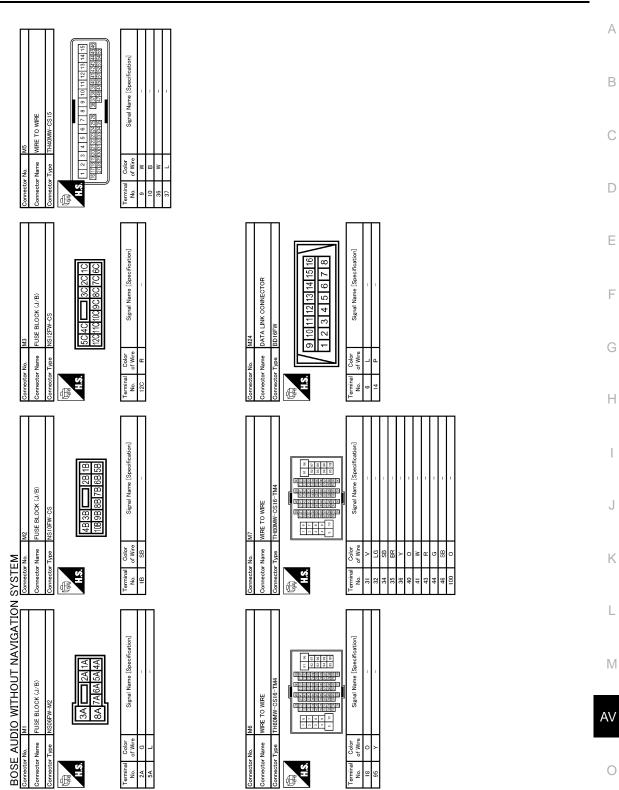
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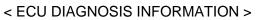
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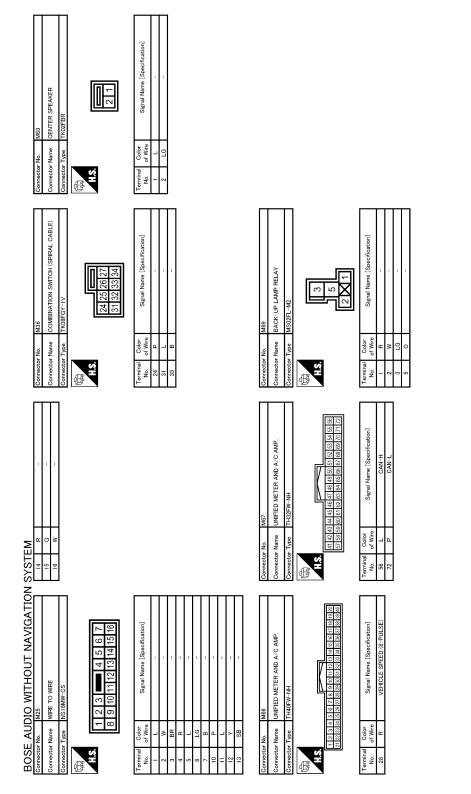
[BOSE AUDIO WITHOUT NAVIGATION]

Revision: 2008 September



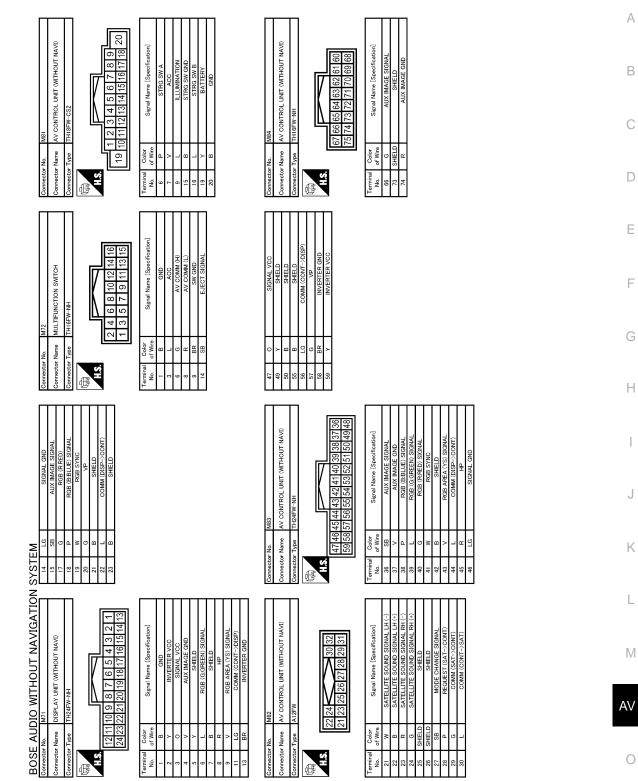
TEL ADAPTER UNIT

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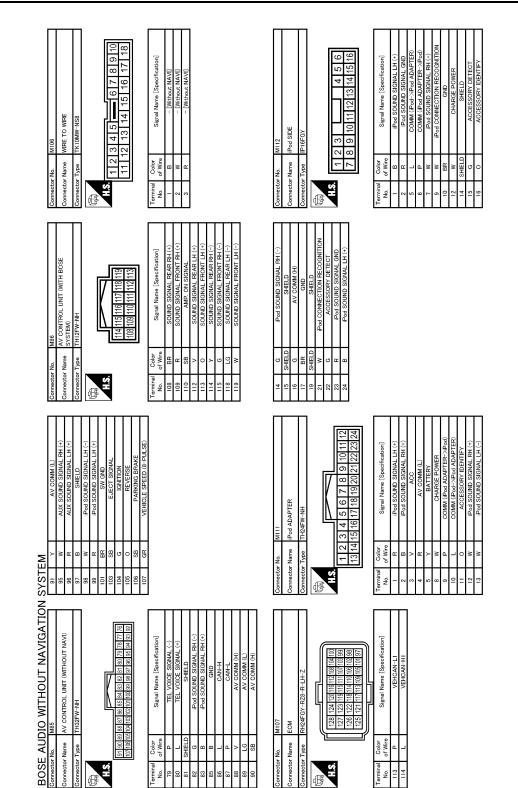


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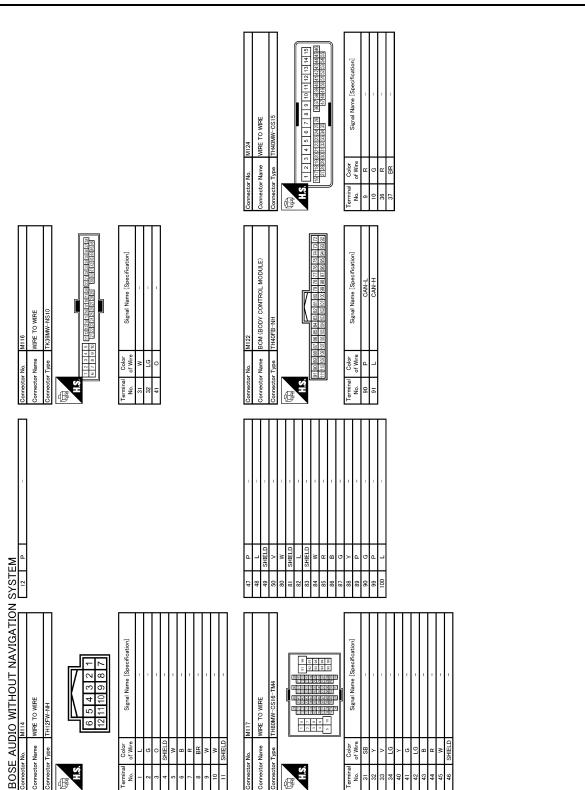


TEL ADAPTER UNIT

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[BOSE AUDIO WITHOUT NAVIGATION]

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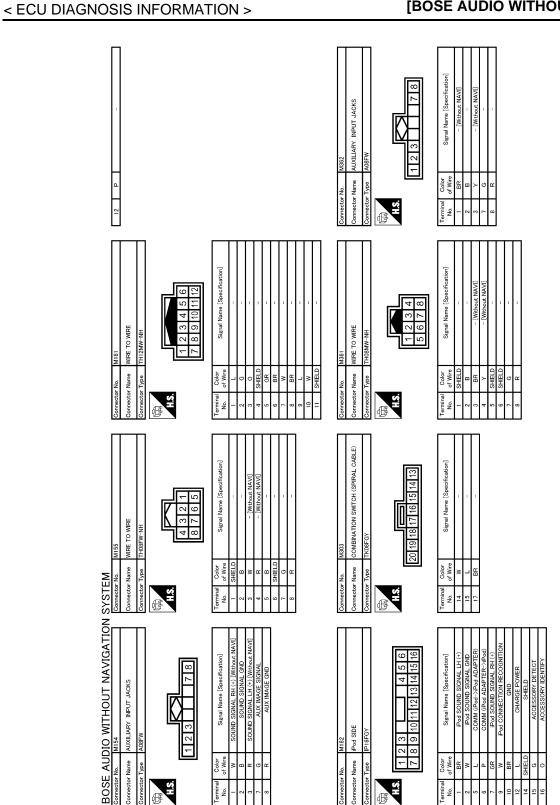
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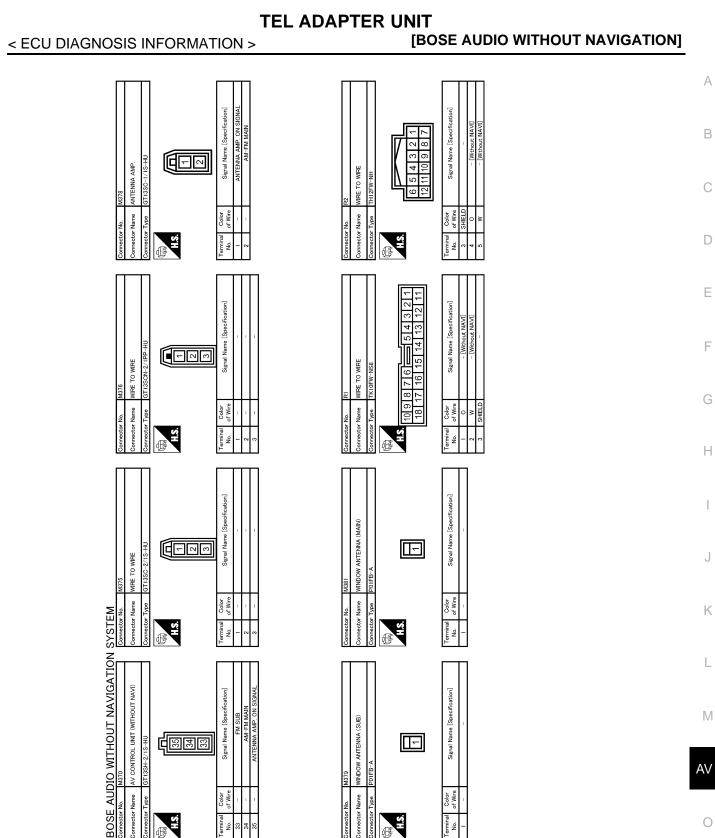
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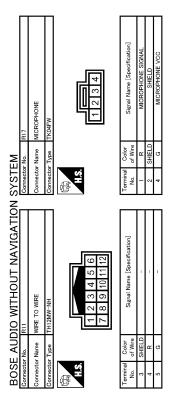
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NOTE:

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

MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITHOUT NAVIGATION]

SYMPTOM DIAGNOSIS MULTI AV SYSTEM SYMPTOMS

Symptom Table

OPERATION

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Symptoms	Check items	Possible malfunction location / Action to take
	 All switches cannot be operated. "MULTI AV" is displayed on system selection screen when the CON-SULT-III is started. 	 Multifunction switch power supply and ground circuit. AV communication circuit between AV control unit and multifunction switch. Perform CONSULT-III self-diagnosis. Refer to <u>AV-149. "CONSULT - III Function (MULTI AV)"</u>.
Multifunction switch and preset switch operation does not work.	 All switches cannot be operated. "MULTI AV" is not displayed on system selection screen when the CON-SULT-III is started. 	AV control unit power supply and ground circuit malfunc- tion. Refer to <u>AV-164, "AV CONTROL UNIT : Diagnosis</u> <u>Procedure"</u> .
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Per- form multifunction switch and preset switch self-diagno- sis function. Refer to <u>AV-140</u> , "Diagnosis Description".

RELATED TO HANDS-FREE PHONE

Basic Inspection

- Check that the cellular phone is corresponding type (Bluetooth® correspond) when the hands-free related malfunction vehicle is in service before performing a diagnosis.
- There is a case that malfunction occurs due to the version change of the phone type, etc. even though it is a corresponding type. Therefore, confirm it by changing the cellular phone to another corresponding type phone, and check that it operates normally. It is necessary to distinguish whether the cause is the vehicle or cellular 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.
- 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:

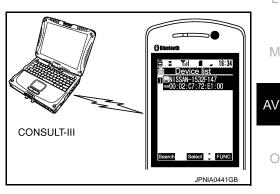
*:Displayed device name is "NISSAN-********.

- 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.

On board self-diagnosis of hands-free phone system

Always perform the on board self-diagnosis at first after completing the basic inspection when the malfunction is detected on the hands-free phone system. Narrow down possible causes using the Diagnosis Chart if there is no malfunction in the on board self-diagnosis.

Trouble diagnosis chart by symptom



< SYMPTOM DIAGNOSIS >

MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (No connec- tion is displayed on the display at the guide.)	Repeat the registration of cellular phone.	TEL adapter unit malfunction. Refer to <u>AV-342, "Exploded View"</u> .
Hands-free phone cannot be established.	Both the reception and the speech cannot be performed	 Perform CONSULT-III self-diagnosis. Refer to <u>AV-149. "CONSULT - III Function (MULTI AV)"</u>. No malfunction. TEL adapter unit malfunction. Refer to <u>AV-342, "Exploded View"</u>. Malfunction is detected. Refer to <u>AV-149. "CONSULT - III Function (MULTI AV)"</u>.
The other party's voice cannot	The operation of the " $\sqrt{2}$ (" switch can be performed.	TEL voice signal circuit malfunction between TEL adapter unit and AV control unit.
be heard by hands-free phone.	The operation of the " $\sqrt{2}$ (" switch cannot be performed.	Control signal circuit. Refer to <u>AV-180, "Diagnosis Procedure"</u> .
Originating sound is not heard by the other party with hands-	Sound operation function is normal.	TEL adapter unit. Refer to <u>AV-342, "Exploded View"</u> .
free phone communication.	Sound operation function does not work.	Microphone signal circuit. Refer to <u>AV-179, "Diagnosis Procedure"</u> .

RELATED TO RGB IMAGE

Trouble diagnosis chart by symptom

Symptoms	Check items	Possible malfunction location / Action to take
	There is malfunction in the CONSULT-III self-diagnosis result.	Perform CONSULT-III self-diagnosis. Refer to <u>AV-149, "CONSULT - III Function (MULTI AV)"</u> .
RGB image is not shown.	There is no malfunction in CONSULT-III self-diagnosis results.	 Display unit power supply and ground circuit. Refer to <u>AV-164, "DISPLAY UNIT : Diagnosis Proce-dure"</u>. Vertical synchronizing (VP) signal circuit. Refer to <u>AV-175, "Diagnosis Procedure"</u>.
	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to <u>AV-169, "Diagnosis Procedure"</u> .
Color of RGB image is not proper.	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to <u>AV-170, "Diagnosis Procedure"</u> .
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to <u>AV-171, "Diagnosis Procedure"</u> .
RGB screen is rolling.	_	RGB synchronizing signal circuit. Refer to <u>AV-172, "Diagnosis Procedure"</u> .
	There is malfunction in the CONSULT-III self-diagnosis result.	Perform CONSULT-III self-diagnosis. Refer to <u>AV-149. "CONSULT - III Function (MULTI AV)"</u> .
Fuel economy display is mal- functioning.	There is no malfunction in CONSULT-III self-diagnosis results.	Ignition signal circuit malfunction. Refer to <u>AV-164, "AV CONTROL UNIT : Diagnosis Proce-</u> <u>dure"</u> .

RELATED TO AUDIO

Trouble diagnosis chart by symptom

Symptoms	Check items	Possible malfunction location / Action to take
The CD cannot be removed.	<u> </u>	CD eject signal circuit.

MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Possible malfunction location / Action to take
	No sound from all speakers.	 BOSE amp. power supply and ground circuit. Refer to <u>AV-166. "BOSE AMP. : Diagnosis Procedure"</u>. Amp. ON signal circuit
Audio sound is not heard.	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 not heard from center speaker.	Sound signal center speaker circuit.
	Sound is heard only from specific places (RH front, RH rear, LH front and LH rear).	Sound signal circuit of malfunctioning system.
It does not change to "Driver's Audio Stage" mode.	_	Mode change signal circuit. Refer to <u>AV-181, "Diagnosis Procedure"</u> .
Satellite radio is not received.	"ANTENNA" is not displayed even when the channel is turned to 0 in Satellite ra- dio mode.	 Perform the following inspection procedure. Check satellite radio antenna mounting nut for looseness. NOTE: Tightening torque: 6.5 N-m (0.66 kg-m, 58 in-lb.) Visually check for satellite radio antenna feeder. Replace the satellite radio antenna. Refer to <u>AV-333</u>, "Exploded View". Replace the satellite radio tuner. Refer to <u>AV-332</u>, "Exploded View".
	"ANTENNA" is displayed when the chan- nel is turned to 0 in Satellite radio mode.	 Perform the following inspection procedure. Check the connection between Satellite radio tuner and antenna feeder. Check the connection between Satellite radio anten- na and antenna feeder. Check Antenna feeder for open circuit. Replace the satellite radio antenna. Refer to <u>AV-333, "Exploded View"</u>. Replace the satellite radio tuner. Refer to <u>AV-332, "Exploded View"</u>.
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.	Perform CONSULT-III self-diagnosis. Refer to <u>AV-149. "CONSULT - III Function (MULTI AV)"</u> .
AM/FM radio is not received.	Other audio sounds are normal.	Antenna amp. ON signal circuit.Antenna feeder.

RELATED TO iPod[®]

Trouble diagnosis chart by symptom

Connect another iPod[®] and check if the symptom is reproduced or not. If the symptom is reproduced, diagnose the vehicle. If no malfunction is detected, replace the iPod harness. **NOTE:**

It is unable to check that between $iPod^{$ ® and iPod harness.

Symptoms	Check items	Possible malfunction location / Action to take
The sound of iPod [®] is not		• iPod sound signal circuit between AV control unit and iPod adapter.
heard.	Other audio sounds are normal.	 iPod sound signal circuit between iPod[®] and iPod adapter.
It does not change to iPod mode.	There is malfunction in the CONSULT- III self-diagnosis.	Perform CONSULT-III self-diagnosis. Refer to <u>AV-149</u> , "CONSULT - III Function (MULTI AV)".
"iPod is not connected" is dis- played when it comes to iPod mode.	Connected to iPod [®] .	iPod connection recognition signal circuit between iP- od [®] and iPod adapter.

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MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Possible malfunction location / Action to take
iPod [®] cannot charge the bat- tery.	_	iPod battery charge circuit between iPod [®] and iPod adapter.
The title of music file in the iP- $od^{\textcircled{R}}$ is not indicated.		Communication circuit between iPod [®] and iPod adapter.
Accessing the iPod [®] is un- available from the vehicle.		Communication circuit between IPod [~] and IPod adapter.

RELATED TO STEERING SWITCH

Trouble diagnosis chart by symptom

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch signal GND circuit. Refer to <u>AV-189, "Diagnosis Procedure"</u> .
Only specified switch cannot be operated.	Steering switch. Refer to AV-336, "Exploded View".
"SOURCE", "MENU UP", "MENU DOWN", " 🜿 🌈 " switches of steering switch are not operated.	Steering switch signal A circuit. Refer to <u>AV-185, "Diagnosis Procedure"</u> .
"VOL UP", "VOL DOWN", " " " switches of steering switch are not operated.	Steering switch signal B circuit. Refer to <u>AV-187, "Diagnosis Procedure"</u> .

AUX 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 <u>AV-176. "Diagnosis Procedure"</u>. Horizontal synchronizing (HP) signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-174. "Diagnosis Procedure"</u>. RGB area (YS) signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-173. "Diagnosis Procedure"</u>.
It does not change from AUX mode to other modes.	_	Vertical synchronizing (VP) signal circuit malfunction be- tween AV control unit and display unit. Refer to <u>AV-175</u> , "Diagnosis Procedure".

NORMAL OPERATING CONDITION [BOSE AUDIO WITHOUT NAVIGATION]

NORMAL OPERATING CONDITION

Description

BASIC OPERATIONS

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Symptom	Possible cause	Possible solution	
	The brightness is at the lowest setting.	Adjust the brightness of the display.	
No image is displayed.	The system is in the video mode.	Push <disc></disc> to change the mode.	
	The display is turned off.	Push <day night=""></day> to turn on the display.	
The screen is too dim. The move- ment 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 se- lected.	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 resolves.

Symptom	Solution
System fails to interpret the com- mand 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 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/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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

Symptom	Cause and Counter measure
	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.
Cannot play	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.
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 > PRECAUTION PRECAUTIONS

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INFOID:000000001903609

INFOID:000000001903610

PRECAUTIONS

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

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:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which 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 the "SRS AIR BAG".
- Do not 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:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT 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

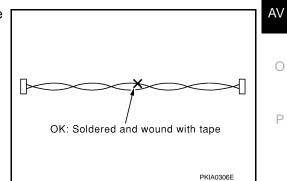
AV COMMUNICATION SYSTEM

- 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

AV COMMUNICATION SYSTEM

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

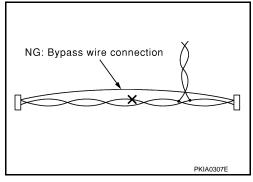


< PRECAUTION >

PRECAUTIONS

[BOSE AUDIO WITHOUT NAVIGATION]

• 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.)



[BOSE AUDIO WITHOUT NAVIGATION]

	l-		INFOID:000000001903607
mmercial Service To	DOIS		
Tool name		Description	
Power tool		Loosening bolts and nu	S
)191E	

< PREPARATION >

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

REMOVAL AND INSTALLATION AV CONTROL UNIT

Exploded View

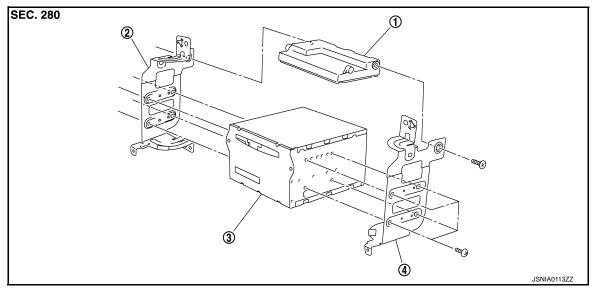
INFOID:000000001836179

INFOID:000000001836180

REMOVAL

Refer to IP-11, "Exploded View".

DISASSEMBLY



- 1. Unified meter and A/C amp.
 - 2. Bracket LH

3. AV control unit

4. Bracket RH

Removal and Installation

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.

< REMOVAL AND INSTALLATION >

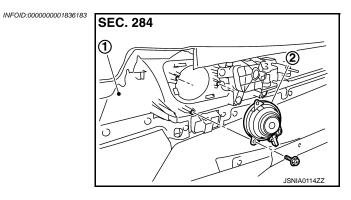
DISPLAY UNIT		А
Exploded View	INFOID:000000001836181	A
Refer to <u>IP-11, "Exploded View"</u> . Removal and Installation	INFOID:000000001836182	В
 REMOVAL Remove cluster lid D. Refer to <u>IP-11, "Exploded View"</u>. Remove display unit with bracket as a single unit. 		С
 Remove display unit with bracket as a single unit. INSTALLATION Installation is the reverse order of removal. 		D
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< REMOVAL AND INSTALLATION >

FRONT DOOR SQUAWKER

Exploded View



- 1. Door finisher
- 2. Front door squawker

Removal and Installation

REMOVAL

- 1. Remove front door finisher. Refer to INT-11, "Exploded View".
- 2. Remove front door squawker from door finisher.

INSTALLATION

Installation is the reverse order of removal.

INFOID:000000001836184

FRONT DOOR WOOFER

[BOSE AUDIO WITHOUT NAVIGATION]

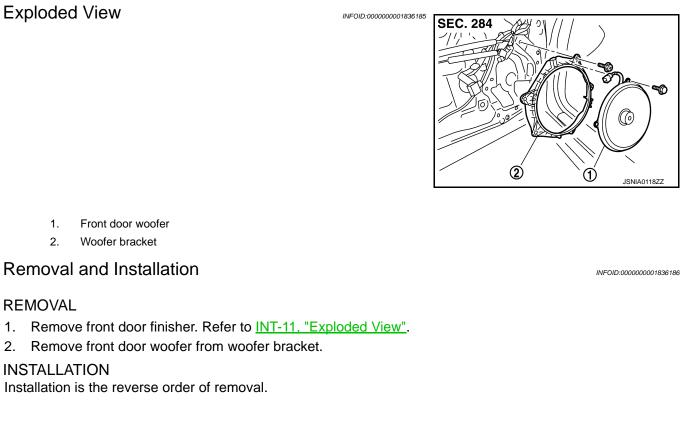
< REMOVAL AND INSTALLATION > FRONT DOOR WOOFER

Exploded View

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2.



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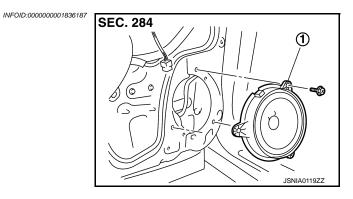
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REAR DOOR SPEAKER

Exploded View



1. Rear door speaker

Removal and Installation

REMOVAL

- 1. Remove rear door finisher. Refer to INT-11, "Exploded View".
- 2. Remove rear door speaker from rear door.

INSTALLATION

Installation is the reverse order of removal.

[BOSE AUDIO WITHOUT NAVIGATION]

< REMOVAL AND INSTALLATION >

TWEETER

1.

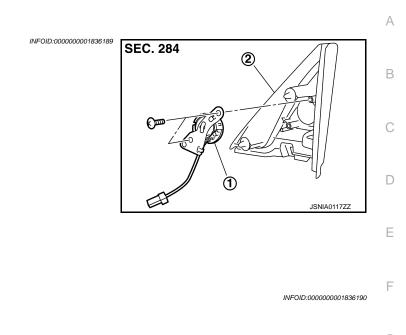
2.

Tweeter

Removal and Installation

Corner cover inner





REMOVAL	G
 Remove front door finisher, and then remove corner cover inner. Refer to <u>INT-11, "Exploded View"</u>. Remove tweeter from corner cover inner. 	0
INSTALLATION Installation is the reverse order of removal.	Н
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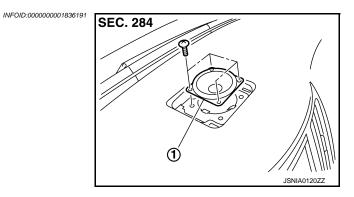
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CENTER SPEAKER

Exploded View



1. Center speaker

Removal and Installation

INFOID:000000001836192

REMOVAL

1. Remove upper grille, and then remove center speaker. Refer to IP-11, "Exploded View".

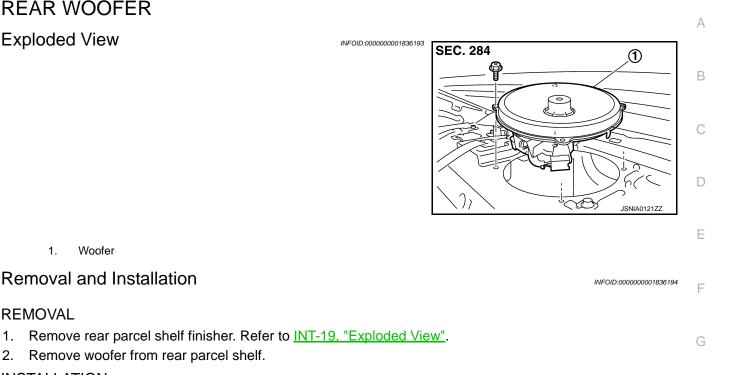
INSTALLATION

Installation is the reverse order of removal.

[BOSE AUDIO WITHOUT NAVIGATION]

REAR WOOFER





INSTALLATION

1.

REMOVAL

2.

Woofer

Removal and Installation

Installation is the reverse order of removal.

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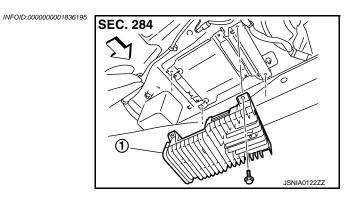
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BOSE AMP.

Exploded View



- 1. BOSE amp.
- <⊐: Vehicle front

Removal and Installation

REMOVAL

- 1. Remove trunk front finisher. Refer to INT-27, "Exploded View".
- 2. Remove BOSE amp. from rear parcel shelf.

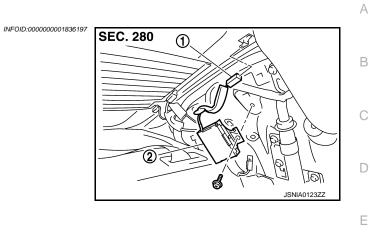
INSTALLATION

Installation is the reverse order of removal.

[BOSE AUDIO WITHOUT NAVIGATION]

< REMOVAL AND INSTALLATION > ANTENNA AMP.

Exploded View



1.	AM-FM main connector	
2.	Antenna amp.	
Remova	I and Installation	INFOID:000000001836198
REMOVA	L	
1. Remov	ve rear pillar finisher LH. Refer to <u>INT-14, "Exploded View"</u> .	
2. Remov	ve antenna amp. from rear pillar LH.	
INSTALLA	ATION	
Installation	is the reverse order of removal.	
1. Remove 2. Remove INSTALLA	ve rear pillar finisher LH. Refer to <u>INT-14, "Exploded View"</u> . ve antenna amp. from rear pillar LH. ATION	

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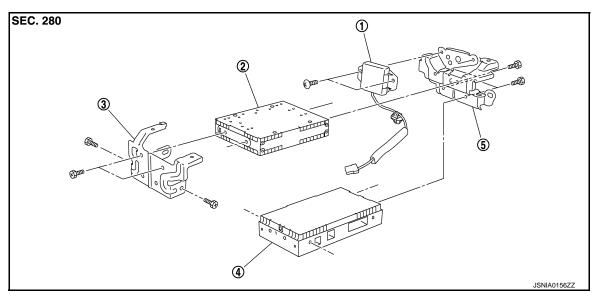
AV

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SATELLITE RADIO TUNER

Exploded View

INFOID:000000001836199



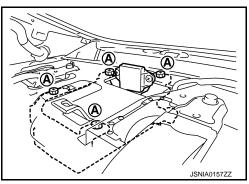
1. TEL antenna

- 2. Satellite radio tuner
- 3. Bracket (front)

- 4. TEL adapter unit
- 5. Bracket (rear)
- Removal and Installation

REMOVAL

- 1. Remove trunk front finisher. Refer to <u>INT-27, "Exploded View"</u>.
- 2. Remove rear parcel shelf finisher. Refer to INT-19, "Exploded View".
- 3. Remove screw (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 < REMOVAL AND INSTALLATION > [BOSE AUDIO WITHOUT NAVIGATION] SATELLITE RADIO ANTENNA

SATELLITE RADIO ANTENNA	А
Exploded View	D:000000001836201 SEC. 280
	C
	D
1. Satellite radio antenna	E
✓⊐: Vehicle front	
Removal and Installation	INFOID:000000001836202
 REMOVAL 1. Remove head lining assembly (rear) to secure work s 23, "Exploded View". 	G space between vehicle and headlining. Refer to <u>INT-</u>
 Remove nuts, and then remove satellite radio antenna 	a from roof panel.
INSTALLATION Installation is the reverse order of removal.	
Satellite radio antenna 🛛 🖳 : 6.5 N·m (0.6 mounting nut	
CAUTION: Be careful about tightening torque. Antenna sensitivi panel may be deformed, when satellite radio antenna	

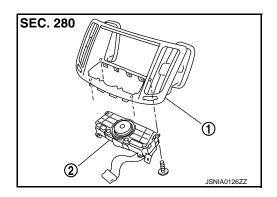
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MULTIFUNCTION SWITCH

Exploded View

REMOVAL Refer to <u>IP-11, "Exploded View"</u>. DISASSEMBLY



- 1. Center ventilator grille
- 2. Multifunction switch

Removal and Installation

REMOVAL

- 1. Remove cluster lid D. Refer to IP-11, "Exploded View".
- 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.

INFOID:000000001836204

PRESET SWITCH

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< REMOVAL AND INSTALLATION > PRESET SWITCH

Exploded View

REMOVAL Refer to <u>IP-11, "Exploded View"</u>.

DISASSEMBLY

SEC. 280

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1. Clock

2. Cluster lid C

Preset switch

JPNIA0136ZZ

INFOID:000000001836206

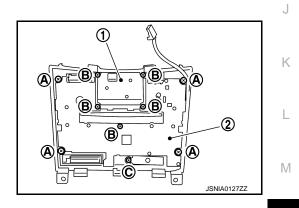
Removal and Installation

REMOVAL

- 1. Remove cluster lid C. Refer to IP-11, "Exploded View".
- 2. Remove preset switch (2) from cluster lid C.

2

- 1. Clock
- A. Screw
- B. Screw
- C. Screw



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.

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STEERING SWITCH

Exploded View

Refer to ST-17, "Exploded View".

Removal and Installation

REMOVAL Refer to <u>ST-17, "Removal and Installation"</u>.

INSTALLATION Installation is the reverse order of removal. INFOID:000000001836207

[BOSE AUDIO WITHOUT NAVIGATION]

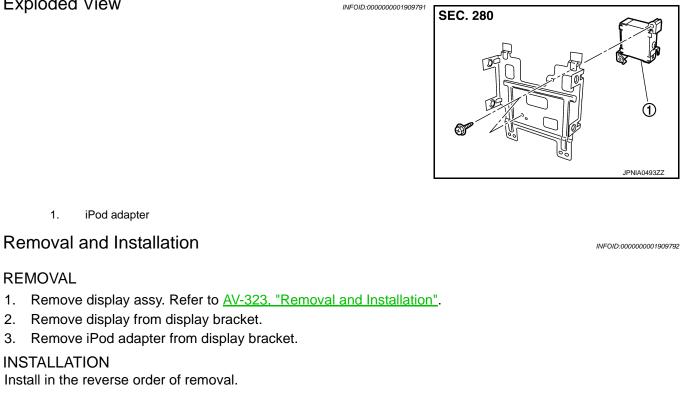
< REMOVAL AND INSTALLATION > **IPOD ADAPTER**

Exploded View

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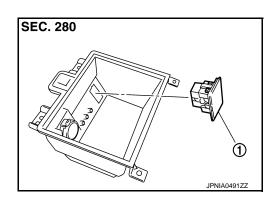
AV

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IPOD CONNECTOR

Exploded View

REMOVAL Refer to <u>IP-22, "Exploded View"</u>. DISASSEMBLY



1. iPod connector

Removal and Installation

INFOID:000000001909794

REMOVAL

- 1. Remove center console. (M/T models) Refer to <u>IP-22, "Exploded View"</u>. Remove center console. (A/T models) Refer to <u>IP-22, "Exploded View"</u>.
- 2. Push the pawl from the back of center console to remove iPod connector.

INSTALLATION

Install in the reverse order of removal.

[BOSE AUDIO WITHOUT NAVIGATION]

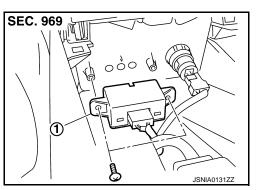
AUXILIARY INPUT JACKS

< REMOVAL AND INSTALLATION >

AUXILIARY INPUT JACKS

Exploded View

REMOVAL Refer to IP-22, "Exploded View". DISASSEMBLY



[BOSE AUDIO WITHOUT NAVIGATION]

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Auxiliary input jacks 1. **Removal and Installation** REMOVAL 1. Remove center console. (M/T models) Refer to IP-22, "Exploded View". Remove center console cup. (A/T models) Refer to IP-22, "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.

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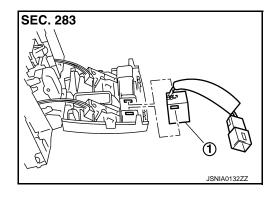


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< REMOVAL AND INSTALLATION > MICROPHONE

Exploded View

REMOVAL Refer to <u>INT-23, "Exploded View"</u>. DISASSEMBLY



- 1. Microphone
- A. Pawl

Removal and Installation

INFOID:000000001836212

REMOVAL

- 1. Remove map lamp. Refer to <u>INL-97, "Exploded View"</u>.
- 2. Remove microphone from map lamp.

INSTALLATION

Installation is the reverse order of removal.

Revision: 2008 September

TEL ANTENNA

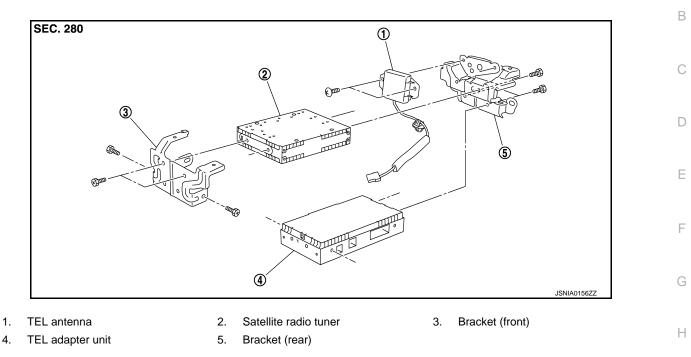
Exploded View

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INFOID:000000001836214

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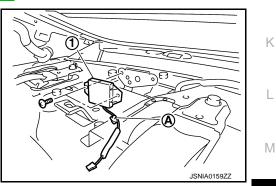
[BOSE AUDIO WITHOUT NAVIGATION]



Removal and Installation

REMOVAL

- 1. Remove trunk front finisher. Refer to INT-27, "Exploded View".
- 2. Remove rear parcel shelf finisher. Refer to INT-19, "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.

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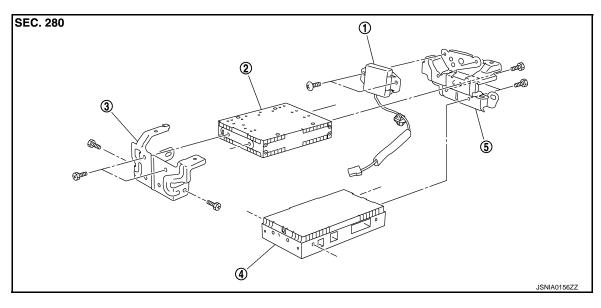
TEL ADAPTER UNIT

[BOSE AUDIO WITHOUT NAVIGATION]

Exploded View

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INFOID:000000001836216



1. TEL antenna

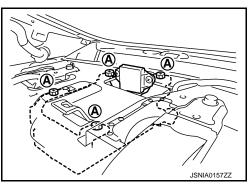
- 2. Satellite radio tuner
- 3. Bracket (front)

- 4. TEL adapter unit
- 5. Bracket (rear)

Removal and Installation

REMOVAL

- 1. Remove trunk front finisher. Refer to <u>INT-27, "Exploded View"</u>.
- 2. Remove rear parcel shelf finisher. Refer to INT-19, "Exploded View".
- 3. Remove screw (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.

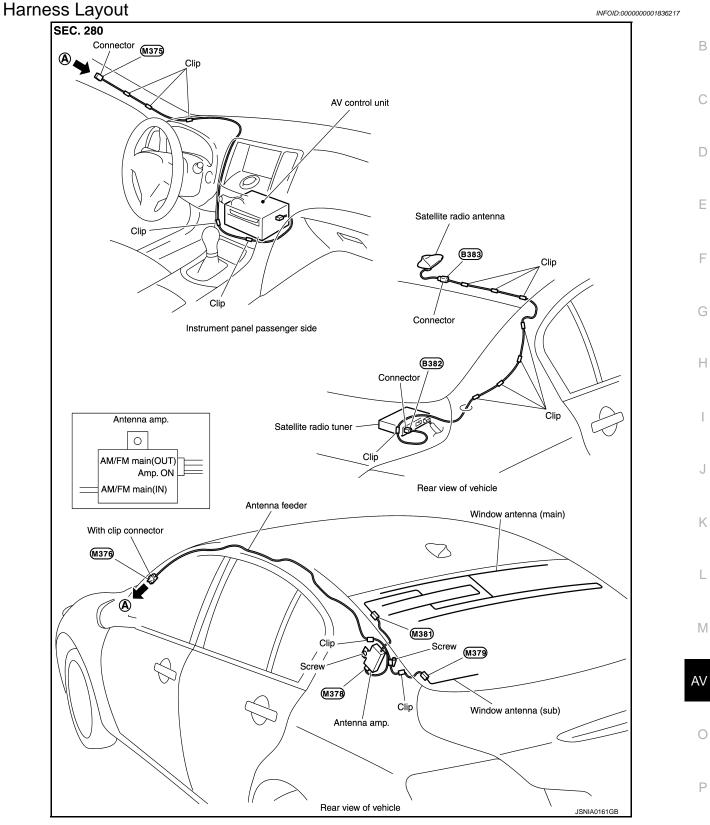
ANTENNA FEEDER (RADIO)

< REMOVAL AND INSTALLATION >

ANTENNA FEEDER (RADIO)

[BOSE AUDIO WITHOUT NAVIGATION]

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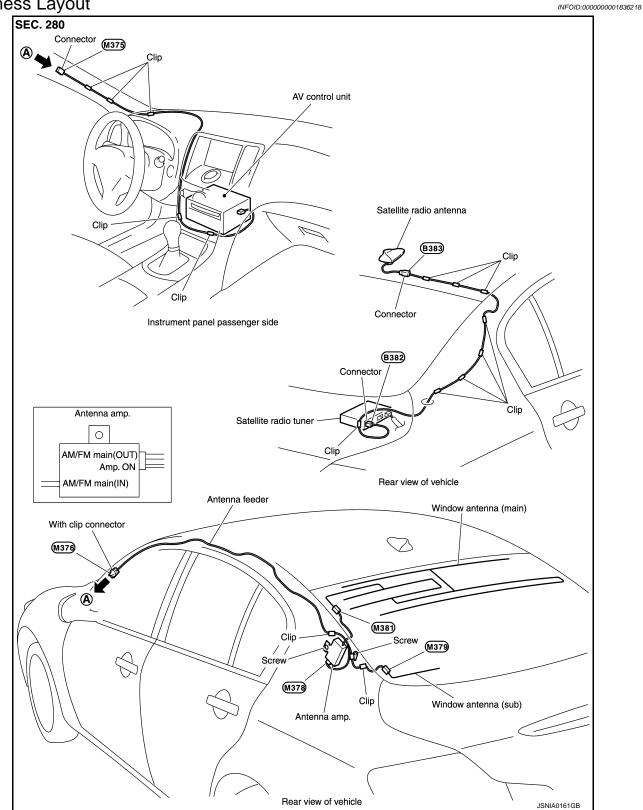
ANTENNA FEEDER (SATELLITE RADIO)

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

ANTENNA FEEDER (SATELLITE RADIO)

Harness Layout



BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

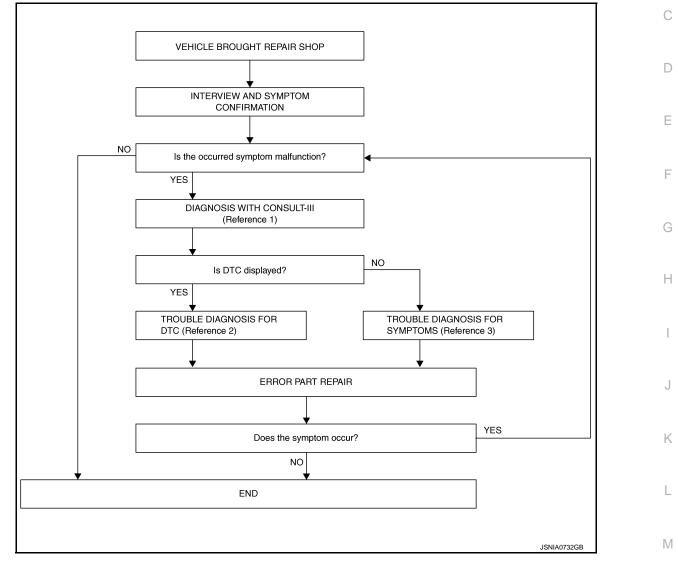
Work Flow

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[BOSE AUDIO WITH NAVIGATION]

OVERALL SEQUENCE



- Reference 1... Refer to <u>AV-382, "CONSULT III Function (MULTI AV)"</u>.
- Reference 2... Refer to <u>AV-471, "DTC Index"</u>.
- Reference 3... Refer to <u>AV-590, "Symptom Table"</u>.

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

AV

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

- Connect CONSULT-III and perform a self-diagnosis for "MULTI AV". Refer to <u>AV-382, "CONSULT III</u> <u>Function (MULTI AV)"</u>. 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-471, "DTC Index".

>> GO TO 5.

4.TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to <u>AV-590, "Symptom</u> <u>Table"</u>.

>> 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

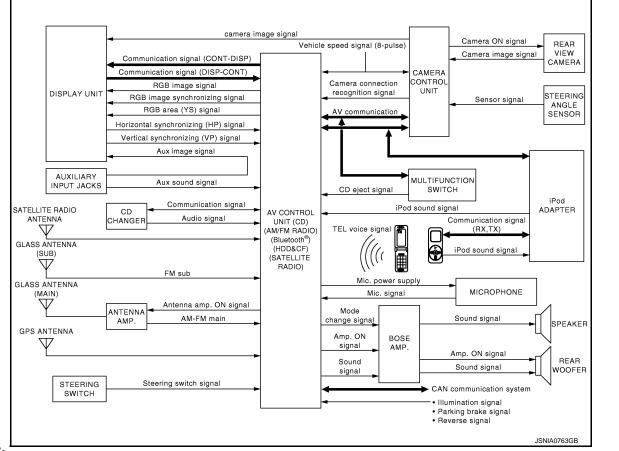
< BASIC INSPECTION >	[BOSE AUDIO WITH NAVIGATION]
INSPECTION AND ADJUSTMENT	
ADDITIONAL SERVICE WHEN REMOVIN	NG BATTERY NEGATIVE TERMINAL
ADDITIONAL SERVICE WHEN REMOVING	G BATTERY NEGATIVE TERMINAL : De- INFOID:00000001849143
Always correct the center position of the rear view monit negative terminal.	or's possible route line after disconnecting the battery
ADDITIONAL SERVICE WHEN REMOVING cial Repair Requirement	BATTERY NEGATIVE TERMINAL : Spe-
1.CORRECTION OF CENTER POSITION OF REAR V	IEW MONITOR'S POSSIBLE ROUTE LINE
Refer to the following for details.	
>> Refer to <u>AV-347, "REAR VIEW MONITO</u> <u>ADJUSTMENT : Special Repair Requirement</u> ADDITIONAL SERVICE WHEN REPLACI	
ADDITIONAL SERVICE WHEN REPLACIN	G CONTROL UNIT : Description
When camera control unit is replaced, the center positio ADDITIONAL SERVICE WHEN REPLACIN quirement	·
1.CORRECTION OF CENTER POSITION OF REAR V	IEW MONITOR'S POSSIBLE ROUTE LINE
Refer to the following for details.	
ADJUSTMENT : Special Repair Requirement	
REAR VIEW MONITOR POSSIBLE ROU MENT	TE LINE CENTER POSITION ADJUST-
REAR VIEW MONITOR POSSIBLE ROUTE MENT : Description	E LINE CENTER POSITION ADJUST-
Adjust the center position of the possible route line of the REAR VIEW MONITOR POSSIBLE ROUTE MENT : Special Repair Requirement	
1.STEERING OPERATION	
Steer the steering wheel to the leftmost and rightmost er	nds.
>> GO TO 2 2. DRIVING	
Drive the vehicle straight ahead 100 m (328.1 ft) or more	e at a speed of 30 km/h (18.6 MPH) or more.
>> END	

INSPECTION AND ADJUSTMENT

INFOID:000000001849149

< SYSTEM DESCRIPTION > SYSTEM DESCRIPTION MULTI AV SYSTEM

System Diagram



NOTE:

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

System Description

INFOID:000000001849150

Multi AV system means that the following systems are integrated.

System name	System explanation
NAVIGATION SYSTEM	AV-354, "System Description"
AUDIO SYSTEM	AV-362, "System Description"
REAR VIEW MONITOR SYSTEM	AV-359, "System Description"
VEHICLE INFORMATION SYSTEM	 Status of audio, climate control system, fuel economy, maintenance and navigation is displayed. 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.
CD CHANGER SYSTEM	Refer to the following "CD CHANGER SYSTEM".
HANDS-FREE PHONE SYSTEM	Refer to the following "HANDS-FREE PHONE SYSTEM".
AUXILIARY INPUT SYSTEM	Refer to the following "AUXILIARY INPUT SYSTEM".
VOICE RECOGNITION SYSTEM	Refer to the following "VOICE RECOGNITION SYSTEM".
TOUCH PANEL SYSTEM	Refer to the following "TOUCH PANEL SYSTEM".

MULTI AV SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

E

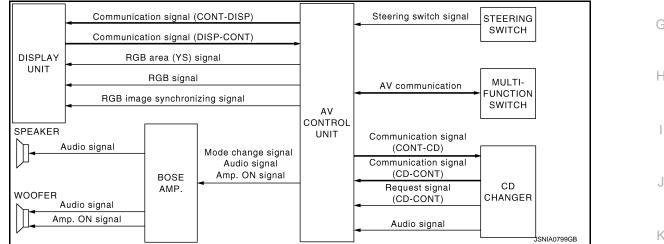
- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair 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. 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 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 <u>AV-382, "CONSULT III Function (MULTI AV)"</u>.
- On board self diagnosis: Refer to AV-367, "Diagnosis Description".

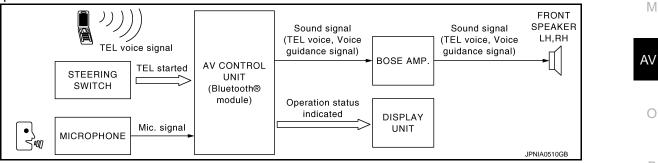
CD CHANGER SYSTEM

- CD changer output audio signal to AV control unit when CD changer mode is selected. AV control unit outputs audio signal to BOSE amp. and BOSE amp. outputs to each speaker.
- Operation such as selection of CD that is inserted in CD changer is performed by the communication signal and request signal.



HANDS-FREE PHONE SYSTEM

- Hands-free communication can be operated by connecting using Bluetooth[®] 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 door speaker.



When a call is originated

Spoken voice sound output from the microphone (Mic. 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

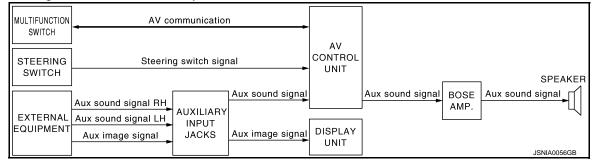
MULTI AV SYSTEM

< SYSTEM DESCRIPTION >

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.

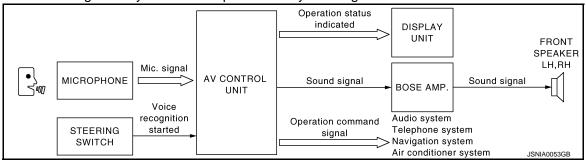
AUXILIARY INPUT SYSTEM

- 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 by AV communication.



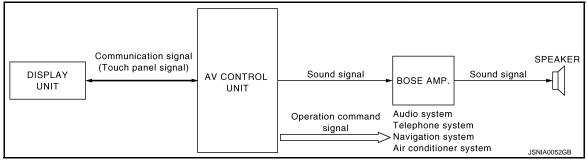
VOICE RECOGNITION SYSTEM

- 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.

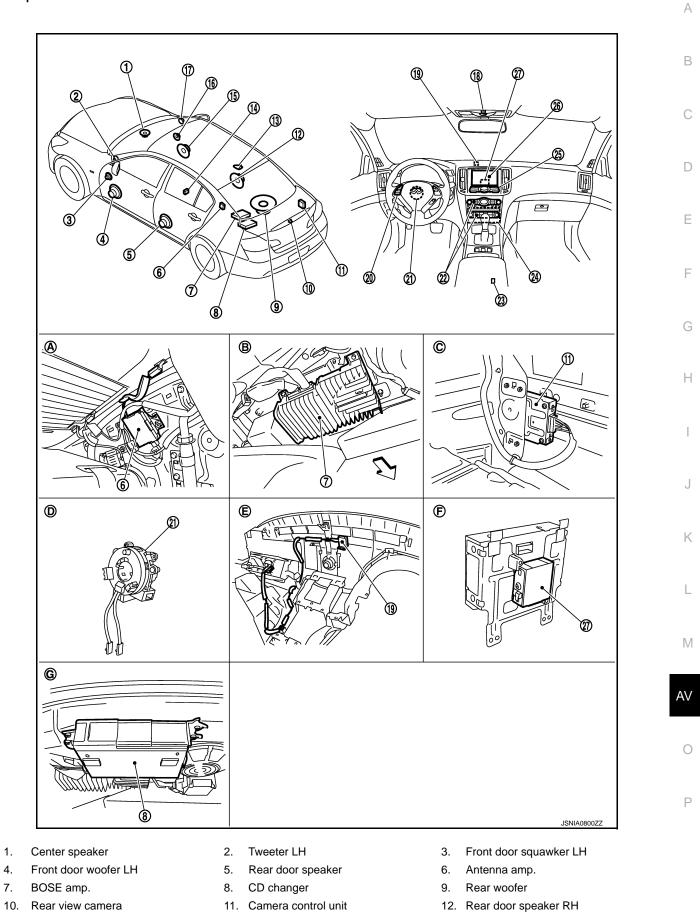


< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Component Parts Location

INFOID:000000001910646



AV-351

MULTI AV SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

13.	Satellite radio antenna	14.	Auxiliary input jacks	15.	Front door woofer RH
16.	Front door squawker RH	17.	Tweeter RH	18.	Microphone
19.	GPS antenna	20.	Steering switch	21.	Steering angle sensor
22.	Preset switch	23.	iPod connector	24.	AV control unit
25.	Multifunction switch	26.	Display unit	27.	iPod adapter
Α.	Within rear pillar finisher LH	В.	Lower part of rear parcel shelf (inside of CD changer)	C.	Trunk room right side
D.	Spiral cable part	Ε.	Instrument panel rear side	F.	Rear view of the display
G.	Rear parcel shelf lower part (left side)				

Component Description

∠→ Vehicle front

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable. 				
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). Auxiliary image signal is input from the auxiliary input jack. Camera image signal is input from camera control unit. Synchronize signal (HP, VP) is output to AV control unit. Touch panel function can be operated for each system by touching a display directly. 				
BOSE AMP.	Inputs power (amp. ON) and sound signal from AV control unit, and outputs sound signal to each speaker.				
FRONT DOOR WOOFER	Outputs sound signal from BOSE amp.Outputs low-pitched sound.				
FRONT DOOR SQUAWKER	Outputs sound signal from BOSE amp.Outputs midrange 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 (amp. ON signal) is supplied from BOSE amp. 				

MULTI AV SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Part name	Description			
MULTIFUNCTION SWITCH	 Operation panel is equipped with the centralized switch where audio, auxiliary input and navigation 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. 			
CAMERA CONTROL UNIT	 Camera image signal is input from rear view camera. Camera image signal output to display. Power (camera ON signal) is transmitted to rear view camera. Controlled by AV communication transmitted from AV control unit. AV control unit recognizes the presence of camera system with camera connection recognition signal. 			
REAR VIEW CAMERA	The image of vehicle rear view is transmitted to camera control unit.			
STEERING SWITCH	 Operations for audio, hands-free phone, audio response and navigation, et are possible. Steering switch signal (operation signal) is output to AV control unit. 			
STEERING ANGLE SENSOR	Sensor signal (steering angle) is transmitted to camera control unit.			
MICROPHONE	 Used for hands-free phone operation and voice recognition. Mic signal is transmitted to AV control unit. Power (Mic VCC) is supplied from AV control unit. 			
AUXILIARY INPUT JACKS	Image signal of auxiliary input is transmitted to display, and sound signal is transmitted to 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.			
CD CHANGER	 Controlled by communication signal, request signal from AV control unit. Audio signal from CD CHANGER is sent to AV control unit. 			
iPod ADAPTER	 Inputs iPod sound signal from iPod[®], and outputs iPod sound signal to AV control unit. Receiving/transmitting of iPod[®] operation signals are performed as follows: between AV control unit and iPod adapter: AV communication. between iPod[®] and iPod adapter: serial communication. 			

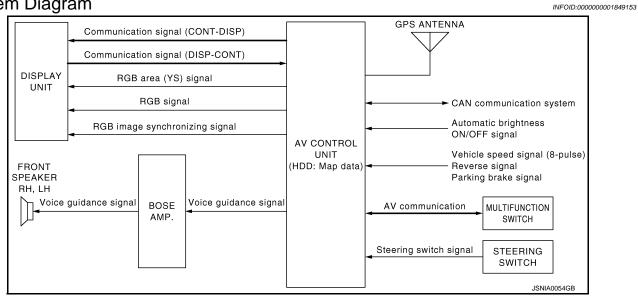
M

AV

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< SYSTEM DESCRIPTION > NAVIGATION SYSTEM

System Diagram



System Description

INFOID:000000001849154

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.

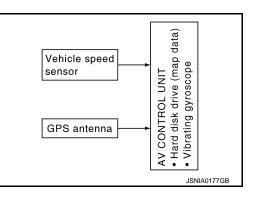
The current position is calculated by detecting the travel distance from the previous calculation point, and its direction change.

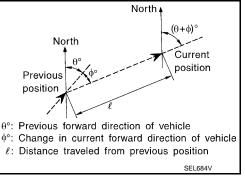
Travel distance

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.





NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

А

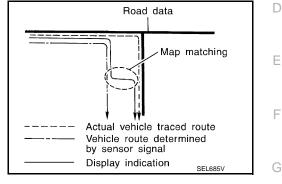
В

Туре	Advantage	Disadvantage	
Gyroscope (angular velocity sensor)	The turning angle is precisely detected.	Errors are accumulated when driving a long dis- tance without stopping.	
GPS antenna (GPS informa- tion)	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).

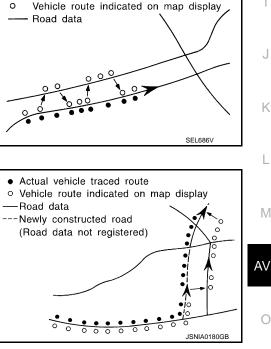


Actual vehicle traced route

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)

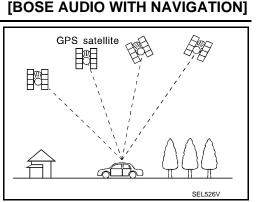


NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

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.

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:

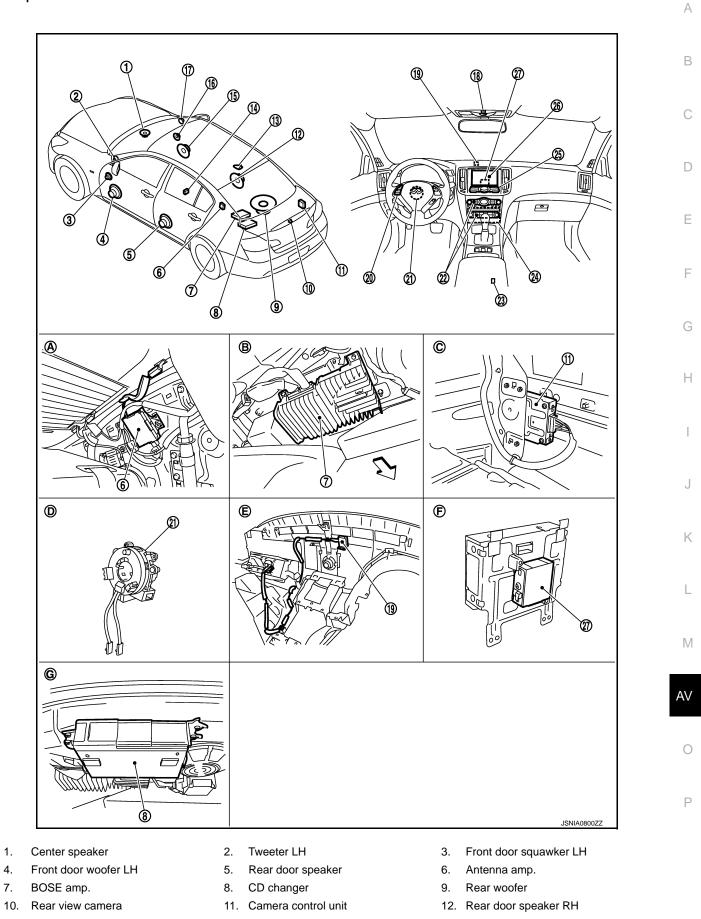
- The detection result has an error of approximately 10 m even with a high-precision three dimensional positioning.
- There may be cases when the accuracy is lowered and radio waves are stopped intentionally because the GPS satellite signal is controlled by the US trace control center.

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Component Parts Location

INFOID:000000001910650



AV-357

NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

13.	Satellite radio antenna	14.	Auxiliary input jacks	15.	Front door woofer RH
16.	Front door squawker RH	17.	Tweeter RH	18.	Microphone
19.	GPS antenna	20.	Steering switch	21.	Steering angle sensor
22.	Preset switch	23.	iPod connector	24.	AV control unit
25.	Multifunction switch	26.	Display unit	27.	iPod adapter
A.	Within rear pillar finisher LH	В.	Lower part of rear parcel shelf (inside of CD changer)	C.	Trunk room right side
D.	Spiral cable part	Ε.	Instrument panel rear side	F.	Rear view of the display
G.	Rear parcel shelf lower part (left side)				

Component Description

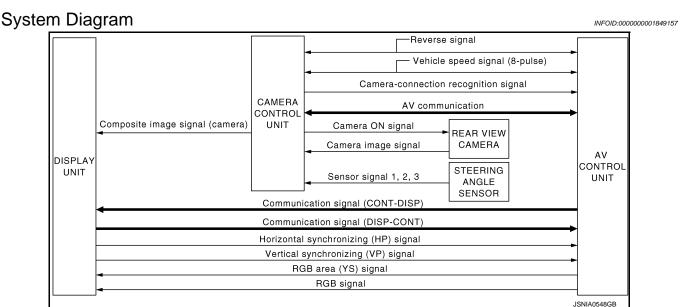
∠→ Vehicle front

Part name	Description
AV CONTROL UNIT	 It is the master unit that controls each operation of the Navigation system. The HDD (Hard Disk Drive) is built in, and the map data is stored in HDD. The RGB signal (map information) is output to the display. The voice guidance signal is output to the BOSE amp.
DISPLAY UNIT	 Map image signal is input from AV control unit, and it is indicated on the display. Each operation of navigation can be performed by the touch panel function.
BOSE AMP.	Voice guidance signal is input from AV control unit, and it is output to front LH/ RH speakers.
FRONT DOOR WOOFER	
FRONT DOOR SQUAWKER	Voice guidance signal from BOSE amp. is output.
TWEETER	
MULTIFUNCTION SWITCH	 Each operation of navigation can be performed. Connected with preset switch via cable and operation signal is transmitted to AV control unit via AV communication.
STEERING SWITCH	Each operation of navigation, etc. can be performed.Switch operating signal is output to AV control unit.
GPS ANTENNA	GPS signal is received and is output to AV control unit.

REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

REAR VIEW MONITOR SYSTEM



System Description

INFOID:000000001849158

А

Ε

Н

[BOSE AUDIO WITH NAVIGATION]

CAMERA IMAGE OPERATION PRINCIPLE

- Power is supplied to rear view camera from camera control unit and outputs camera image signal to camera control unit when selector lever is set to R position and the reverse signal on camera control unit is input.
- Camera control unit synthesizes guide lines and possible route lines with camera image signal from rear view camera, and transmits camera image signal to the display. In this case, since the reverse signal is also input to AV control unit, the AV control unit recognizes the selector lever as in R position, and it switches communication signal between AV control unit and display unit, and image that is displayed on the display unit by RGB signal with rear view monitor image. In addition, possible route lines are controlled by original sensor signal from steering angle sensor.
- The AV control unit determines whether rear view camera is equipped or not, based on the presence of camera connection recognition signal. It switches to rear view monitor image at the time of reverse signal input when it is equipped.
- Warning message under the rear view monitor display is described by AV control unit.
- AV control unit is connected in communication with camera control unit and display unit, and it controls operation of rear view monitor system.

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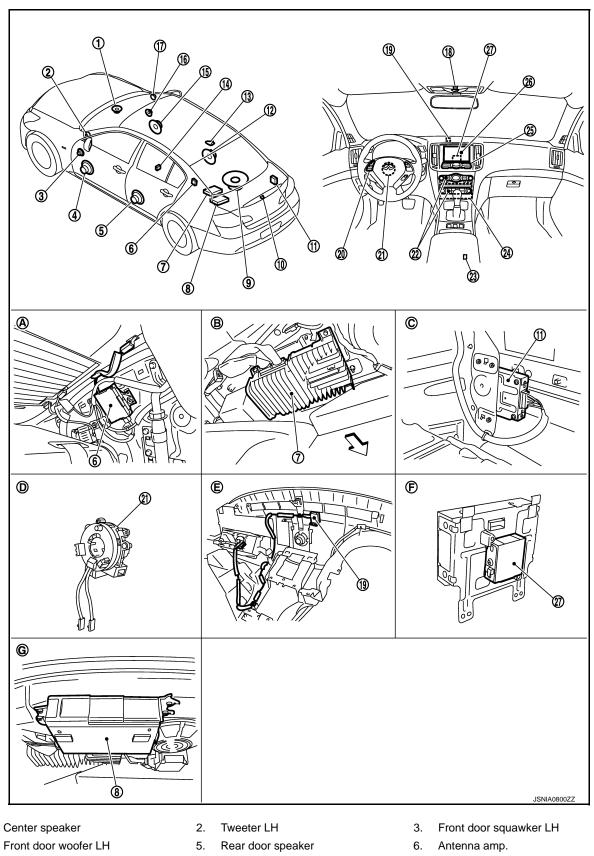
REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Component Parts Location

INFOID:000000001910651



7. BOSE amp.

1.

4.

- 10. Rear view camera
- 8. CD changer
- 11. Camera control unit
- 9. Rear woofer
- 12. Rear door speaker RH

AV-360

REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

13.	Satellite radio antenna	14.	Auxiliary input jacks	15.	Front door woofer RH		
16.	Front door squawker RH	17.	Tweeter RH	18.	Microphone	А	
19.	GPS antenna	20.	Steering switch	21.	Steering angle sensor		
22.	Preset switch	23.	iPod connector	24.	AV control unit	_	
25.	Multifunction switch	26.	Display unit	27.	iPod adapter	В	
Α.	Within rear pillar finisher LH	В.	Lower part of rear parcel shelf (inside of CD changer)	C.	Trunk room right side		
D.	Spiral cable part	Ε.	Instrument panel rear side	F.	Rear view of the display	С	
~							

- G. Rear parcel shelf lower part (left side)

Component Description

INFOID:000000001849160

D

Part name	Description Image on display is changed to rear view monitor image with serial commu- nication between AV control unit and display unit. Warning displayed in rear view monitor image is illustrated.		
AV CONTROL UNIT			
DISPLAY UNIT	 Camera image signal is transmitted from camera control unit, and RGB signal for warning display is transmitted from AV control unit. Rear view monitor image is changed with the communication for AV control unit. 		
CAMERA CONTROL UNIT	 Camera image signal is input from rear view camera, and camera image is indicated on the display. Power (camera ON signal) is transmitted to rear view camera. Controlled by AV communication transmitted from AV control unit. AV control unit recognizes the presence of camera system with camera connection recognition signal. 		
REAR VIEW CAMERA	The image of vehicle rear view is transmitted to camera control unit.		
STEERING ANGLE SENSOR	Steering signal necessary for possible route line control is transmitted to camera control unit.		

Κ

L

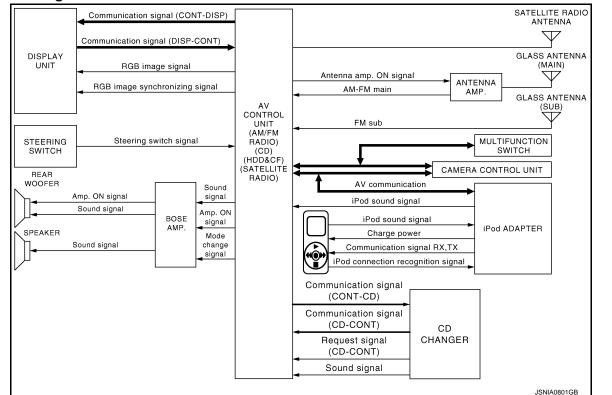
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< SYSTEM DESCRIPTION > AUDIO SYSTEM

System Diagram



System Description

INFOID:000000001849162

INFOID:000000001849161

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
Music Box (Hard Disk Drive)
CF (Compact Flash)
iPod connection
Driver's Audio Stage

FUNCTION DESCRIPTION

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 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.
- Refer to <u>AV-348, "System Description"</u> for explanation of voice recognition function and touch panel function.

Screen display

• Switching of display is performed with serial communication between display unit and AV control unit.

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

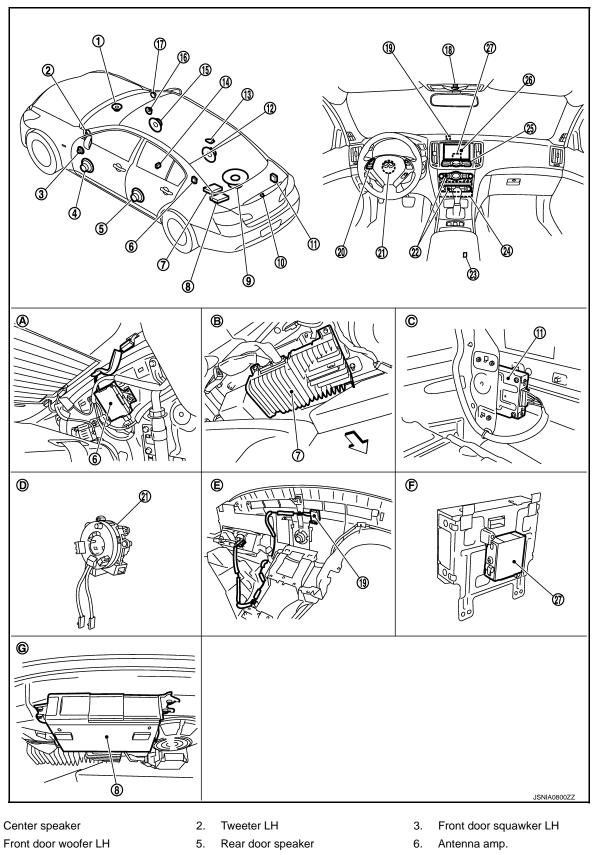
• The image signal to display operating condition is performed with RGB signal, RGB area signal and RGB image synchronizing signal.	А
 AM/FM Radio Mode AM/FM radio tuner is built into AV control unit. Audio signal is received by glass antenna, next it is amplified by antenna amp., and finally it is input to AV control unit. Audio signal is input to BOSE amp. and BOSE amp. outputs to each speakers for AV control unit. 	В
 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 each speaker. 	C
 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. 	E
 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 (audio signal) that is stored on HDD to BOSE amp., and BOSE amp. outputs to each speaker. 	F
CF ModeAV control unit has built in CF replay function.Music (audio signal) that is stored in CF outputs to BOSE amp., and BOSE amp. outputs to each speaker when CF is inserted into AV control unit.	G
iPod Connection	
• Connect iPod [®] and iPod adapter with wire harness and iPod adapter input iPod sound signal from iPod [®] . When iPod mode is selected, iPod adapter output iPod sound signal to AV control unit. AV control unit output sound signal to BOSE amp., and BOSE amp. output sound signal to each speaker.	I
 Receiving/transmitting of iPod[®] operation signals are performed as follows: between AV control unit and iPod adapter: AV communication. between iPod[®] and iPod adapter: serial communication. 	J
• The iPod [®] connection status can be recognized whether iPod adapter receives iPod connection recognition signal.	K
 The iPod adapter is possible to charge iPod[®]. 	
 Driver's Audio Stage Mode 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. 	L
 ON/OFF signals of Driver's Audio Stage are transmitted from AV control unit to BOSE amp. using Mode signal. 	Μ

AV

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< SYSTEM DESCRIPTION > Component Parts Location

INFOID:000000001910652



7. BOSE amp.

1.

4.

- 10. Rear view camera
- 8. CD changer
- 11. Camera control unit
- 9. Rear woofer
- 12. Rear door speaker RH

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

13.	Satellite radio antenna	14.	Auxiliary input jacks	15.	Front door woofer RH		
16.	Front door squawker RH	17.	Tweeter RH	18.	Microphone	А	
19.	GPS antenna	20.	Steering switch	21.	Steering angle sensor		
22.	Preset switch	23.	iPod connector	24.	AV control unit		
25.	Multifunction switch	26.	Display unit	27.	iPod adapter	В	
Α.	Within rear pillar finisher LH	В.	Lower part of rear parcel shelf (inside of CD changer)	C.	Trunk room right side		
D.	Spiral cable part	Ε.	Instrument panel rear side	F.	Rear view of the display	С	
<u> </u>	Boor porcel shalf lower part (left side)						

- G. Rear parcel shelf lower part (left side)
- $\overleftarrow{}$. Vehicle front

Component Description

INFOID:000000001849164

D

Part name	Description
AV CONTROL UNIT	 Receiving function of AM/FM/satellite radio, replaying function of CD, replaying/saving function of music box (HDD), replaying function of CF and voice recognition function are integrated. BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.
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. Touch panel function can be operated for each system by touching a display directly.
BOSE AMP.	Inputs power (amp. ON) and sound signal from AV control unit, and outputs sound signal to each speaker.
FRONT DOOR WOOFER	Outputs sound signal from BOSE amp.Outputs low-pitched sound.
FRONT DOOR SQUAWKER	Outputs sound signal from BOSE amp.Outputs midrange 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 (amp. ON signal) is supplied from BOSE amp.
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.
PRESET SWITCH	 Each audio 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.
MICROPHONE	 It is used for voice activated operation Pronounced voice is converted to voice signal 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.

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Part name	Description		
SATELLITE RADIO ANTENNA	Audio signal (satellite radio) is received and output to AV control unit.		
iPod ADAPTER	 Inputs iPod sound signal from iPod[®], and outputs iPod sound signal to AV control unit. Receiving/transmitting of iPod[®] operation signals are performed as follows: between AV control unit and iPod adapter: AV communication. between iPod[®] and iPod adapter: serial communication. 		

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Diagnosis Description

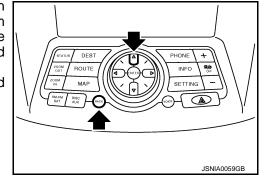
MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

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. 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.
- 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 and between AV control unit and satellite radio 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 and between AV control unit and sat- 	AV	
	ellite radio antenna.		

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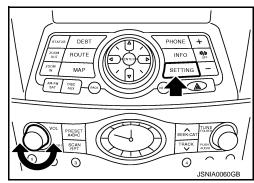
< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Mode			Description		
	Display Diagnosis		The following check functions are available: color tone check by color bar display, light and shade check by gray scale display and touch pan- el calibration response check.		
	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.		
		Steering Angle Ad- justment	When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.		
	Navigation	Speed Calibration	When there is a difference between the current location mark and the actual location, it can be adjusted.		
		XM SAT Subscrip- tion Status	The XM NavTraffic subscription status can be checked.		
Confirmation/	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.		
Adjustment	Synchronizer FES of	clock	-		
	Vehicle CAN Diagno	osis	The transmitting/receiving of CAN communication can be monitored.		
	AV COMM Diagnos	is	The communication condition of each unit of Multi AV system can be monitored.		
	Handsfree 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.		
	Bluetooth		The passkey and the device name can be checked and changed.		
		Change Channel	Any necessary channels required to receive traffic information from the satellite radio system can be set.		
	SAT	Change Application	Any application ID's required to receive traffic information from the sat- ellite radio system can be set.		
		Diag	Not used.		
	Delete Unit Connec	tion Log	Erase the connection history of unit and error history.		
Initialize Settings			Initializes the AV control unit memory.		

STARTING PROCEDURE

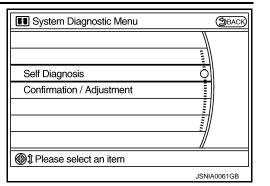
- 1. Start the engine.
- 2. Turn the audio system OFF.
- 3. While pressing the "SETTING" button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
 - Shifting from current screen to previous screen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



< SYSTEM DESCRIPTION >

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

[BOSE AUDIO WITH NAVIGATION]



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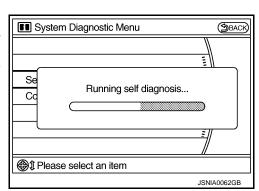
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SELF-DIAGNOSIS MODE

- Start the self-diagnosis function and select "Self Diagnosis". 1.
- Self-diagnosis subdivision screen is displayed, and the selfdiagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

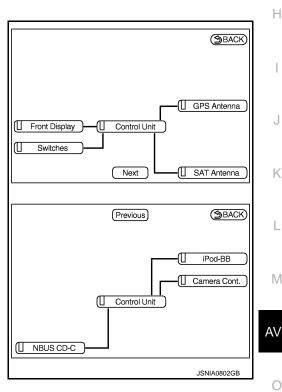


Diagnosis results are displayed after the self-diagnosis is com-2. pleted. The unit names and the connection lines are color-coded according to the diagnostic results.

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

NOTE:

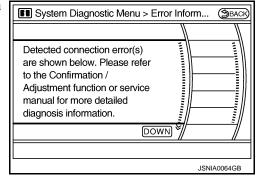
- Only the control unit (AV control unit) is displayed in red.
- Replace AV control unit if "Self-Diagnosis did not run because of a control unit malfunction" is indicated. The symptom is AV control unit internal error. Refer to AV-603, "Exploded View".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.



< SYSTEM DESCRIPTION >

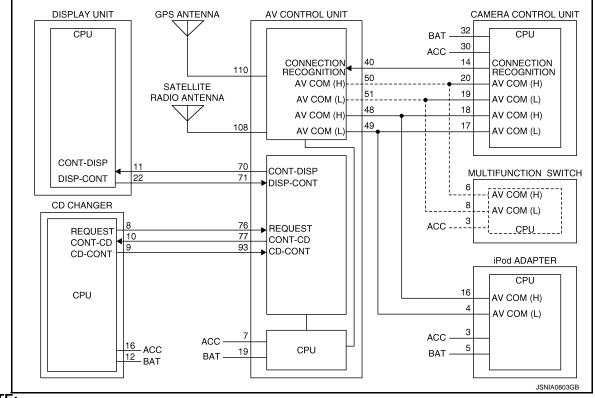
[BOSE AUDIO WITH NAVIGATION]

 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:

Onboard 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

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take
<pre> Seack Seace Seace</pre>	Malfunction is detected in AV control unit power supply and ground circuits.	 AV control unit power supply and ground circuits. When there is no malfunction, AV control unit is malfunctioning.
nay turn to be yellow when "Control Unit" indicator urn to be red. Self-Diagnosis did not run because of a control unit nalfunction"	AV control unit malfunction is detect- ed.	AV control unit is malfunction.
Previous (BACK) (I iPod-BB (I control Unit) (I NBUS CD-C) I Gray •••••: Yellow JSNIA0806GB	Malfunction is detected in Camera- connection recognition signal circuit.	Camera connection recognition signal circuit.
SBACK Front Display Control Unit Switches Next SAT Antenna I: Gray SINIA0597GB	GPS antenna connection malfunction is detected.	GPS antenna.

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take
Gray:: Yellow JSNIA0598GB	Poor connection is detected in satel- lite radio antenna.	Satellite radio antenna feeder.Satellite radio antenna.
Front Display GPS Antenna Switches Next SAT Antenna SNIA0599GB	 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 circuits between AV control unit and display unit.
Previous (BACK) (I Previous) (I Pod-BB (I Camera Cont.) (I Control Unit) (I NBUS CD-C I : Gray ·····: Yellow JSNIA0810GB	 iPod adapter power supply and ground circuits. Malfunction is detected in AV communication circuits between camera control unit and the junction of AV control unit and multifunction switch. Malfunction is detected in AV communication circuits between camera control unit and iPod adapter. Malfunction is detected in AV communication signal between AV control unit and iPod adapter. 	 iPod adapter power supply and ground circuits. AV communication circuits between camera control unit and the junction of AV control unit and multifunction switch. AV communication circuits between camera control unit and iPod adapter.

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take	A
Previous BACK I iPod-BB Camera Cont. Camera Cont. Build Control Unit Build CD-C I Gray I SNIA0811GB	No diagnosis due to internal malfunc- tion of CD changer.	Replace the CD changer.	B C D
Previous (BACK) (I iPod-BB (I camera Cont.) (I Control Unit) (I NBUS CD-C) : Gray: Yellow JSNIA0812GB	 CD changer power supply and ground circuits. Malfunction is detected in communication circuit between AV control unit and CD changer (REQ1 signal or communication signal). Malfunction is detected in communication signal between AV control unit and CD changer (REQ1 signal or communication signal between AV control unit and CD changer (REQ1 signal or communication signal). 	 CD changer power supply and ground circuits. Communication circuit between AV control unit and CD changer (REQ1 signal or communication signal). 	E F G

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.
- 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.

;		System Diagnostic Menu > Confirmation (SBACK)
		Display Diagnosis 🧿
	mmmm	Vehicle Signals
		Speaker Test
		Climate Control
		Navigation
		1/15 DOWN
	٩	Please select an item
		JSNIA0617GB

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Display Diagnosis



System Diagnostic Menu > Color Spectr... III Sv (3000 •CYAN: mal, please refer to the servic Color spectrum Bar Close to light blue Color Spectrum Ba •MAGENTA: Touch Pane Close to purplish red . lease select an i BLACK WHITE Display diagnosis BLUE YELLOW main screen RED CYAN | GREEN MAGENTA II System Diagnostic Menu > Gradation Bar (1000) If colors are abnormal, please refer to the ser manual for diagnosis information Gradation Bar •The gray-scale image is indicated 32-step gradation. Black - GRAY - WHITE +Touch Panel Touch Panel Calibration ouch Panel Calibrat Touch Panel Response Che •The function allows correction of the position Push ENTER while detection accuracy of touching each "+" the touch panel. ++Push ENT +Push ENTER to end. +ration is set Push ENTER to end Touch Panel Response Check The function can check the presence of a "+" indication and deviation from where it should be while touching the touch panel. JSNIA0689GB

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 : Purple (Magenta) tint
- G (green) signal error
- 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.

FI S	system Diagnostic Mer	ıu > Vehicle Siç	nal (SBACK)
	Vehicle speed	OFF	Ì
	Parking brake	ON	
	Lights	ON	
	Ignition	ON	
	Reverse	OFF	J
			JSNIA0075GB

DIAGNOSIS SYSTEM (AV CONTROL UNIT) [BOSE AUDIO WITH NAVIGATION]

< SYSTEM DESCRIPTION >

Diagnosis item	Display	Vehicle status	Remarks	А
le speed	ON	Vehicle speed > 0 km/h (0 MPH)		
ie speed	OFF	Vehicle speed = 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.	
	ON	Parking brake is applied.	Changes in indication may be delayed. This is normal.	В

Speaker Test

Vehicle speed

Parking brake

Lights

Ignition

Reverse

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.

tion

"R" position

OFF

ON

OFF

ON

OFF

ON

OFF

Parking brake is released.

Ignition switch in ACC position Shift the selector lever to "R" posi-

Shift the selector lever other than

Light switch ON

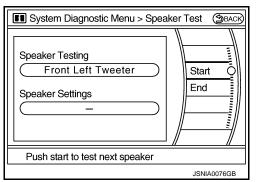
Light switch OFF

Ignition switch ON

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



Changes in indication may be delayed. This is normal.

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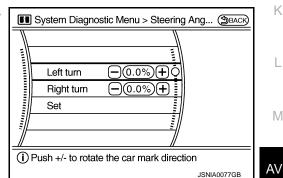
Climate Control

Refer to "HEATER & AIR CONDITIONING CONTROL SYSTEM" for details.

Navigation

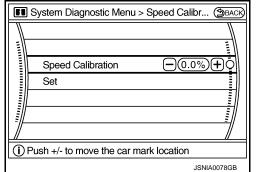
STEERING ANGLE ADJUSTMENT

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.



< SYSTEM DESCRIPTION >

XM SAT SUBSCRIPTION STATUS

The XM NavTraffic subscription status can be checked.

System Diagnostic Menu > Navigation	BACK
XM SAT not subscribed	
ISNI	40089GB

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.

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 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.

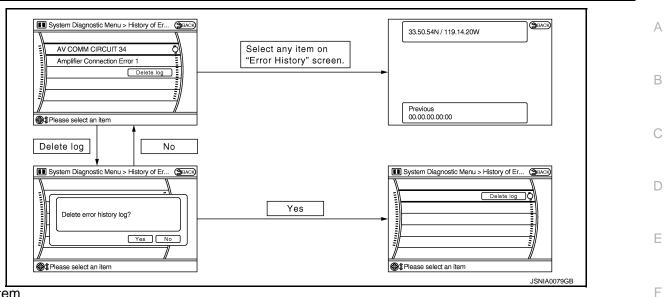
Count up method B

- 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 occur- rence 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

DIAGNOSIS SYSTEM (AV CONTROL UNIT) ON > [BOSE AUDIO WITH NAVIGATION]

< SYSTEM DESCRIPTION >



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 detect- ed.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts accord- ing to the diagnosis results. Refer to <u>AV-386, "Diagnosis Procedure"</u> .
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detect- ed.	
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit		-
Connection Of Gyro		
XM SERIAL COMM Error		
CAN Controller Memory Error		
Bluetooth Module Connection Error		Replace the AV control unit.
HDD CONN Error		
HDD READ Error	AV control unit malfunction is detected.	
HDD WRITE Error		
HDD COMM Error		
HDD ACCESS Error		
DSP CONN Error		
DSP COMM Error		
Internal Communication Error		AV control unit power supply and ground circuits.
GPS Communication Error		An intermittent error caused by strong radio
GPS ROM Error		interference may be detected unless any symptom (GPS reception error, etc.) oc-
GPS RAM Error	GPS malfunction is detected.	curs.
GPS RTC Error		Replace the AV control unit if the malfunc- tion occurs constantly.

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
Front Display Connection Error	 Display unit power supply and ground circuits malfunction is detected. Malfunction is detected in communication circuits 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 circuits. Communication circuits between AV control unit and display unit.
GPS Antenna Error	GPS antenna connection malfunction is detected.	GPS antenna.
Camera Control Unit Connection Error	Malfunction is detected in camera connec- tion recognition circuit between AV control unit and camera control unit.	Camera-connection recognition circuit be- tween AV control unit and camera control unit.
XM Antenna Connection Error	Poor connection is detected in satellite ra- dio antenna.	Satellite radio antenna feeder.Satellite radio antenna.
CD Changer Connection Error	 Malfunction is detected in CD changer power supply and ground circuits. Malfunction is detected in communica- tion circuit between AV control unit and CD changer (REQ1 signal or communi- cation signal). Malfunction is detected in communica- tion signal between AV control unit and CD changer (REQ1 signal or communi- cation signal). 	 CD changer power supply and ground circuits. Communication between AV control unit and CD changer (REQ1 signal or communication signal).
AV COMM CIRCUITInternal Communication Error	 AV control unit power supply and ground circuits malfunction detected. AV control unit malfunction is detected. 	AV control unit power supply and ground circuits.
 AV COMM CIRCUIT Switches Connection Error 	 Multifunction switch power supply and ground circuits malfunction is detected. Malfunction is detected in AV communi- cation circuit between AV control unit and multifunction switch. Malfunction is detected in AV communi- cation 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.
 AV COMM CIRCUIT Rearview Camera Connection Error 	 Camera control unit power supply and ground circuits malfunction is detected. Malfunction is detected in AV communi- cation signal between AV control unit and camera control unit. 	Camera control unit power supply and ground circuits.
 AV COMM CIRCUIT iPod Connection Error 	 iPod adapter power supply and ground circuits malfunction is detected. Malfunction is detected in AV communication circuits between camera control unit and iPod adapter. Malfunction is detected in AV communication signal between AV control unit and iPod adapter. 	 iPod adapter power supply and ground circuits. AV communication circuits between AV control unit and iPod adapter.
 AV COMM CIRCUIT Rearview Camera Connection Error iPod Connection Error 	Malfunction is detected in AV communica- tion circuits between camera control unit and the junction of AV control unit and mul- tifunction switch.	AV communication circuits between cam- era control unit and the junction of AV con- trol unit and multifunction switch.
 AV COMM CIRCUIT Switches Connection Error Rearview Camera Connection Error iPod Connection Error 	Malfunction is detected in AV communica- tion circuits between AV control unit and the junction of camera control unit and multi- function switch.	AV communication circuits between AV control unit and the junction of camera control unit and multifunction switch.

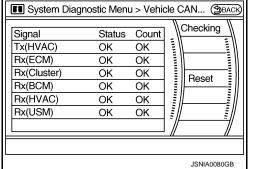
Vehicle CAN Diagnosis

< SYSTEM DESCRIPTION >

- 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 / 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

[BOSE AUDIO WITH NAVIGATION]



AV COMM	Diagnosis
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- 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 / UNKWN	OK / 0 – 39
C Rx(PrimarySW–ITM)	OK / UNKWN	OK / 0 – 39
C Rx(STRG SW-ITM)	OK / UNKWN	OK / 0 – 39
C Rx (Audio–ITM)	OK / UNKWN	OK / 0 – 39
C Rx(Amp–ITM)	OK / UNKWN	OK / 0 – 39
C Rx(RearCamera–ITM)	OK / UNKWN	OK / 0 – 39
C Rx(XM–ITM)	OK / UNKWN	OK / 0 – 39
C Rx(iPod–ITM)	OK / UNKWN	OK / 0 – 39
C Rx(Amp–Audio)	—	—
C Rx(iPod–Audio)	OK / UNKWN	OK / 0 – 39
C Tx(Audio–ITM)	OK / UNKWN	OK / 0 – 39



• Any units with "—" displayed have no history of vehicle connection.

• "Audio" and "Amp" indicate the same status because "Amp" indicates the status of the amplifier integrated in the AV control unit.

• "STRG SW", "Amp""XM" indicate the same status as "Audio".

Hands-Free Phone

🔳 System Diagnostic Menu > AV COMM Di (Эваск)				
Signal C Tx(ITM-PrimarySW) C Rx(PrimarySW-ITM) C Rx(STRG SW-ITM) C Rx(Audio-ITM) C Rx(Amp-ITM) C Rx(RearCamera-ITM) C Rx(RearCamera-ITM)	Status OK OK OK OK OK OK	Count. OK OK OK OK OK OK	Checking	
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< SYSTEM DESCRIPTION >

The hands-free phone reception volume adjustment, microphone and speaker test, and memory erase functions are also available.

[BOSE AUDIO WITH NAVIGATION]

System Diagnostic Menu > Handsfree Ph
Handsfree Volume Adjustment O
Voice Microphone Test
Handsfree Volume Adjustment O Voice Microphone Test DON Delete Handsfree Memory
JSNIA0083GB

Camera Cont.

The two functions of "Connection Confirmation" and "Adjust Offset of Rear View Camera" are available. CONNECTION CONFIRMATION

The steering angle sensor, reverse signal and vehicle speed sensor can be inspected.

FI S	System Diagnostic Menu > Connection C (SBACK)				
	Steer. Angle Sensor	OFF			
	Reverse Sensor	OFF			
	Vehicle Speed Sensor	OFF			
	Side view Switch	—			
			JSNIA0084GB		

Diagnosis item	Display	Vehicle status
	ON	When steering the vehicle with ignition switch ON (remains ON until connection mode is stopped when it is turned ON)
Steer. Angle Sensor	OFF	 Ignition switch at ACC No steering with ignition switch ON
	_	Malfunction detected in camera connection recognition signal
	ON	Selector lever is in "R" with ignition switch ON.
Reverse Sensor	OFF	 Ignition switch at ACC Selector lever is in position other than "R" with ignition switch ON.
		Malfunction detected in camera-connection recognition signal
	ON	Vehicle speed is more than 0 km/h (0 MPH) with ignition switch ON
Vehicle Speed Sensor	OFF	 Ignition switch at ACC Vehicle speed is 0 km/h (0 MPH) with ignition switch ON
	_	Malfunction detected in camera connection recognition signal
Side view Switch		Not used

ADJUST OFFSET OF REAR VIEW CAMERA Use this mode to adjust the guide line display position of the rearview monitor if necessary after removing the rear view monitor camera.

 Use DIAL to select range mai Use arrow keys to adjust posi 	
	JSNIA0085GB

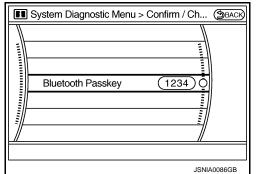
Bluetooth

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[BOSE AUDIO WITH NAVIGATION]

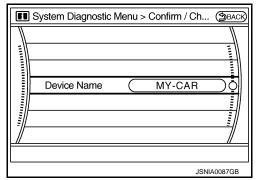
Passkey confirmation/change

- The passkey of Bluetooth can be confirmed and changed.
- The passkey can be changed by four digits within 0 to 9.



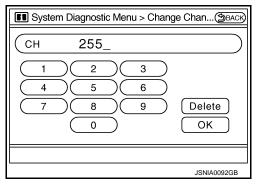
Device name check/change

- The device name of Bluetooth can be confirmed and changed.
- The device name can be changed by sixteen digits within A to Z (small character can be used) and (hyphen).

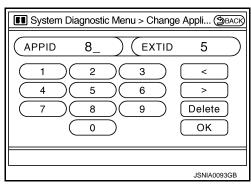


SAT

- 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

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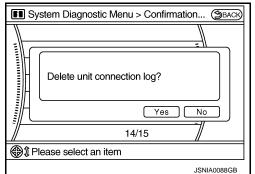
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AV

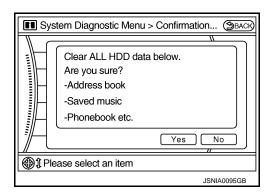
< SYSTEM DESCRIPTION >

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

[BOSE AUDIO WITH NAVIGATION] System Diagnostic Menu > Confirmation.... Эваск



Initialize Settings Deletes data stored in HDD.



INFOID:000000001849166

CONSULT - III Function (MULTI AV)

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

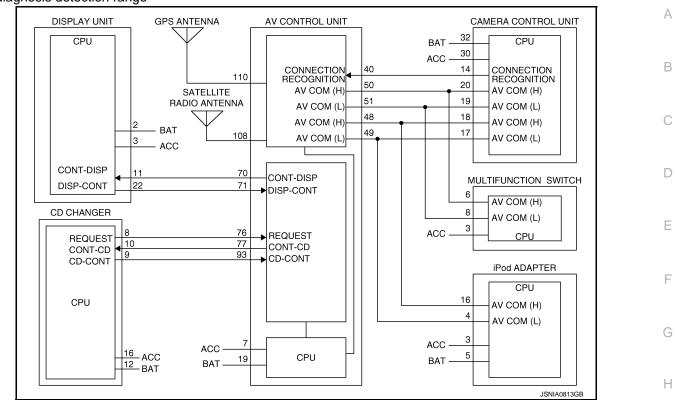
The part number of AV control unit is displayed.

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.

DIAGNOSIS SYSTEM (AV CONTROL UNIT) < SYSTEM DESCRIPTION > [BOSE AUDIO WITH NAVIGATION]

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 detect- ed.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts accord- ing to the diagnosis results. Refer to <u>AV-386, "Diagnosis Procedure"</u> .	
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detect- ed.		
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.		
Cont Unit FLASH-ROM [U1200]			
GYRO NO CONN [U1201]			
CAN CONT [U1216]			
BLUETOOTH CONN [U1217]			
HDD-CONN [U1218]		Replace the AV control unit.	
HDD-READ [U1219]			
XM SERIAL COMM [U1220]	AV control unit malfunction is detected.		
HDD-WRITE [U121A]			
HDD-COMM [U121B]			
HDD-ACCESS [U121C]			
DSP CONN [U121D]			
DSP COMM [U121E]			
INTERNAL COMM [U121F]		AV control unit power supply and ground circuits.	

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
GPS COMM [U1204]		An intermittent error caused by strong radio
GPS ROM [U1205]		interference may be detected unless any symptom (GPS reception error, etc.) oc-
GPS RAM [U1206]	GPS malfunction is detected.	curs.
GPS RTC [U1207]		Replace the AV control unit if the malfunc- tion occurs constantly.
FRONT DISP CONN [U1243]	 Display unit power supply and ground circuits malfunction is detected. Malfunction is detected in communication circuits 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 circuits. Communication circuits between AV control unit and AV display unit.
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	GPS antenna.
CAMERA CONT CONN [U1250]	Malfunction is detected in camera connec- tion recognition circuit between AV control unit and camera control unit.	Camera-connection recognition circuit be- tween AV control unit and camera control unit.
XM ANTENNA CONN [U1258]	Poor connection is detected in satellite ra- dio antenna.	Satellite radio antenna feeder.Satellite radio antenna.
CD CHANGER [N-BUS] [U124C]	 Malfunction is detected in CD changer power supply and ground circuits. Malfunction is detected in communica- tion circuit between AV control unit and CD changer (REQ1 signal or communi- cation signal). Malfunction is detected in communica- tion signal between AV control unit and CD changer (REQ1 signal or communi- cation signal). 	 CD changer power supply and ground circuits. Communication between AV control unit and CD changer (REQ1 signal or communication signal).
 AV COMM CIRCUIT [U1300] INTERNAL COMM [U121F] 	AV control unit power supply and ground circuits.AV control unit malfunction is detected.	AV control unit power supply and ground circuits.
AV COMM CIRCUIT [U1300]SWITCH CONN [U1240]	 Multifunction switch power supply and ground circuits malfunction is detected. Malfunction is detected in AV communi- cation circuits between AV control unit and multifunction switch. Malfunction is detected in AV communi- cation 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.
 AV COMM CIRCUIT [U1300] REAR CAMERA LAN CONN [U1252] 	 Camera control unit power supply and ground circuits malfunction is detected. Malfunction is detected in AV communi- cation signal between AV control unit and camera control unit. 	Camera control unit power supply and ground circuits.
AV COMM CIRCUIT [U1300]IPOD CONN [U1254]	 iPod adapter power supply and ground circuits malfunction is detected Malfunction is detected in AV communication circuits between camera control unit and iPod adapter Malfunction is detected in AV communication signal between AV control unit and iPod adapter 	 iPod adapter power supply and ground circuits AV communication circuits between camera control unit and iPod adapter

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take	~
 AV COMM CIRCUIT [U1300] REAR CAMERA LAN CONN [U1252] IPOD CONN [U1254] 	Malfunction is detected in AV communica- tion circuits between camera control unit and the junction of AV control unit and mul- tifunction switch.	AV communication circuits between cam- era control unit and the junction of AV con- trol unit and multifunction switch.	E
 AV COMM CIRCUIT [U1300] SWITCH CONN [U1240] REAR CAMERA LAN CONN [U1252] IPOD CONN [U1254] 	Malfunction is detected in AV communica- tion circuits between AV control unit and the junction of camera control unit and multi- function switch.	AV communication circuits between AV control unit and the junction of camera control unit and multifunction switch.	C

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

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	
PKB SIG	
ILLUM SIG	The same as when "ALL SIGNALS" is selected.
IGN SIG	
REV SIG	

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[BOSE AUDIO WITH NAVIGATION]

DTC/CIRCUIT DIAGNOSIS U1000 CAN COMM CIRCUIT

Description

INFOID:000000001910910

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-28, "CAN System Specification Chart".

DTC Logic

INFOID:000000001910911

DTC DETECTION LOGIC

DTC	Display contents of CON- SULT-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:000000001910912

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 <u>LAN-19</u>, "Trouble Diagnosis Procedure".

NO >> Refer to GI section. Refer to <u>GI-39</u>, "Intermittent Incident".

U1010 CONTROL UNIT (CAN) [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

Description

Initial diagnosis of AV control unit.

DTC Logic

INFOID:000000001910914

INFOID:000000001910913

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DTC DETECTION LOGIC

DTC	Display contents of CON- SULT-III	Diagnostic item is detected when	Probable malfunction location	D	
U1010	CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	AV control unit.		
Diagno	osis Procedure		INFOID:000000001910915	Е	
1. REPLACE AV CONTROL UNIT					
When DTC U1010 is detected, replace AV control unit.				F	
>> INSPECTION END					

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U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1310 AV CONTROL UNIT

Description

INFOID:000000001910916

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910917

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 [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U1200 AV CONTROL UNIT

Description

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

INFOID:000000001910918

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910919

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

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U1201 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1201 AV CONTROL UNIT

Description

INFOID:000000001910920

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910921

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1201	GYRO NO CONN [U1201]	Internal malfunction of AV control unit (gyrocompass dis- connection) is detected.	Replace AV control unit.

U1216 AV CONTROL UNIT [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U1216 AV CONTROL UNIT

Description

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

INFOID:000000001910922

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910923

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

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U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1217 AV CONTROL UNIT

Description

INFOID:000000001910924

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910925

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1217	BLUETOOTH MODULE CONN [U1217]	Internal malfunction of AV control unit (Bluetooth module connection malfunction) is detected.	Replace AV control unit.

U1218 AV CONTROL UNIT [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U1218 AV CONTROL UNIT

Description

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

INFOID:000000001910926

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable. 	

DTC Logic

INFOID:000000001910927

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take	'
U1218	HDD-CONN [U1218]	Internal malfunction of AV control unit (HDD connection malfunction) is detected.	Replace AV control unit.	J

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U1219 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1219 AV CONTROL UNIT

Description

INFOID:000000001910928

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910929

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1219	HDD-READ [U1219]	Internal malfunction of AV control unit (HDD read malfunc- tion) is detected.	Replace AV control unit.

U1220 AV CONTROL UNIT [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U1220 AV CONTROL UNIT

Description

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

INFOID:000000001910930

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, 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 BCM via CAN communication transmitting/receiving for the vehicle settings function. It inputs the illumination signals that are required for the display dimming con trol. It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable. 	

DTC Logic

INFOID:000000001910931

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take	
U1220	XM SERIAL COMM [U1220]	Internal malfunction of AV control unit (satellite radio tuner communication error) is detected.	Replace AV control unit.	J

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U121A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U121A AV CONTROL UNIT

Description

INFOID:000000001910932

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910933

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U121A	HDD-WRITE [U121A]	Internal malfunction of AV control unit (HDD write mal- function) is detected.	Replace AV control unit.

U121B AV CONTROL UNIT [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U121B AV CONTROL UNIT

Description

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

INFOID:000000001910934

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable carble.

DTC Logic

INFOID:000000001910935

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take	I
U121B	HDD-COMM [U121B]	Internal malfunction of AV control unit (HDD communica- tion error) is detected.	Replace AV control unit.	J

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U121C AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U121C AV CONTROL UNIT

Description

INFOID:000000001910936

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910937

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U121C	HDD-ACCESS [U121C]	Internal malfunction of AV control unit (HDD access error) is detected.	Replace AV control unit.

U121D AV CONTROL UNIT [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U121D AV CONTROL UNIT

Description

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

INFOID:000000001910938

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910939

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take	I
U121D	DSP CONN [U121D]	Internal malfunction of AV control unit (DSP connection error) is detected.	Replace AV control unit.	J

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U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U121E AV CONTROL UNIT

Description

INFOID:000000001910940

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910941

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U121E	DSP COMM [U121E]	Internal malfunction of AV control unit (DSP communica- tion error) is detected.	Replace AV control unit.

U121F AV CONTROL UNIT [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U121F AV CONTROL UNIT

Description

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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INFOID:000000001910942

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable carbination.

DTC Logic

INFOID:000000001910943

INFOID:000000001910944

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take	
U121F	INTERNAL COMM Internal malfunction of AV control unit (internal comm [U121F] cation error) is detected.		AV control unit power supply and ground circuit.	J

Diagnosis Procedure

1. CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check AV control unit power supply and ground circuit	Refer to AV-414, "AV CONTROL UNIT : Diagnosis
Procedure"	

Is the inspection result normal?

YES >> INSPECTION END

>> Repair or replace malfunctioning parts. NO

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U1204 GPS

< DTC/CIRCUIT DIAGNOSIS >

U1204 GPS

Description

INFOID:000000001910945

[BOSE AUDIO WITH NAVIGATION]

Replace the AV control unit if this DTC is displayed. Refe	$t_0 \Delta V_{-603}$	"Exploded View"
Replace the AV control unit if this DTC is displayed. Rele	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable carbine.

DTC Logic

INFOID:000000001910946

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1204	GPS CONN [U1204]	Internal malfunction of AV control unit (GPS malfunction) is detected.	Replace AV control unit.

Diagnosis Procedure

INFOID:000000001910947

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. 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.

NO >> The intermittent malfunction caused by strong radio interference can be detected.

U1205 GPS

< DTC/CIRCUIT DIAGNOSIS >

U1205 GPS

Description

INFOID:000000001910948

[BOSE AUDIO WITH NAVIGATION]

Replace the AV	' control unit if this	DTC is displayed.	Refer to AV-60	03, "Exploded View"	4
•					

Part name	Description
	 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, navi- gation, satellite radio, and vehicle information functions.
AV CONTROL UNIT	 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 con- trol.
	 It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).
	 BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.
	 Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910949

INFOID:000000001910950

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take	
U1205	GPS ROM [U1205]	Internal malfunction of AV control unit (GPS malfunction) is detected.	Replace AV control unit.	J

Diagnosis Procedure

1.PERFORM	THE SELF-DIAGNOSIS
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- 1. Delete the self-diagnosis results. 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.
- NO >> The intermittent malfunction caused by strong radio interference can be detected.

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U1206 GPS

< DTC/CIRCUIT DIAGNOSIS >

U1206 GPS

Description

INFOID:000000001910951

[BOSE AUDIO WITH NAVIGATION]

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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, 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 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). BOSE amp. ON signal, sound signal and mode change signal transmitted to BOSE amp. Update of map data is performed with the CONSULT-III and the applicable cable.

DTC Logic

INFOID:000000001910952

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1206	GPS RAM [U1206]	Internal malfunction of AV control unit (GPS malfunction) is detected.	Replace AV control unit.

Diagnosis Procedure

INFOID:000000001910953

$1. {\sf PERFORM} \text{ THE SELF-DIAGNOSIS}$

1. Delete the self-diagnosis results. 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.

NO >> The intermittent malfunction caused by strong radio interference can be detected.

U1207 GPS

< DTC/CIRCUIT DIAGNOSIS >

U1207 GPS

Description

Replace the AV control unit if this DTC is displayed. Refer to AV-603, "Exploded View".

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INFOID:000000001910954

[BOSE AUDIO WITH NAVIGATION]

DTC Logic

INFOID:000000001910955

INFOID:000000001910956

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take	I
U1207	GPS RTC [U1207]	Internal malfunction of AV control unit (GPS malfunction) is detected.	Replace AV control unit.	J

Diagnosis Procedure

- 1. Delete the self-diagnosis results. 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.
- NO >> The intermittent malfunction caused by strong radio interference can be detected.

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< DTC/CIRCUIT DIAGNOSIS >

U1243 DISPLAY UNIT

Description

INFOID:000000001910957

[BOSE AUDIO WITH NAVIGATION]

Part name	Description
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). Auxiliary image signal is input from the auxiliary input jack. Camera image signal is input from the camera control unit. Synchronize signal (HP, VP) is output to AV control unit. Touch panel function can be operated for each system by touching a display directly.

DTC Logic

INFOID:000000001910958

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:000000001910959

1.CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to <u>AV-414. "DISPLAY UNIT : Diagnosis Procedure"</u>. <u>Is the inspection result normal?</u>

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 terminals 11, 22 and AV control unit harness connector terminals 70, 71.

11	- 1	70		

: Continuity should exist.

: Continuity should exist.

4. Check continuity between display unit harness connector terminals 11, 22 and ground.

11, 22 - Ground

: Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 3.

22 - 71

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 terminal 11 and ground.

U1243 DISPLAY UNIT

COTC/CIRCUIT DIAGNOS	IS >		[BOSE AUDIO WITH NAVIGATION]
Terminal		Condition	Reference value
11 - Ground	Ignition switch ON When adjusting display bright- ness.		(V) 6 4 2 0
s the inspection result norma YES >> GO TO 4. NO >> Replace AV cont CHECK COMMUNICATIO	trol unit.	I	
		ness connector terminal 22 a	nd ground.
Terminal		Condition	Reference value
22 - Ground	lgnition switch ON	When adjusting display bright- ness.	(V) 6 4 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
s the inspection result norma YES >> INSPECTION EI			
NO >> Replace display			

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U1244 GPS ANTENNA [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U1244 GPS ANTENNA

Description

INFOID:000000001910960

Part name	Description		
GPS ANTENNA	GPS signal is received and transmitted to AV control unit.		

DTC Logic

INFOID:000000001910961

INFOID:000000001910962

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	GPS antenna disconnection.

Diagnosis Procedure

1.GPS ANTENNA CHECK

Visually check GPS antenna and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

$2. {\sf CHECK} \ {\sf AV} \ {\sf CONTROL} \ {\sf UNIT} \ {\sf VOLTAGE}$

1. Disconnect GPS antenna connector.

2. Turn ignition switch ON.

3. Check voltage between AV control unit terminal 110 and ground.

110 - Ground

: Approx. 5 V

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace AV control unit.

U124C CD CHANGER

< DTC/CIRCUIT DIAGNOSIS >

U124C CD CHANGER

Description

INFOID:000000002990097

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Part name	Description	_
CD CHANGER	 Controlled by communication signal, request signal from AV control unit. Sound signal from CD CHANGER is output to AV control unit. 	(

DTC Logic

INFOID:000000002990098

INFOID:000000002990099

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U124C	CD CHANGER [N-BUS] [U124C]	 Malfunction is detected in CD changer power supply and ground circuits. Malfunction is detected in communication circuit be- tween AV control unit and CD changer (REQ1 signal or communication signal). Malfunction is detected in communication signal be- tween AV control unit and CD changer (REQ1 signal or communication signal). 	 CD changer power supply and ground circuits. Communication between AV control unit and CD changer (REQ1 signal or communication signal).

Diagnosis Procedure

1. CHECK CD CHANGER POWER SUPPLY AND GROUND CIRCUIT

	changer	power	supply	and	ground	circuit.	Refer	to	<u>AV-417,</u>	"CD	CHANGER	: Diagnosis	Proce-	
<u>dure"</u> .														
Is inspection	on result C	<u>)K?</u>												

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

2.check continuity communication circuit

- 1. Turn ignition switch OFF.
- 2. Disconnect CD changer connector and AV control unit connector.
- Κ Check continuity between CD changer harness connector terminals 8, 9, 10 and AV control unit harness 3. connector terminals 76, 93, 77.

8 - 76	: Continuity should exist.	L
9 - 93	: Continuity should exist.	
10 - 77	: Continuity should exist.	M

Check continuity between CD changer harness connector terminals 8, 9, 10 and ground. 4.

8, 9, 10 - Ground : Continuity should not exist. AV Is inspection result OK? YES >> GO TO 3. NO >> Repair harness or connector. **3.**CHECK REQUEST SIGNAL 1. Connect CD changer connector and AV control unit connector. Ρ 2. Turn ignition switch ON.

Check signal between CD changer harness connector terminal 8 and ground. 3.

U124C CD CHANGER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Terminal		Condition	Reference value	
8 - Ground	lgnition switch ON	When CD change mode is select- ed.	(V) 10 0 -10 + 10ms SKIA9299J	

Is inspection result OK?

YES >> GO TO 4.

NO >> Replace CD changer.

4.CHECK COMMUNICATION SIGNAL

Check signal between CD changer harness connector terminal 9 and ground.

Terminal		Condition	Reference value
9 - Ground	Ignition switch ON	When CD change mode is select- ed.	(V) 10 0 -10 -10 -10 -10 -10 -10 -

Is inspection result OK?

YES >> GO TO 5.

NO >> Replace CD changer.

5. CHECK COMMUNICATION SIGNAL

Check signal between CD changer harness connector terminal 10 and ground.

Terminal		Condition	Reference value
10 - Ground	lgnition switch ON	When CD change mode is select- ed.	(V) 10 0 -10 •••1ms SKIA9301J

Is inspection result OK?

YES >> INSPECTION END

NO >> Replace AV control unit.

U1250 CAMERA CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

U1250 CAMERA CONTROL UNIT

Description

INFOID:000000001910963

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	Part name	Descri	ption	
CAMER	A CONTROL UNIT	 Camera image signal is input from real dicated on the display. Power (camera ON signal) is transmitt Controlled by AV communication trans AV control unit recognizes the present nection recognition signal. 	mitted from AV control unit.	(
DTC L	ogic		INFOID:000000001910964	ſ
DTC	Display contents of	DTC Detection Condition	Possible causes	1

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes	
U1250	CAMERA CONT. CONN [U1250]	Malfunction is detected in Camera-connection recognition signal circuit.	Camera-connection recognition sig- nal circuit.	F

Diagnosis Procedure

INFOID:000000001910965

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$1. {\sf CHECK \ CAMERA-CONNECTION \ RECOGNITION \ SIGNAL \ CIRCUIT}$

- 1. Disconnect AV control unit connector and camera control unit connector.
- 2. Check continuity between AV control unit harness connector terminal 40 and camera control unit harness connector terminal 14.

40 - 14	: Continuity should exist.	I
Is the inspection result nor	mal?	
YES >> GO TO 2.		J
NO >> Repair harnes		
2. CHECK AV CONTROL	UNIT VOLTAGE	
1. Connect AV control ur	it connector.	K
2. Turn ignition switch O		
3. Check voltage betwee	n AV control unit harness connector te	erminal 40 and ground.
40 - Ground	: Approx. 5 V	L
Is the inspection result nor		

Is the inspection result normal?

- YES >> Replace camera control unit.
- NO >> Replace AV control unit.

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U1258 SATELLITE RADIO ANTENNA [BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

U1258 SATELLITE RADIO ANTENNA

Description

INFOID:000000001910966

Part name	Description
SATELLITE RADIO ANTENNA	Satellite radio signal is received and transmitted to AV control unit.

DTC Logic

INFOID:000000001910967

INFOID:000000001910968

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

1.SATELLITE RADIO ANTENNA CHECK

Visually check satellite radio 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 satellite radio antenna connector.

2. Turn ignition switch ON.

3. Check voltage between AV control unit terminal 108 and ground.

108 - Ground

: Approx. 5 V

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace AV control unit.

< DTC/CIRCUIT DIAGNOSIS >

U1300 AV COMM CIRCUIT

Description

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	Description	Possible malfunction factor/Action to take
U1300 U121F	 AV COMM CIRCUIT [U1300] INTERNAL COMM [U121F] 	 Malfunction is detected in AV control unit power supply and ground circuits. AV control unit malfunction is detected. 	 AV control unit power supply and ground circuits. When there is no malfunction, AV control unit is malfunctioning.
U1300 U1240	 AV COMM CIRCUIT [U1300] SWITCH CONN [U1240] 	 Multifunction switch power supply and ground circuits malfunction is detected. Malfunction is detected in AV communication circuits 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 circuits between AV control unit and multifunction switch.
U1300 U1252	 AV COMM CIRCUIT [U1300] REAR CAMERA LAN CONN [U1252] 	 Malfunction is detected in camera control unit power supply and ground circuits. Malfunction is detected in AV communication signal between AV control unit and camera control unit. 	Camera control unit power supply and ground circuits.
U1300 U1254	 AV COMM CIRCUIT [U1300] IPOD CONN [U1254] 	 iPod adapter power supply and ground circuits malfunction is detected. Malfunction is detected in AV communication circuits between camera control unit and iPod adapter. Malfunction is detected in AV communication signal between AV control unit and iPod adapter 	 iPod adapter power supply and ground circuits. AV communication circuits between camera control unit and iPod adapter.
U1300 U1252 U1254	 AV COMM CIRCUIT [U1300] REAR CAMERA LAN CONN [U1252] IPOD CONN [U1254] 	Malfunction is detected in AV communication circuits between camera control unit and the junction of AV con- trol unit and multifunction switch.	AV communication circuits between camera control unit and the junction of AV control unit and multifunction switch.
U1300 U1240 U1252 U1254	 AV COMM CIRCUIT [U1300] SWITCH CONN [U1240] REAR CAMERA LAN CONN [U1252] IPOD CONN [U1254] 	Malfunction is detected in AV communication circuits between AV control unit and the junction of camera con- trol unit and multifunction switch.	AV communication circuits between AV control unit and the junction of camera control unit and multifunction switch.

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INFOID:000000001910969

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

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.)
	M80	19		
Battery power supply	M87	22	OFF 12 V	12 V
	IVIO7	24		
100 source surce h	M80	7	ACC	12 V
ACC power supply	M87	25	ACC	12 V
Ignition signal	M87	35	ON	12 V

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
	M80	20		
Ground	M87	21	OFF E	Existed
	IVIO7	23		

Is the inspection result normal?

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

DISPLAY UNIT : Diagnosis Procedure

1.CHECK FUSE

Check for blown fuses.

[BOSE AUDIO WITH NAVIGATION]

INFOID-000000001910970

INFOID:000000001910971

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

	Power source		Fuse No.	
	Battery		34	
Ignitio	n switch ACC or ON		19	
Is the inspection result YES >> GO TO 2. NO >> Be sure to 2.CHECK POWER S	eliminate cause of ma	alfunction before in	stalling new fuse.	
Check voltage betwee	n display unit harness	connector and gro	und.	
Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M75	2	OFF	12 V
ACC power supply	M75	3	ACC	12 V
 CHECK GROUND Turn ignition switc Disconnect display Check continuity b 	h OFF.	arness connector a	nd ground.	
Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M75	1 13	OFF	Existed
NO >> Repair har MULTIFUNCTIO		nosis Procedu	re.	INFOID:00000000191097
1.CHECK FUSE				
1.CHECK FUSE				
Check for blown fuses	Power source		Fuse No.	
1.CHECK FUSE Check for blown fuses Ignitio Is the inspection result YES >> GO TO 2.	Power source n switch ACC or ON t normal? eliminate cause of ma UPPLY CIRCUIT	alfunction before in	Fuse No. 19 stalling new fuse.	
1.CHECK FUSE Check for blown fuses Ignitio Is the inspection result YES >> GO TO 2. NO >> Be sure to 2.CHECK POWER S Check voltage betwee	Power source n switch ACC or ON t normal? eliminate cause of ma UPPLY CIRCUIT n multifunction switch	alfunction before in harness connector	Fuse No. 19 stalling new fuse.	Value (Approx.)
1.CHECK FUSE Check for blown fuses Ignitio Is the inspection result YES >> GO TO 2. NO >> Be sure to 2.CHECK POWER S	Power source n switch ACC or ON t normal? eliminate cause of ma UPPLY CIRCUIT	alfunction before in	Fuse No. 19 stalling new fuse.	Value (Approx.) 12 V

1. Turn ignition switch OFF.

2. Disconnect multifunction switch connector.

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

INFOID:000000001910973

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

<u>Is the inspection result normal?</u> YES >> INSPECTION END

NO >> Repair harness or connector.

CAMERA CONTROL UNIT

CAMERA CONTROL UNIT : Diagnosis Procedure

1.CHECK FUS	Е
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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 camera control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B241	32	OFF	12 V
ACC power supply	B241	30	ACC	12 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between camera control unit and fuse.

3.CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect camera control unit connector.

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B241	31	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector. BOSE AMP.

BOSE AMP. : Diagnosis Procedure

INFOID:000000001910974

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.

AV-416

[BOSE AUDIO WITH NAVIGATION]

Value (Approx.)

12 V

Continuity

Existed

INFOID:000000002990100

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POWER SUPPLY AND GROUND CIRCUIT < DTC/CIRCUIT DIAGNOSIS > 2. CHECK POWER SUPPLY CIRCUIT Check voltage between BOSE amp. harness connector and ground. Signal name Connector No. Terminal No. Ignition switch position 10 Battery power supply B42 OFF 11 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. Disconnect BOSE amp. connector. 2. Check continuity between BOSE amp. harness connector and ground. 3. Terminal No. Ignition switch position Signal name Connector No. 7 Ground B42 OFF 12 Is the inspection result normal? YES >> INSPECTION END >> Repair harness or connector. NO CD CHANGER **CD CHANGER : Diagnosis Procedure** 1.CHECK FUSE Check for blown fuses. Dowor courco Europ No

Power source	Fuse No.	
Battery	34	
Ignition switch ACC or ON	19	Κ
Is inspection result OK?		

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between CD changer harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)	
Battery power supply	B43	12	OFF	12 V	A١
ACC power supply	B43	16	ACC	12 V	-

Is inspection result OK?

YES >> INSPECTION END

NO >> Check harness between CD changer and fuse.

iPod ADAPTER

iPod ADAPTER : Diagnosis Procedure

1.CHECK FUSE

Check for blown fuses.

INFOID:000000001910976

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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 iPod adapter harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M111	5	OFF	12 V
ACC power supply	M111	3	ACC	12 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check harness between iPod adapter and fuse.

RGB (R: RED) SIGNAL CIRCUIT

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >
RGB (R: RED) SIGNAL CIRCUIT

А Description INFOID:000000001910977 Transmit the image displayed with AV control unit with RGB signal to the display unit. В **Diagnosis** Procedure INFOID:000000001910978 1. CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT 1. Turn ignition switch OFF. Disconnect display unit connector and AV control unit connector. 2. Check continuity between display unit harness connector terminal 17 and AV control unit harness connec-D 3. tor terminal 61. 17 - 61 : Continuity should exist. Е 4. Check continuity between display unit harness connector terminal 17 and ground.

17 - Ground : Continuity should not exist. 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 terminal 17 and ground.

Terminal		Condition	Reference value	1
17 - Ground	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$\begin{pmatrix} V \\ 0 & 4 \\ 0 \\ -0 & 4 \\ \hline \end{array}$	J

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

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RGB (G: GREEN) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RGB (G: GREEN) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001910980

INFOID:000000001910979

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 terminal 6 and AV control unit harness connector terminal 62.

6 - 62 : Continuity should exist.

4. Check continuity between display unit harness connector terminal 6 and ground.

6 - Ground : Continuity should not exist.

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 terminal 6 and ground.

Terminal	Condition		Reference value
6 - Ground	Ignition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} V \\ 0 \\ 0 \\ -0 \\ 4 \\ \hline \\ -0 \\ -0 \\ -0 \\ -0 \\ -0 \\ -0 \\ -0 $

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

RGB (B: BLUE) SIGNAL CIRCUIT

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >	
PCB (B. BLUE) SIGNAL	

RGB (B: BLUE) SIGNAL CIRCUIT Description INFOID:000000001910981 Transmit the image displayed with AV control unit with RGB signal to the display unit. **Diagnosis** Procedure INFOID:000000001910982 1. CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT Turn ignition switch OFF. Disconnect display unit connector and AV control unit connector. Check continuity between display unit harness connector terminal 18 and AV control unit harness connector terminal 63. 18 - 63 : Continuity should exist.

4. Check continuity between display unit harness connector terminal 18 and ground.

18 - Ground : Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 2.

1.

2.

3.

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.
- Check signal between display unit harness connector terminal 18 and ground. 3.

Terminal		Condition	Reference value	
18 - Ground	lgnition switch ON	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} V \\ 0 & 4 \\ 0 & 4 \\ -0 & 4 \\ \hline \\ -0 & 4 \\ \hline \\ \hline \\ -0 & 4 \\ \hline \\ \hline \\ \\ \\ \hline \\ \hline \\ \\ \hline \\ \hline \\ \\ \hline \\ \hline \\ \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \hline \\ \hline \\ \hline \hline \\ \hline \\ \hline \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \\ \hline \hline$	J

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

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RGB SYNCHRONIZING SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001910984

INFOID:000000001910983

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 terminal 19 and AV control unit harness connector terminal 65.

19 - 65

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 19 and ground.

19 - Ground

: Continuity should not exist.

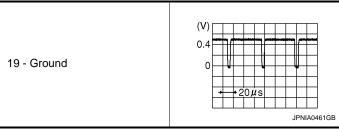
Is the inspection result normal?

- 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 terminal 19 and ground.



Is the inspection result normal?

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

RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RGB AREA (YS) SIGNAL CIRCUIT

Description

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

Diagnosis Procedure INEOID-000000001910986 1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT 1. Turn ignition switch OFF. D 2. Disconnect display unit connector and AV control unit connector. Check continuity between display unit harness connector terminal 9 and AV control unit harness connec-3. tor terminal 67. Е 9 - 67 : Continuity should exist. 4. Check continuity between display unit harness connector terminal 9 and ground. F 9 - Ground : Continuity should not exist. Is the inspection result normal? YES >> GO TO 2. NO >> Repair harness or connector. 2.check RGB AREA (YS) SIGNAL Н 1. Connect display unit connector and AV control unit connector. 2. Turn ignition switch ON.

Check signal between display unit harness connector terminal 9 and ground. 3.

Terminal		Condition	Reference value	
		At RGB image displayed	: Approx. 5 V	J
9 - Ground	Ignition switch ON	At rear view camera image is dis- played.	(V) 6 4 2 0 ★ ★ 200 µ s ↓ PKIB4948J	K

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace AV control unit.

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INFOID:000000001910985

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HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

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:000000001910988

INFOID:000000001910987

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 terminal 8 and AV control unit harness connector terminal 68.

8 - 68

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 8 and ground.

8 - Ground

: Continuity should not exist.

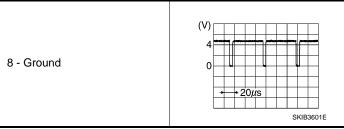
Is the inspection result normal?

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 terminal 8 and ground.



Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace display unit.

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

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

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 terminal 20 and AV control unit harness connector terminal 69.

20 - 69

: Continuity should exist.

4. Check continuity between display unit harness connector terminal 20 and ground.

20 - Ground

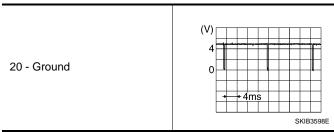
: Continuity should not exist.

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 terminal 20 and ground.



Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace display unit.

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INFOID:000000001910989

INFOID:000000001910990

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< DTC/CIRCUIT DIAGNOSIS >

AUX IMAGE SIGNAL CIRCUIT

Description

Transmits the image signal of external device from auxiliary input jacks to display unit.

Diagnosis Procedure

INFOID:000000001910992

INFOID:000000001910991

1. CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect auxiliary input jacks connector and display unit connector.
- 3. Check continuity between auxiliary input jacks harness connector terminal 7 and display unit harness connector terminal 15.

7 - 15 : Continuity should exist.

4. Check continuity between auxiliary input jacks harness connector terminal 7 and ground.

7 - Ground : Continuity should not exist.

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 display unit connector.
- 2. Turn ignition switch ON.
- 3. Check signal between auxiliary input jacks harness connector terminal 7 and ground.

Terminal	Condition		Terminal Condition Reference va		Reference value
7 - Ground	Ignition switch ON	At AUX image is displayed.	(V) 0.4 0 −0.4 ••••••••••••••••••••••••••••••••••••		

Is the inspection result normal?

YES >> Replace display unit.

NO >> Check that there is no malfunction in the external device.

MODE CHANGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION] MODE CHANGE SIGNAL CIRCUIT

MODE CHANGE SI				А
Description			INFOID:000000001910993	~
 AV control unit transmits the Driver's Audio Stage contro be the center of sounds. 			y BOSE amp. so that the driver's seat is to	В
Diagnosis Procedure			INFOID:00000001910994	С
	DE CHAN	IGE SIGNAL CIRCUIT		
1. Turn ignition switch OFF.		and AV control unit connecto		D
		and AV control unit connector amp. harness connector term	ninal 37 and AV control unit harness con-	E
37 - 44	: Co	ntinuity should exist.		
4. Check continuity betwee	n BOSE ai	mp. harness connector termi	nal 37 and ground.	F
37 - Ground	: Co	ontinuity should not exist.		
Is the inspection result norma	<u>al?</u>			G
YES >> GO TO 2. NO >> Repair harness of	roopport	~r		
NO >> Repair harness of 2.CHECK MODE CHANGE		JI.		Н
1. Connect BOSE amp. cor				
2. Turn ignition switch ON.	mector.			
3. Check signal between B	OSE amp.	harness connector terminal	37 and ground.	I
Terminal		Condition	Reference value	
37 - Ground	Ignition switch	_	8.5 V	J

Is the inspection result normal?

YES >> Replace AV control unit.

ON

NO >> Replace BOSE amp.

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CD EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

CD EJECT SIGNAL CIRCUIT

Description

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

Diagnosis Procedure

INFOID:000000001910996

INFOID:000000001910995

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 terminal 14 and AV control unit harness connector terminal 85.

14 - 85 : Continuity should exist.

4. Check continuity between multifunction switch harness connector terminal 14 and ground.

14 - Ground

: Continuity should not exist.

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 terminal 85 and ground.

85 - Ground	Pressing the eject switch : Approx. 0 V	
85 - Ground	Except for above : Approx. 5 V	

Is the inspection result normal?

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

MICROPHONE SIGNAL CIRCUIT

Revision: 2008 September

< DTC/CIRCUIT DIAGNOSIS > MICROPHONE SIGNAL CIRCUIT

Description

Supply power from AV control unit to microphone. The microphone transmits the sound/voice to the AV control unit.

Diagnosis Procedure

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 terminals 26, 27, 28 and microphone harness connector terminals 4, 2, 1.

		E
26 - 4	: Continuity should exist.	
27 - 2	: Continuity should exist.	
28 - 1	: Continuity should exist.	F
4. Check continuity	between AV control unit harness connector terminals 26, 28 and ground.	

 Is the inspection result normal?

 YES
 >> GO TO 2.

 NO
 >> Repair harness or connector.

 2.CHECK VOLTAGE MICROPHONE VCC

: Continuity should not exist.

- 1. Connect AV control unit connector.
- 2. Turn ignition switch ON.

26, 28 - Ground

3. Check voltage between AV control unit harness connector terminals 26 and 27.

26 - 27

: Approx. 5 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit.

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.

2. Check signal between AV control unit harness connector terminals 28 and 27.

Terminal		Condition	Reference value	M
28 - 27	Ignition switch ON	Give a voice.	(V) 2.5 2.0 1.5 1.0 0.5	AV
	ON		0.5 0 • • • 2ms • • • 2ms • • • PKIB5037J	0

Is the inspection result normal?

YES >> Replace AV control unit.

NO >> Replace microphone.

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INFOID:000000001910997

INFOID-000000001910998

CAMERA IMAGE SIGNAL CIRCUIT (REAR VIEW CAMERA TO CAMERA CON-TROL UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

CAMERA IMAGE SIGNAL CIRCUIT (REAR VIEW CAMERA TO CAMERA CONTROL UNIT)

Description

INFOID:000000001910999

- Camera control unit outputs camera ON signal to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The camera control unit that inputs the camera image signal transmits the camera image signal to the display unit.

Diagnosis Procedure

INFOID:000000001911000

1. CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect camera control unit connector and rear view camera connector.
- 3. Check continuity between camera control unit harness connector terminal 6 and rear view camera harness connector terminal 3.

6 - 3 : Continuity should exist.

4. Check continuity between camera control unit harness connector terminal 6 and ground.

6 - Ground

: Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK CAMERA IMAGE SIGNAL

1. Connect camera control unit connector and rear view camera connector.

- 2. Turn ignition switch ON.
- 3. Check signal between camera control unit harness connector terminal 6 and ground.

Terminal	Condition		Reference value
6 - Ground	Ignition switch ON	At rear view camera image is displayed.	(V) 0.4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Is the inspection result normal?

YES >> Replace camera control unit.

NO >> Replace rear view camera.

CAMERA ON SIGNAL CIRCUIT

CAMERA	ON	SIGNAL	CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

А Description INFOID:000000001911001 Camera control unit outputs camera ON signal to rear view camera and inputs rear view camera image sig-В nal from rear view camera when the reverse signal is input. The camera control unit that inputs the camera image signal transmits the camera image signal to the display unit. С Diagnosis Procedure INFOID:000000001911002 1. CHECK CONTINUITY CAMERA ON SIGNAL CIRCUIT D 1. Turn ignition switch OFF. 2. Disconnect camera control unit connector and rear view camera connector. 3. Check continuity between camera control unit harness connector terminal 8 and rear view camera har-E ness connector terminal 1. 8 - 1 : Continuity should exist. F Check continuity between camera control unit harness connector terminal 8 and ground. 8 - Ground : Continuity should not exist. Is the inspection result normal? YES >> GO TO 2. NO >> Repair harness or connector. Н 2. CHECK VOLTAGE CAMERA ON SIGNAL Connect camera control unit connector and rear view camera connector. 1 Turn ignition switch ON. 2. 3. Check signal between camera control unit harness connector terminal 8 and ground. Shift the selector lever to "R" position 8 - Ground : Approx. 6 V

Is the inspection result normal?

- YES >> Replace rear view camera.
- NO >> Replace camera control unit.

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CAMERA IMAGE SIGNAL CIRCUIT (CAMERA CONTROL UNIT TO DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

CAMERA IMAGE SIGNAL CIRCUIT (CAMERA CONTROL UNIT TO DIS-PLAY UNIT)

Description

INFOID:000000001911003

- Camera control unit outputs camera ON signal to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The camera control unit that inputs the camera image signal transmits the camera image signal to the display unit.

Diagnosis Procedure

INFOID:000000001911004

1. CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect camera control unit connector and display unit connector.
- 3. Check continuity between camera control unit harness connector terminal 12 and display unit harness connector terminal 12.

12 - 12 : Continuity should exist.

4. Check continuity between camera control unit harness connector terminal 12 and ground.

12 - Ground

: Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK CAMERA IMAGE SIGNAL

1. Connect camera control unit connector and display unit connector.

- 2. Turn ignition switch ON.
- 3. Check signal between camera control unit harness connector terminal 12 and ground.

Terminal	Condition		Reference value
12 - Ground	Ignition switch ON	At rear view camera image is dis- played.	$\begin{pmatrix} (V) \\ 0.4 \\ 0 \\ -0.4 \\ \hline + 40\mu s \\ \hline SKIB2251J \\ \hline \\ SKIB2251J \\ \hline \\ \hline \\ SKIB2251J \\ \hline \\ $

Is the inspection result normal?

YES >> Replace display unit.

NO >> Replace camera control unit.

< DTC/CIRCUIT DIAGNOSIS	IG ANGLE SENSOR SIGNAL 1, 2 CIRCUIT [BOSE AUDIO WITH NAVIGATION] ENSOR SIGNAL 1, 2 CIRCUIT
Description	INFOID:000000001911005
 the camera control unit. Steering angle sensor signal 3 trol unit. 	, 2 detects the turning direction and quantity of the steering and transmits it to detects the neutral position of the steering and transmits it to the camera con- the correction of neutral position with sensor signal 1, 2, 3 and vehicle speed
Diagnosis Procedure	INFOID:000000001911006
1. CHECK CONTINUITY STEE	RING ANGLE SENSOR SIGNAL 1, 2 CIRCUIT
	unit connector and steering angle sensor connector. Amera control unit harness connector terminals 23, 24 and steering angle sen- inals 3, 4.
23 - 3	: Continuity should exist.
24 - 4	: Continuity should exist.
4. Check continuity between c	amera control unit harness connector terminals 23, 24 and ground.
23, 24 - Ground	: Continuity should not exist.
Is the inspection result normal? YES >> GO TO 2. NO >> Repair harness or c	
2.CHECK SENSOR SIGNAL 1	
 Connect camera control uni Turn ignition switch ON. Check voltage between can 	nera control unit harness connector terminals 23, 24 and ground.
23 - Ground	: Approx. 5 V
24 - Ground	: Approx. 5 V
Is the inspection result normal? YES >> GO TO 3. NO >> Replace camera co	
3. CHECK SENSOR SIGNAL 1	, 2
1. Connect steering angle sen	sor connector.

2. Check signal between camera control unit harness connector terminal 23, 24 and ground.

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STEERING ANGLE SENSOR SIGNAL 1, 2 CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Terminal		Condition	Reference value	
23, 24 - Ground	Ignition	Turn the steering to the right	(V) 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 5 KIB3827E A: Sensor signal 1 B: Sensor signal 2	
23, 24 - Giouna	switch ON	Turn the steering to the left	(V) 4 0 4 0 4 0 4 0 4 0 5 KIB3828E A: Sensor signal 1 B: Sensor signal 2	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace Steering angle sensor.

STEERING ANGLE SENSOR SIGNAL 3 CIRCUIT GNOSIS > [BOSE AUDIO WITH NAVIGATION]

<u>COTC/CIRCUIT DIAGNOSIS > [BOSE A]</u> STEERING ANGLE SENSOR SIGNAL 3 CIRCUIT Description

Description

- Steering angle sensor signal 1, 2 detects the turning direction and quantity of the steering and transmits it to the camera control unit.
- Steering angle sensor signal 3 detects the neutral position of the steering and transmits it to the camera control unit.
- Camera control unit performs the correction of neutral position with sensor signal 1, 2, 3 and vehicle speed signal.

Diagnosis Procedure

1.CHECK CONTINUITY STEERING ANGLE SENSOR SIGNAL 3 CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect camera control unit connector and steering angle sensor connector.
- 3. Check continuity between camera control unit harness connector terminal 25 and steering angle sensor harness connector terminal 5.

25 - 5 : Continuity should exist.

4. Check continuity between camera control unit harness connector terminal 25 and ground.

5 - Ground

: Continuity should not exist.

Is the inspection result normal?

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

2. CHECK SENSOR SIGNAL 3

- 1. Connect camera control unit connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between camera control unit harness connector terminal 25 and ground.

25 - Ground : Approx. 5 V Is the inspection result normal? YES >> GO TO 3. NO >> Replace camera control unit.

3.CHECK SENSOR SIGNAL 3

1. Connect steering angle sensor connector.

2. Check signal between camera control unit harness connector terminal 25 and ground.

(V) 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 5 KIB3829E KIB3829E A: State	AV O P

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace Steering angle sensor.

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INFOID:000000001911007

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< DTC/CIRCUIT DIAGNOSIS >

STEERING SWITCH SIGNAL A CIRCUIT

Description

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

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 terminal 6 and spiral cable harness connector terminal 24.

6 - 24 : Continuity should exist.

3. Check continuity between AV control unit harness connector terminals 6 and ground.

6 - Ground

: Continuity should not exist.

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.

 ${
m 3.}$ 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 terminals 6 and 15.

6 - 15 : Approx. 5 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 <u>AV-436. "Component Inspection"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch.

Component Inspection

INFOID:000000001911011

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

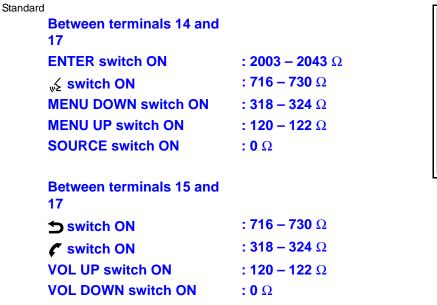
INFOID:000000001911009

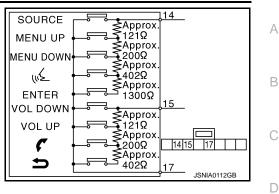
INFOID:000000001911010

STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]





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< DTC/CIRCUIT DIAGNOSIS >

STEERING SWITCH SIGNAL B CIRCUIT

Description

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

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 terminal 16 and spiral cable harness connector terminals 31.

16 - 31 : Continuity should exist.

3. Check continuity between AV control unit harness connector terminal 16 and ground.

16 - Ground

: Continuity should not exist.

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.

 ${
m 3.}$ 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 terminals 16 and 15.

16 - 15 : Approx. 5 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-438. "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch.

Component Inspection

INFOID:000000001911538

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

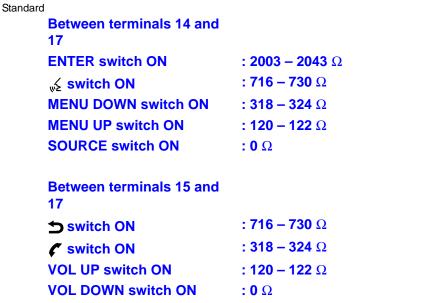
INFOID:000000001911012

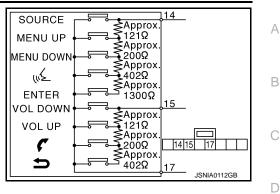
INFOID:000000001911013

STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]





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STEERING SWITCH SIGNAL GND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

STEERING SWITCH SIGNAL GND CIRCUIT

Description

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

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 terminal 15 and spiral cable harness connector terminal 33.

15 - 33

: Continuity should exist.

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 terminal 15 and ground.

15 - Ground

: Continuity should exist.

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-440, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END

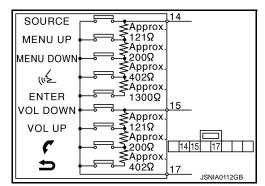
NO >> Replace steering switch.

Component Inspection

INFOID:000000001911540

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

Between terminals 14 and 17	
ENTER switch ON	: 2003 – 2043 Ω
տջ switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω



INFOID:000000001911015

INFOID:000000001911016

CIRCUIT DIAGNOSIS >		
Between terminals 15 and 17		А
Switch ON	: 716 – 730 Ω	
switch ON	: 318 – 324 Ω	В
VOL UP switch ON	: 120 – 122 Ω	
VOL DOWN switch ON	: 0 Ω	
		С

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< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION AV CONTROL UNIT

Reference Value

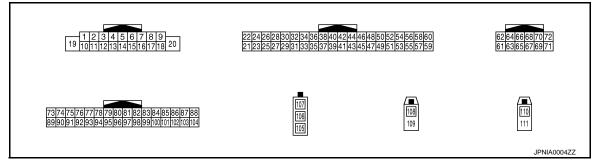
INFOID:000000001849277

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Display Item	Dis- play	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is
VIICE OF D OIG	Off	Vehicle speed =0 km/h (0 MPH)	normal.
PKB SIG	On	Parking brake is applied.	Changes in indication may be delayed. This is
FKD 3IG	Off	Parking brake is released.	normal.
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	
1011 010	Off	Ignition switch in ACC position	
REV SIG	On	Shift the selector lever to "R" position.	Changes in indication may be delayed. This is
	Off	Shift the selector lever other than "R" position.	normal.

TERMINAL LAYOUT



PHYSICAL VALUES

	minal e color)	Description		Condition		Reference value (Approx.)	
+	_	Signal name	Input/ Output				
1 (SB)	Ground	Amp. ON signal	Output	Ignition switch ON	_	10 V	
2 (O)	3 (W)	Sound signal front LH	Output	lgnition switch ON	Voice output	(V) 1 -1 + 2ms SKIB3609E	

< ECU DIAGNOSIS INFORMATION >

Terminal (Wire color)		Description			Condition	Reference value	
+	-	Signal name	Input/ Output	Condition		(Approx.)	
4 (V)	5 (LG)	Sound signal rear LH	Output	lgnition switch ON	Voice output	(V) 1 0 -1 • 2ms SKIB3609E	
					Keep pressing SOURCE switch.	0 V	
					Keep pressing MENU UP switch.	1 V	
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch	Keep pressing MENU DOWN switch.	2 V	
. /				ON	Keep pressing $\sqrt{5}$ switch	3 V	
					Keep pressing ENTER switch.	4 V	
					Except for above.	5 V	
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	
9	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0 V	
(L)	Giouna	inumination signal	input	OFF	Lighting switch is ON.	12 V	
11 (R)	12 (G)	Sound signal front RH	Output	lgnition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E	
13 (BR)	14 (Y)	Sound signal rear RH	Output	lgnition switch ON	Voice output	(V) 1 0 -1 2ms SKIB3609E	
15 (B)	Ground	Steering switch signal GND	_	Ignition switch ON	_	0 V	
					Keep pressing VOL DOWN switch.	0 V	
16	15	Stooring quitch signal P	Incut	Ignition	Keep pressing VOL UP switch.	1 V	
(L)	(B)	Steering switch signal B	Input	switch ON	Keep pressing 🌈 switch.	2 V	
					Keep pressing 🗲 switch.	3 V	
					Except for above.	5 V	

< ECU DIAGNOSIS INFORMATION >

	minal e color)	Description			Condition	Reference value
+	-	Signal name	Input/ Output		Condition	(Approx.)
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
20 (B)	Ground	GND	_	Ignition switch ON	_	0 V
21 (B)	Ground	GND	_	Ignition switch ON	_	0 V
22 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
23 (B)	Ground	GND	_	Ignition switch ON	_	0 V
24 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
25 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage
26 (G)	27	Microphone VCC	Output	Ignition switch ON	_	5 V
27	Ground	Shield (Microphone ground)	_	Ignition switch ON	_	0 V
28 (R)	27	Microphone signal	Input	lgnition switch ON	Give a voice	(V) 2.5 2.0 1.5 1.0 0.5 0 • • • 2ms PKiB5037J
35 (G)	Ground	Ignition signal	Input	Ignition switch ON	_	Battery voltage
					Parking brake ON	0 V
36 (SB)	Ground	Parking brake signal	Input	lgnition switch ON	Parking brake OFF	(V) 8 4 0 10 ms JSNIA0007GB
37	Ground	Reverse signal	Input	Ignition switch	R position	12 V
(O)	0.04110		par	ON	Other than R position	0 V

< ECU DIAGNOSIS INFORMATION >

Terminal (Wire color)		Description			Condition	Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
38 (GR)	Ground	Vehicle speed signal (8- pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25MPH)	NOTE: Maximum voltage may be 12 V due to specifications (connected units).	
40 (W)	Ground	Camera-connection recog- nition signal	Input	lgnition switch ON	Connected to camera con- trol unit connector Not connected to camera	0 V 5 V	
41 (B)	Ground	Control signal 1	Input	Ignition switch ON	control unit connector	0 V	
44	Ground	Mode change signal	Output	Ignition switch	Driver's Audio Stage ON	0 V	
(SB) 48 (G)		AV communication signal (H)	Input/ Output	ON —	Driver's Audio Stage OFF	8.5 V	
(G) 49 (R)		AV communication signal (L)	Input/ Output				
50 (V)		AV communication signal (H)	Input/ Output		_	_	
51 (LG)		AV communication signal (L)	Input/ Output	_	_	_	
52 (L)		CAN-H	Input/ Output		_	_	
53 (P)	_	CAN-L	Input/ Output	_	_	_	
61 (W)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0. 4 0 −0. 4 0 0 0 0 0 0 0 0 0 0 0 0 0	
62 (V)	Ground	RGB signal (G: green)	Output	lgnition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 -0.4 (V) 0.4 0 0 0 0 0 0 0 0 0 0 0 0 0	

< ECU DIAGNOSIS INFORMATION >

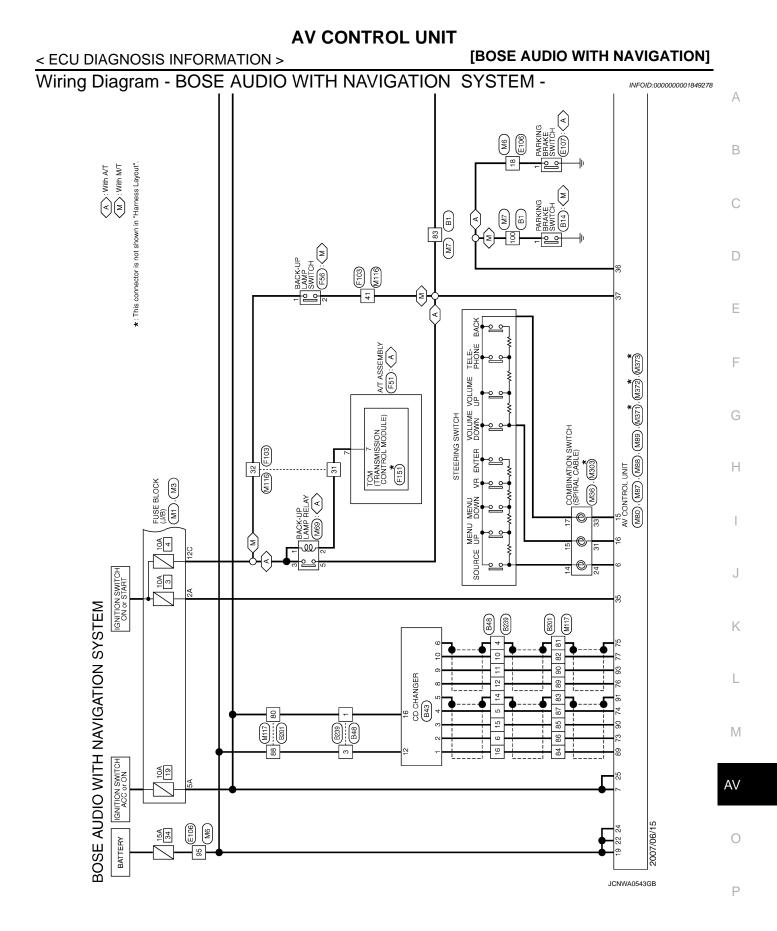
	minal e color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
63 (R)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	$ \begin{pmatrix} V \\ 0 \\ 0 \\ -0 \\ 4 \\ -0 \\ 4 \\ -0 \\ 4 \\ -0 \\ -0$
64	—	Shield	—		—	—
65 (G)	Ground	RGB synchronizing signal	Output	lgnition switch ON	_	(V) 0.4 0 → 20μs JPNIA0461GB
66	—	Shield	—	—	—	—
					At RGB image displayed	5 V
67 (O)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At rear view camera image is displayed	(V) 6 4 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1
68 (R)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	_	(V) 4 0 + 20µs SKIB3601E
69 (W)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON		(V) 4 0 ++4ms SKIB3598E
70 (L)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 •••••••••••••••••••••••••••••••••

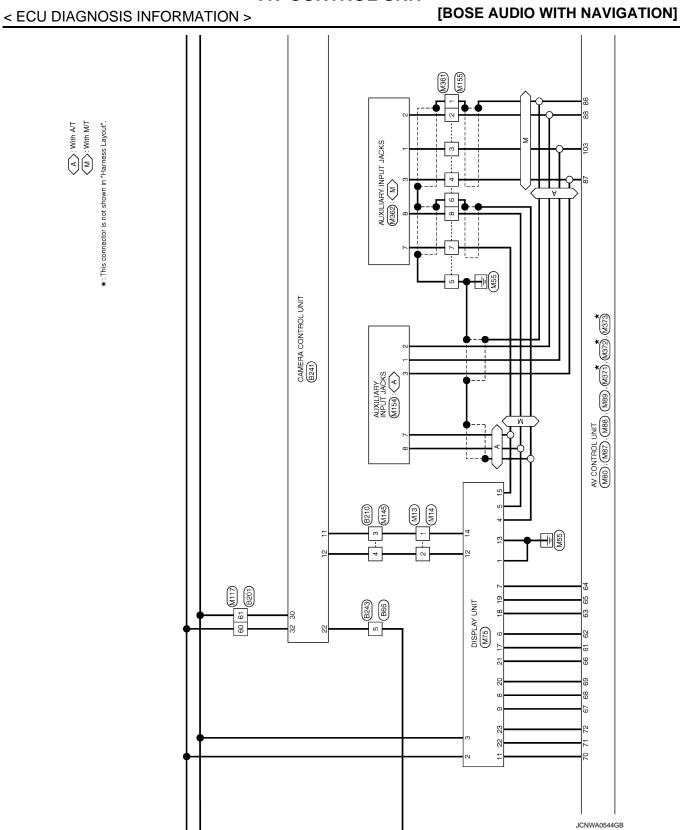
< ECU DIAGNOSIS INFORMATION >

Terminal (Wire color)		Description		Condition		Reference value	A
+	-	Signal name	Input/ Output	Condition		(Approx.)	
71 (LG)	Ground	Communication signal (DISP→CONT)	Input	lgnition switch ON	When adjusting display brightness.	(V) 6 4 2 0 •••••1ms •••••1ms ••••••1ms	B C D
72	_	Shield	_		—	_	
73 (B)	89 (W)	CD changer sound signal LH	Input	lgnition switch ON	When CD change mode is selected	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	E F G
74 (G)	90 (R)	CD changer sound signal RH	Input	lgnition switch ON	When CD change mode is selected	(V) 1 0 -1 + 2ms SKIB3609E	H
75	—	Shield	—	_	—	—	
76 (W)	Ground	Request signal (CD→CONT)	Output	Ignition switch ON	When CD change mode is selected	(V) 10 0 -10 + 10ms SKIA9299J	J K L
77 (R)	Ground	Communication signal (CONT→CD)	Input	lgnition switch ON	When CD change mode is selected	(V) 10 -10 -10 -10 -10 -10 -10 -10	M
79 (R)	95 (W)	iPod sound signal LH	Input	lgnition switch ON	When iPod mode is select- ed	(V) 1 0 -1 ••2ms SKIB3609E	O

< ECU DIAGNOSIS INFORMATION >

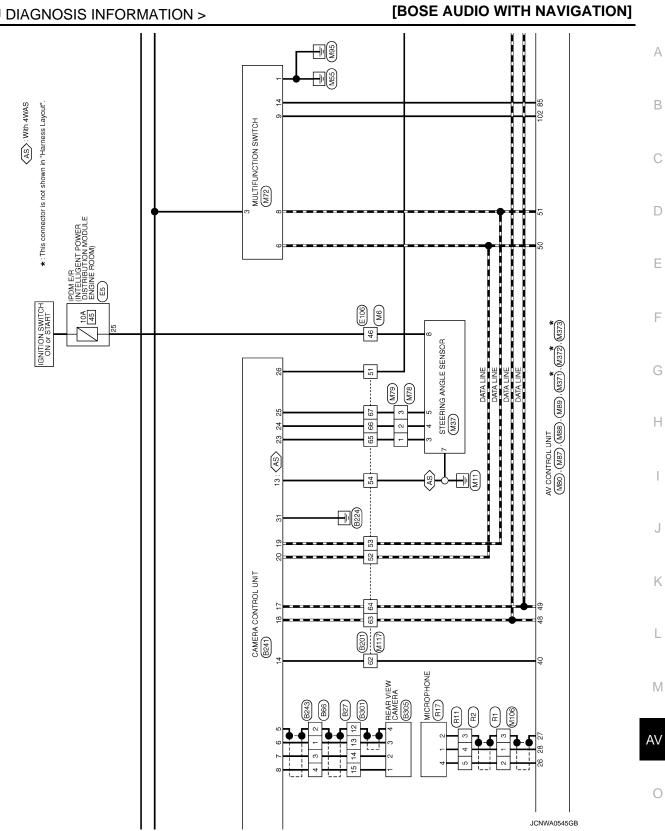
Terminal (Wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
80 (B)	96 (G)	iPod sound signal RH	Input	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 -1 -1 SKIB3609E	
85	0		lanut		Pressing the eject switch	0 V	
(SB)	Ground	Eject signal	Input		Except for above	5 V	
87 (W)	88 (B)	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is select- ed	(V) 1 0 -1 + 2ms SKIB3609E	
91	_	Shield			—	_	
93 (B)	Ground	Communication signal (CD→CONT)	Input	Ignition switch ON	When CD change mode is selected	(V) 10 0 -10 → + 1ms SKIA9300J	
102 (BR)	Ground	SW GND	_	Ignition switch ON		0 V	
103 (R)	88 (B)	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is select- ed	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	
105		FM sub	Input	—	_		
106		AM–FM main	Input		—	_	
107	Ground	Antenna amp. ON signal	Output	Ignition switch ON	_	12 V	
108	Ground	Satellite antenna signal	Input	Ignition switch ON	Not connected to satellite antenna connector	5 V	
109	_	Shield	—		—	—	
110	Ground	GPS antenna signal	Input	Ignition switch ON	Not connected to GPS an- tenna connector	5 V	
111	—	Shield		—	—	_	





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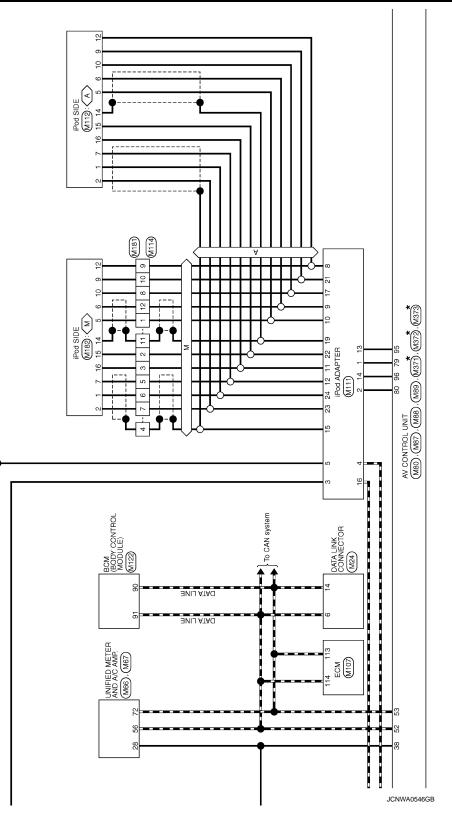
2008 G35 Sedan

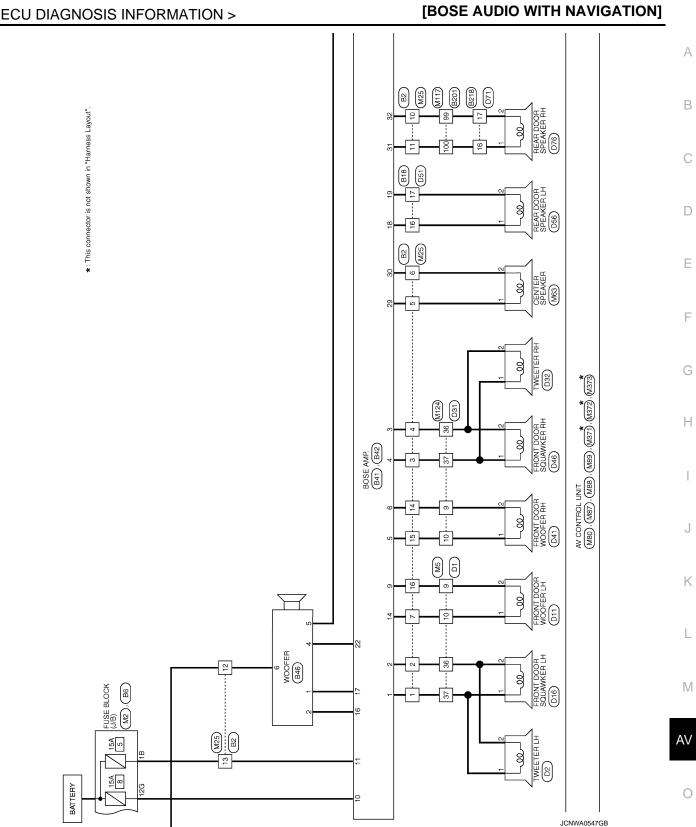


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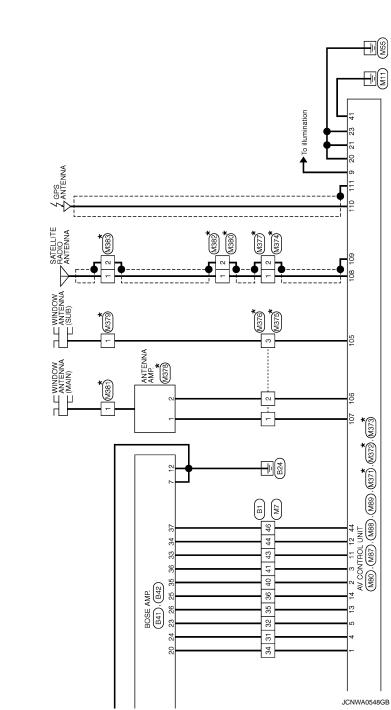


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2008 G35 Sedan

[BOSE AUDIO WITH NAVIGATION]

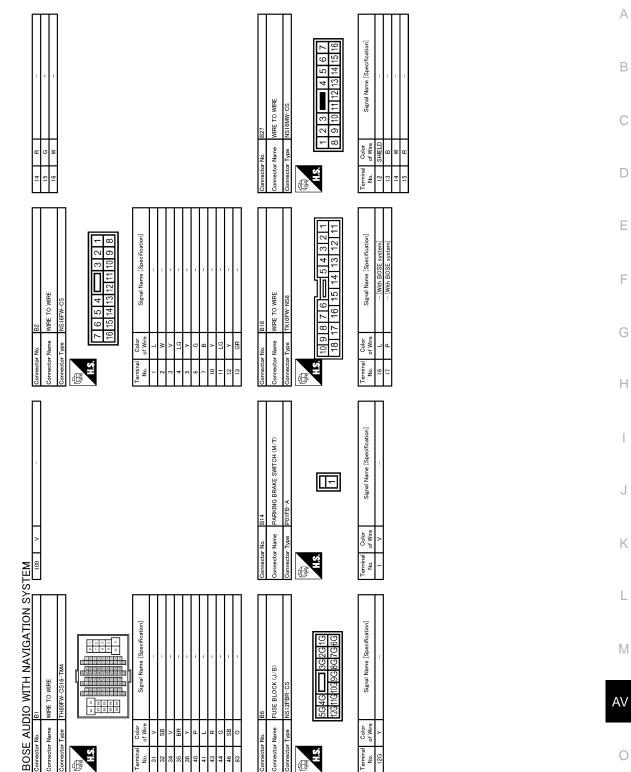


*: This connector is not shown in "Harness Layout".

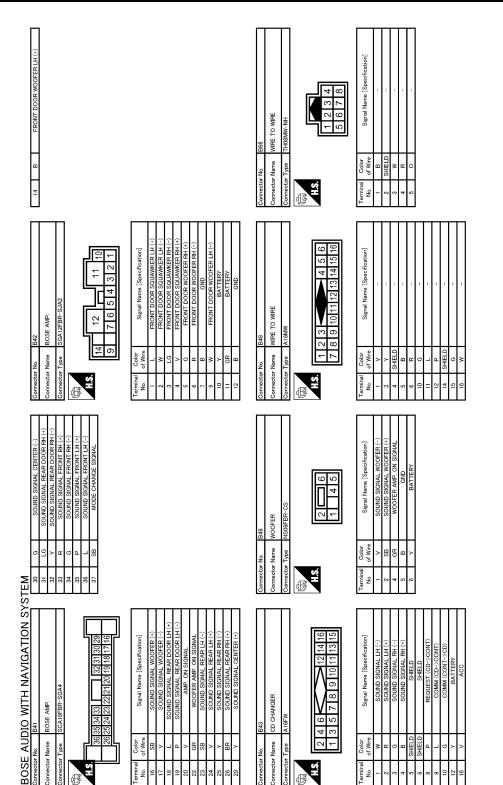
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AV CONTROL UNIT < ECU DIAGNOSIS INFORMATION >



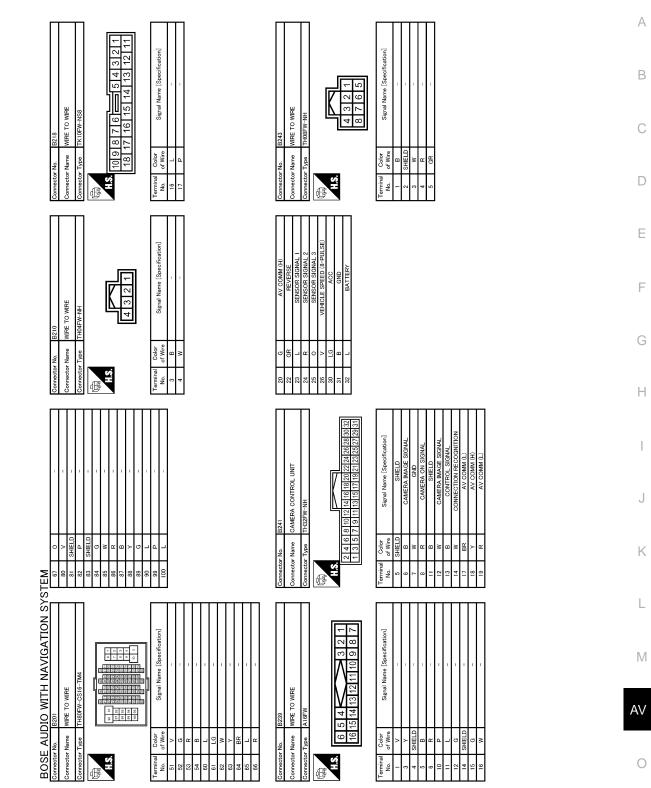
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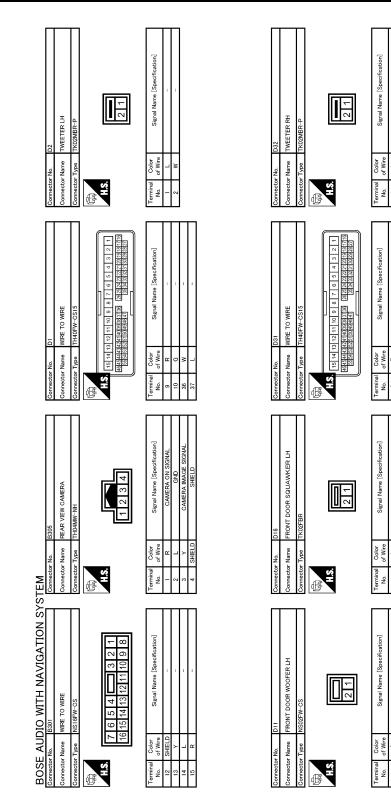
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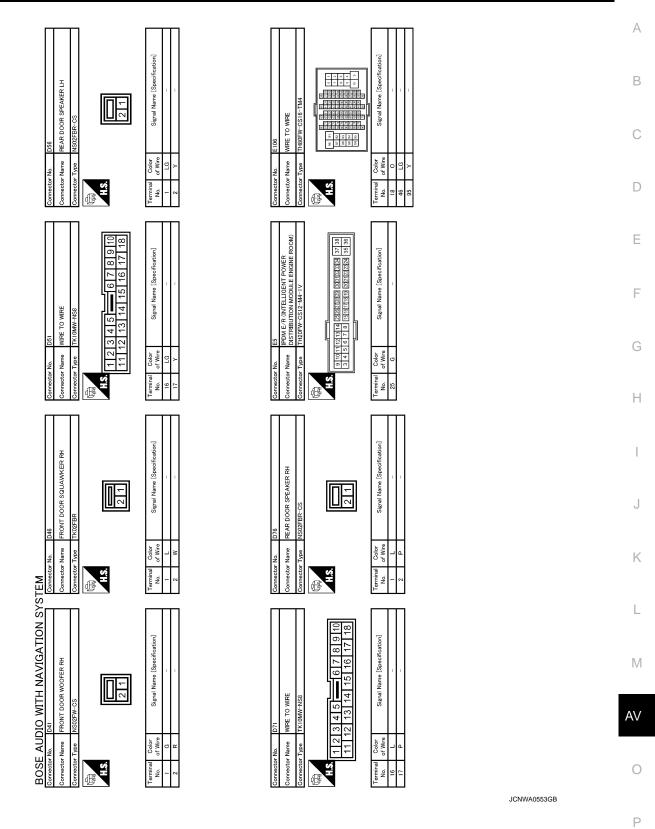
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[BOSE AUDIO WITH NAVIGATION]



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< ECU DIAGNOSIS INFORMATION >



Signal Name [Specification]

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Signal Name [Specification]

Color of Wire

Signal Name [Specification]

Color of Wire

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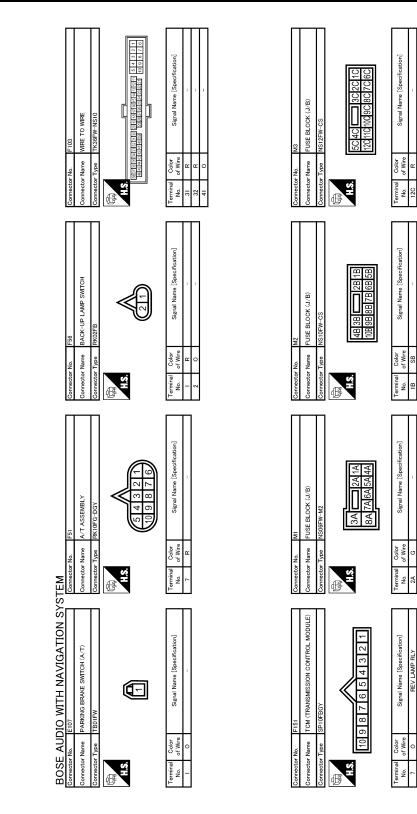
Signal Name [Specification]

Color of Wire

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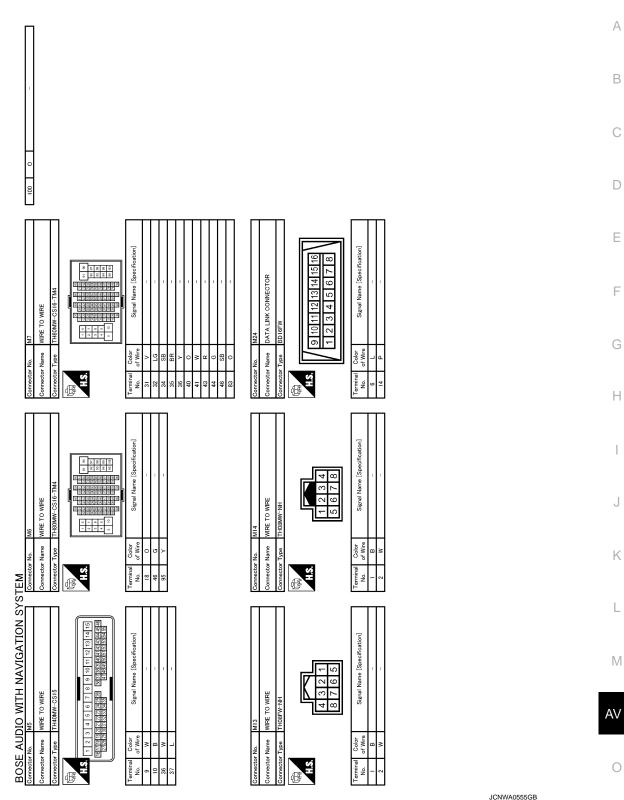


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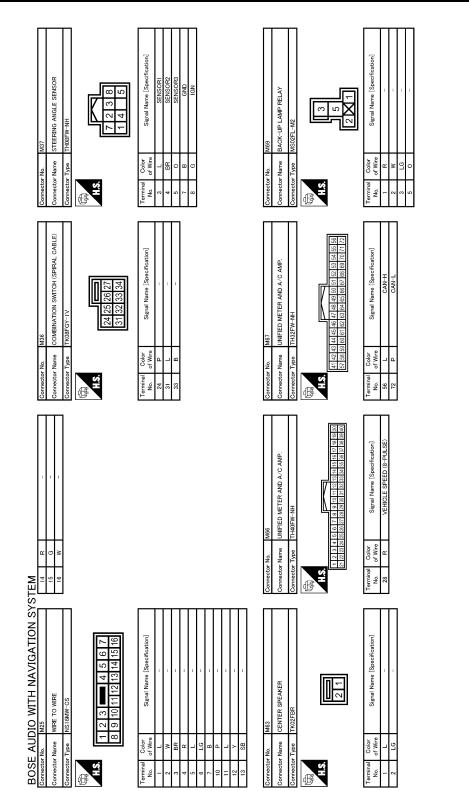
AV CONTROL UNIT

[BOSE AUDIO WITH NAVIGATION]



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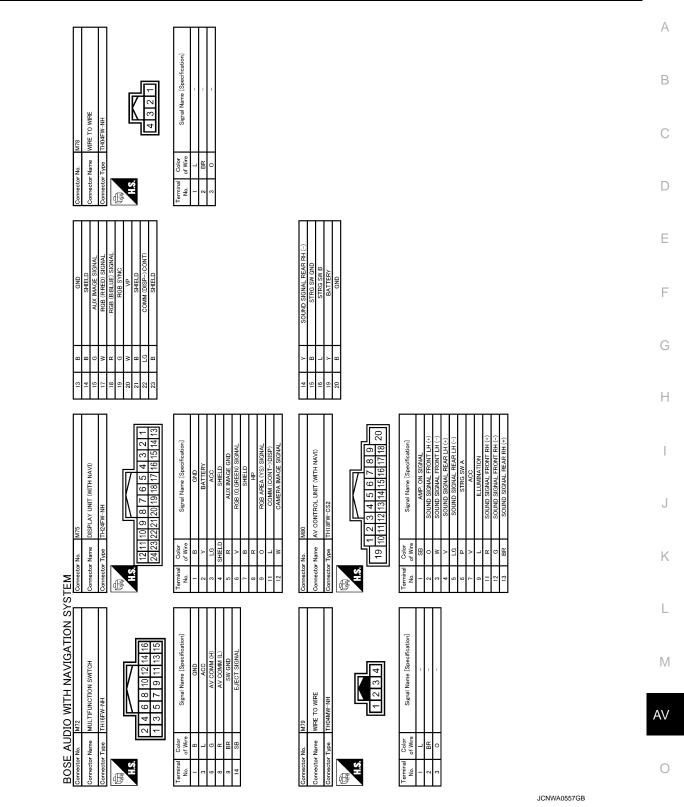
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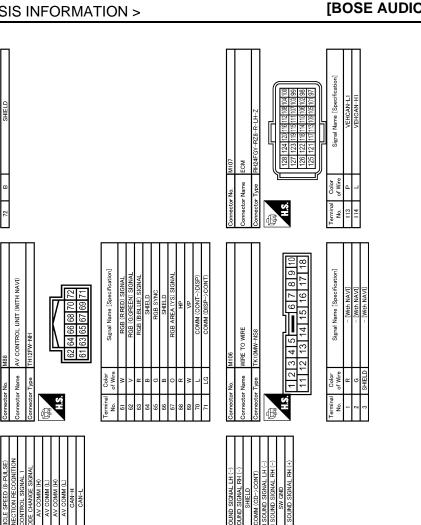


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[BOSE AUDIO WITH NAVIGATION]





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Signal Name [Specification]

Color of Wir

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BOSE AUDIO WITH NAVIGATION SYSTEM

AV CONTROL UNIT (WITH NAVI)

Connector Name

[BOSE AUDIO WITH NAVIGATION]

AV CONTROL UNIT (WITH NAVI)

nnector Name

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E

Signal Name [Specification]

Color of Wire

erminal No.

Connector No. M12 Connector Name Prod SDE Connector Type IPIFCIV Connector Type IPIFCIV Connector Type IPIFCIV	Terminal Color Signal Name (Specification) no. of Wire Signal Name (Specification) i Pead SOUND SIGNAL LH (+) i E Pead SOUND SIGNAL LH (+) i Pead SOUND SIGNAL LH (+) i E Pead SOUND SIGNAL LH (+) i Pead CONNECTION RECOGNITION i BR CHARGE POWR i G ACCESSORY DETECT i G ACCESSORY DETECT i O ACCESSORY DENTEY	Corrector No. M116 Corrector Name WIRE TO WRE Corrector Type TX38MM-NS10	Terminal Color Signal Name [Specification] No. of Wire Signal Name [Specification] 31 W	
STEM 15 SHELD TI 5 SHELD TI 5 SHELD SHALLH (+) STATES STATES SHALLH (+)		- - -		
BOSE AUDIO WITH NAVIGATION SYSTEM Connector No. MIII Connector Name Ped ADAPTER Connector Type Connector T	Terminal No. Color of Wire Signal Name [Specification] No. of Wire Sound Stichard, LH (+) 2 B Pool SOUND Stichard, LH (+) 3 V ACC 3 V ACC 4 P ACUM (L) 5 V ACC 6 P COMM (L) 10 L CARREE POWER 10 L COMM (Pod ADAPTER-)Pod) 11 V ACCESSORY (DENTRY V 12 W Food SOUND SIGNAL LH (+) 13 W Pool SOUND SIGNAL LH (+)	Gornector No. M114 Connector Name WRE TO WRE Connector Type TH12PW-NH Connector Type T12PW-NH Max 1211109987	Terminal No. Color Wire Signal Name [Specification] 1 L - 2 G - 3 O - 4 SHELD - 5 W - 6 B - 7 R - 9 K - 11 SHELD -	

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< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

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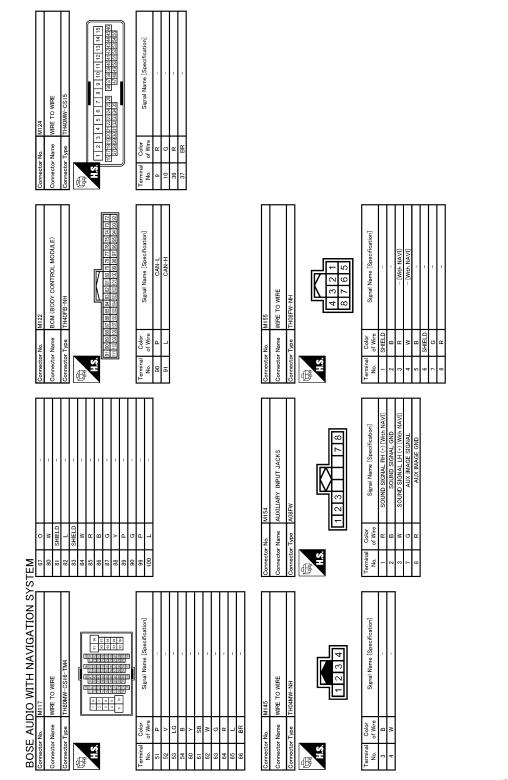
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	12	•	-
Connector No. M303 Connector Name Connector Name Connector Type Connector Type Torne Connector Type Connector Type Terminal Connector Type Connector Type Terminal Connector None Connector None Connecto	R M372 me AV CONTRC	Color 100 of Wine Signal Name [Specification] of Wine SacTLLITE ANTENNA SHELD SHELD	A B C
			D
Pod SIDE Pod SIDE IP16FGY 2 3 1 4 5 6 8 9 10111121314116 16 Signal Name (Specification)	Ped SOUND SIGNAL GND COMM (Ped-2 ADAPTER-)Ped) COMM (Ped-2 ADAPTER-)Ped) COMM (Ped-2 ADAPTER-)Ped) Ped SOUND SIGNAL RH (+) Ped SOUND SIGNAL RH (+) Ped SOUND SIGNAL RH (+) Ped SOUND SIGNAL RH (+) CHART CONTROL UNIT CONTROL ADD SIGNAL SIGNAL RH (+) ADD SIGNAL SIGNAL SIGNAL CHART CONTROL UNIT (WITH NAVI) GT13SH-2/15-HU	Signal Name (Specification) Signal Name (Specification) ANETWINA AMP: ON SIGNAL	F
Connector No. Connector Name Connector Type Connector Type 12 12 12 12 12 12 12 12 12 12 12 12 12	2 W 7 6 P 7 6R P 10 8K 1 15 1 1 15 0 0 16 0 0 16 0 0 16 0 0 17 2 4 0 0 0 0 0 0 0 0 0	Terminal No. 000 105 - 107 107	G
a.	Gomector No. M382 Connector Name AUXILARY INPUT JACKS Connector Type AU3FW	all 3gral Name [Specification] of Wine Signal Name [Specification] of Wine - [With MAVI] B - [With MAVI] B - [With MAVI] B - [With MAVI]	l J K
ation]			L
BOSE AUDIO WITH NAVIGATION SYST Connector Name WIRE TO WIRE Connector Type THI 2MM-NHI Connector Type THI 2MM-NHI Terminal Color No. of Wire Signal Name (Specification)	2 6 - - 3 6 - - - 4 SHIELD - - - 6 BR - - - - 7 W K - - - 8 ER - - - - - 10 W HELD - <t< td=""><td>Terminal No. Color Signal Name [Specification] 1 Signal Name [Specification] 2 B - 3 R - 4 W - 5 SHELD - 7 G - 8 R -</td><td>M AV O</td></t<>	Terminal No. Color Signal Name [Specification] 1 Signal Name [Specification] 2 B - 3 R - 4 W - 5 SHELD - 7 G - 8 R -	M AV O

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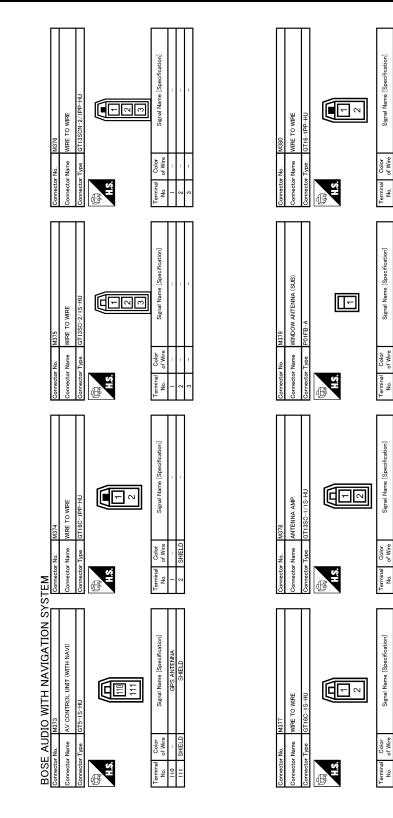
AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

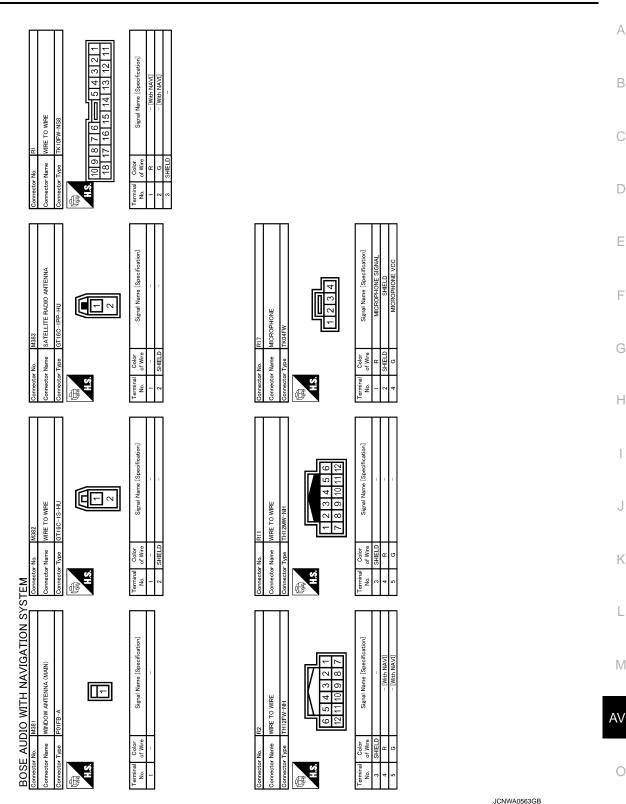
< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

VTENNA AMF



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NOTE:

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

Fail-Safe

INFOID:000000001849279

When the ambiance temperature becomes extremely low or extremely high, or when HDD is malfunctioning, AV control unit displays the message and limits the AV control unit function.

FAIL-SAFE CONDITIONS

Revision: 2008 September

AV CONTROL UNIT

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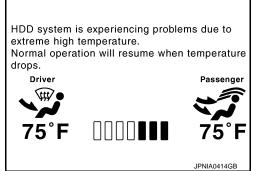
AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

- When the ambiance temperature is -20°C (-4°F) or lower, or when it is 70°C (158°F) or higher
- when HDD is malfunctioning

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.
When HDD is malfunctioning	HDD system is not functioning. Please contact your dealer for assistance.

DESCRIPTION OF CONTROLS

Function		When Fail-safe Function is activated					
	Operation	Only multifunction switch (preset switch) can be operated.					
Air conditioner	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.					
Audio	Display	No display ("Fail-safe mode" is displayed)					
Camera	Operation	Image tone cannot be controlled.					
Camera	Display	Cannot be superimposed. (warning display, tone control display)					
Hands-free phone	Operation	Cannot be operated.					
Navigation Operation Cannot be operated.		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.

When HDD is malfunctioning

If the malfunction disappears, normal mode is restored.

NOTE:

- If fail-safe mode due to HDD malfunction is seen continuously, replace AV control unit.
- If fail-safe mode due to HDD malfunction is seen temporarily, check the "Error History" of Confirmation/ Adjustment mode. If this is normal, then continue the normal operation, observing the function. (It might be a temporary malfunction of HDD.)



< ECU DIAGNOSIS INFORMATION >

DTC Index

IN

[BOSE AUDIO WITH NAVIGATION]

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

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DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-386, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [1010]	AV-387, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-388, "DTC Logic"
U1200	Cont Unit FLASH-ROM [1200]	AV-389, "DTC Logic"
U1201	GYRO NO CONN [1201]	AV-390, "DTC Logic"
U1216	CAN CONT [U1216]	AV-391, "DTC Logic"
U1217	BLUETOOTH CONN [U1217]	AV-392, "DTC Logic"
U1218	HDD-CONN [U1218]	AV-393, "DTC Logic"
U1219	HDD-READ [U1219]	AV-394, "DTC Logic"
U1220	XM SERIAL COMM [U1220]	AV-395, "DTC Logic"
U121A	HDD-WRITE [U121A]	AV-396, "DTC Logic"
U121B	HDD-COMM [U121B]	AV-397, "DTC Logic"
U121C	HDD-ACCESS [U121C]	AV-398, "DTC Logic"
U121D	DSP CONN [U121D]	AV-399, "DTC Logic"
U121E	DSP COMM [U121E]	AV-400, "DTC Logic"
U121F	INTERNAL COMM [U121F]	AV-401, "Diagnosis Procedure"
U1204	GPS COMM [U1204]	AV-402, "Diagnosis Procedure"
U1205	GPS ROM [U1205]	AV-403, "Diagnosis Procedure"
U1206	GPS RAM [U1206]	AV-404, "Diagnosis Procedure"
U1207	GPS RTC [U1207]	AV-405. "Diagnosis Procedure"
U1243	FRONT DISP CONN [U1243]	AV-406, "Diagnosis Procedure"
U1244	GPS ANTENNA CONN [U1244]	AV-408, "Diagnosis Procedure"
U124C	CD CHANGER [N-BUS] [U124C]	AV-409, "Diagnosis Procedure"
U1250	CAMERA CONT. CONN [U1250]	AV-411, "Diagnosis Procedure"
U1258	XM ANTENNA CONN [U1258]	AV-412, "Diagnosis Procedure"
U1300 U121F	AV COMM CIRCUIT [U1300] INTERNAL COMM [U121F]	AV-413, "Description"
U1300 U1240	AV COMM CIRCUIT [U1300] SWITCH CONN [U1240]	AV-413, "Description"
U1300 U1252	AV COMM CIRCUIT [U1300] REAR CAMERA LAN CONN [U1252]	AV-413, "Description"
U1300 U1254	AV COMM CIRCUIT [U1300] IPOD CONN [U1254]	AV-413, "Description"
U1300 U1252 U1254	AV COMM CIRCUIT [U1300] REAR CAMERA LAN CONN [U1252] IPOD CONN [U1254]	AV-413, "Description"
U1300 U1240 U1252 U1254	 AV COMM CIRCUIT [U1300] SWITCH CONN [U1240] REAR CAMERA LAN CONN [U1252] IPOD CONN [U1254] 	AV-413, "Description"

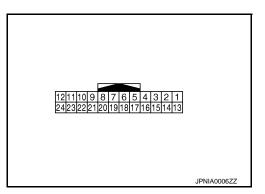
< ECU DIAGNOSIS INFORMATION >

DISPLAY UNIT

Reference Value

TERMINAL LAYOUT

INFOID:000000001849281



PHYSICAL VALUES

	rminal Description Condition		Reference value				
+	-	Signal name	Input/ Output		Condition	(Approx.)	
1 (B)	Ground	GND	_	Ignition switch ON	_	0 V	
2 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
3 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	
5 (R)	Ground	AUX image GND		Ignition switch ON	_	0 V	
6 (V)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 −0.4 ••••••••••••••••••••••••••••••••••••	
7	—	Shield	—		—	_	
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	_	(V) 4 0 + 20µs 5KiB3601E	

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

	minal e color)	Description		Condition		Reference value	А
+	-	Signal name	Input/ Output		Condition	(Approx.)	
9 (O)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed At rear view camera image is displayed	5 V	B C D
11 (L)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 •••••1ms •••••1ms •••••• •••••• •••••• ••••••• ••••••	E F G
12 (W)	Ground	Camera image signal	Input	Ignition switch ON	At rear view camera image is displayed	$(V) \\ 0.4 \\ 0 \\ -0.4 \\ + 40\mu s \\ SKIB2251J$	H
13 (B)	Ground	GND	_	Ignition switch ON	_	0 V	J
14	_	Shield		_	_	_	
15 (G)	5 (R)	AUX image signal	Input	Ignition switch ON	At AUX image is displayed	(V) 0.4 0 -0.4 ••40µs SKIB2251J	K L M
17 (W)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 -0.4 (V) 0 0 0 0 0 0 0 0 0 0 0 0 0	AV
18 (R)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start confirmation/adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	(V) 0.4 0 1.4 0 1.4 0 1.4 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	Ρ

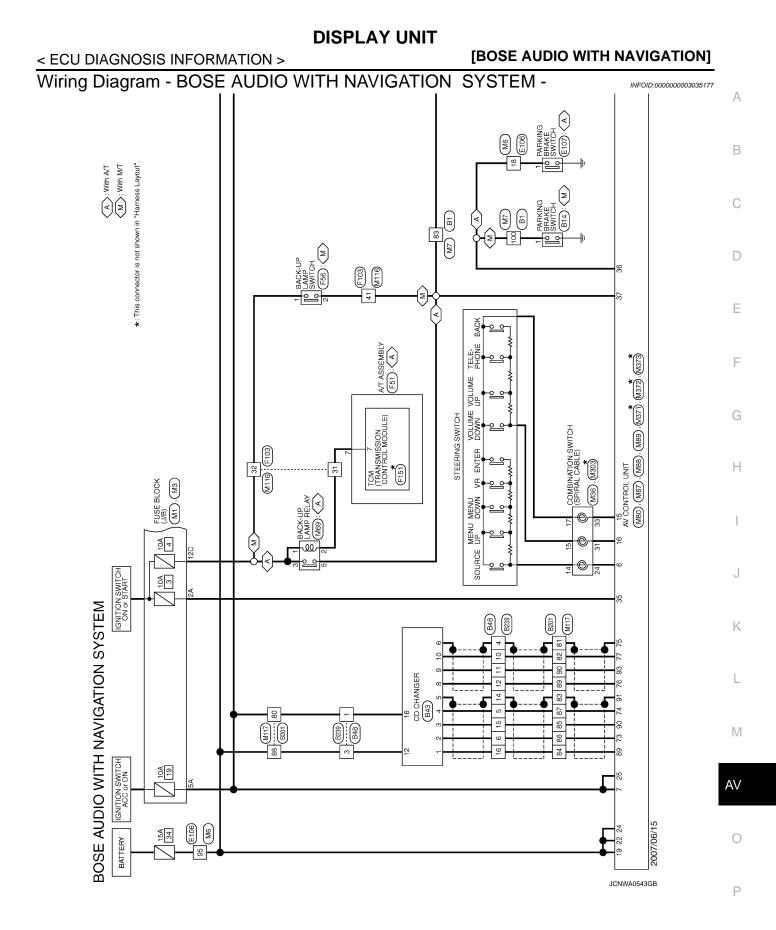
Revision: 2008 September

2008 G35 Sedan

< ECU DIAGNOSIS INFORMATION >

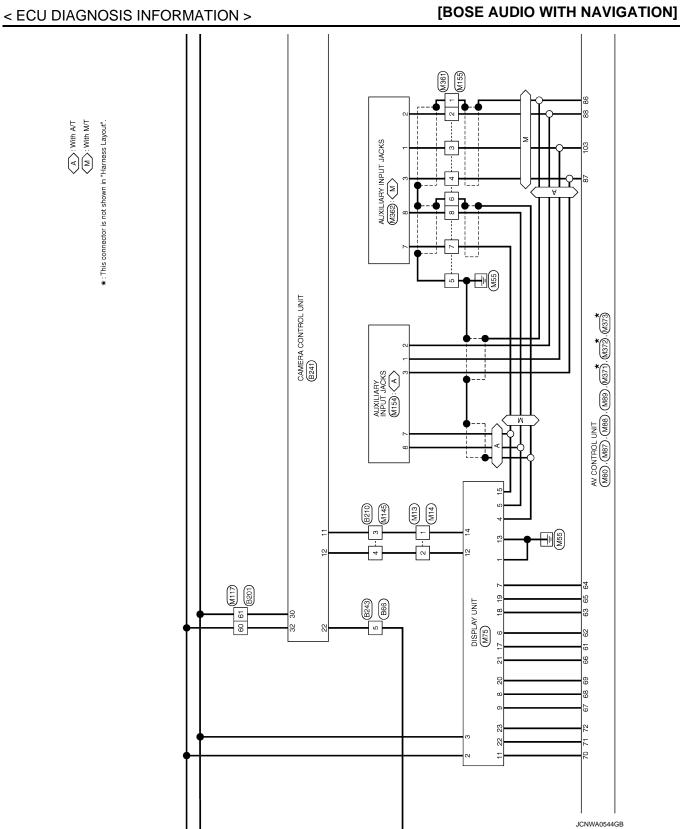
[BOSE AUDIO WITH NAVIGATION]

	minal e color)	Description		Condition		Reference value
+	-	Signal name	Input/ Output		Condition	(Approx.)
19 (G)	Ground	RGB synchronizing signal	Input	Ignition switch ON		(V) 0.4 0
20 (W)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch ON		(V) 4 0 ++4ms SKIB3598E
21		Shield	—	_	—	—
22 (LG)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	(V) 6 4 2 0 ••••1ms ••••1ms •••••1ms
23	_	Shield	—	—		—

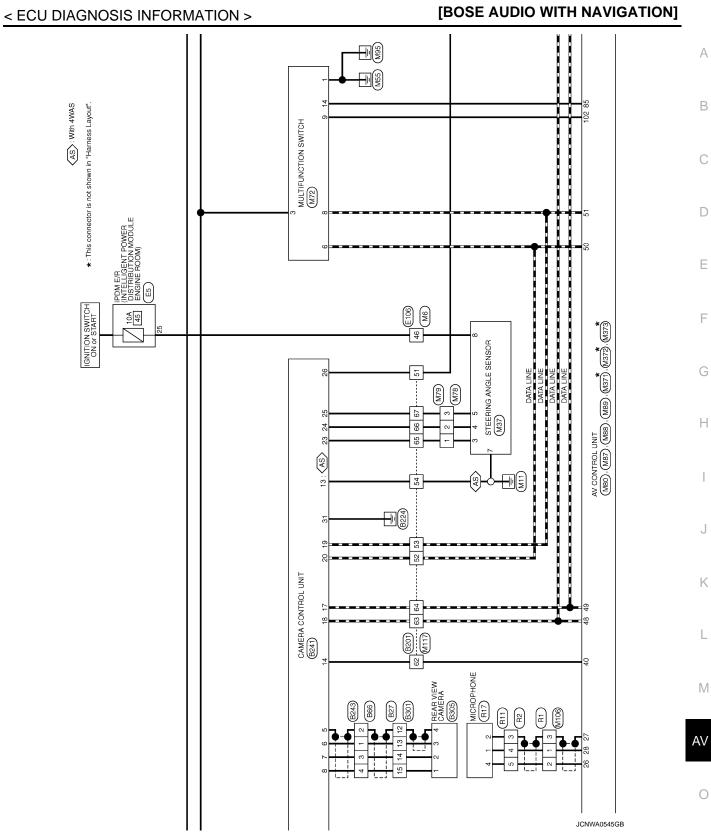


Revision: 2008 September

2008 G35 Sedan



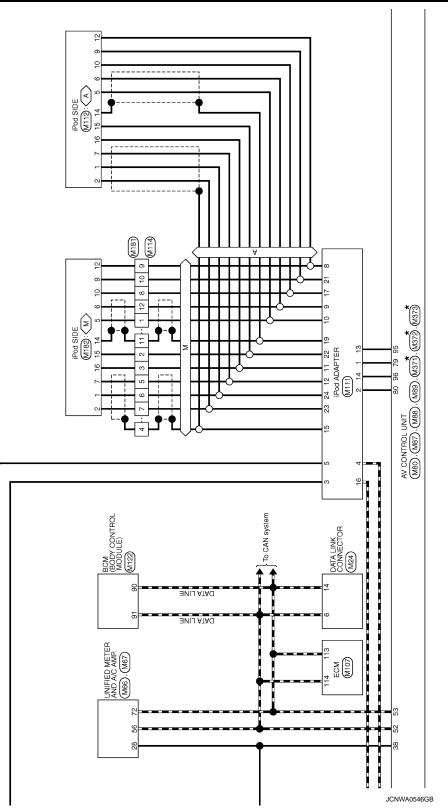
Revision: 2008 September

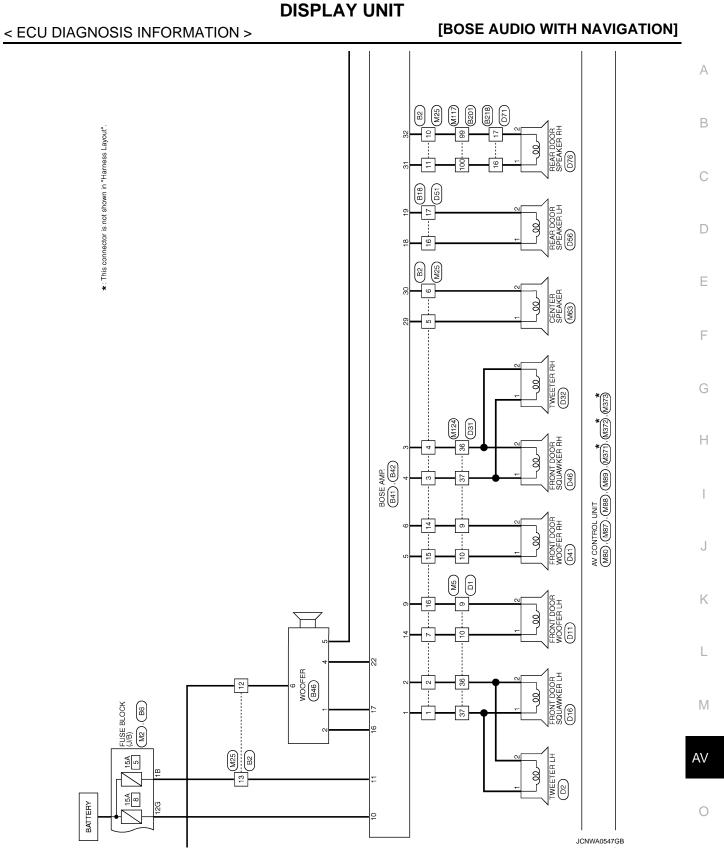


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< ECU DIAGNOSIS INFORMATION >

▲ → : With A/T
 ▲ → : With M/T
 ▲ → : With K/T
 ★: This connector is not shown in "Harness Layou".

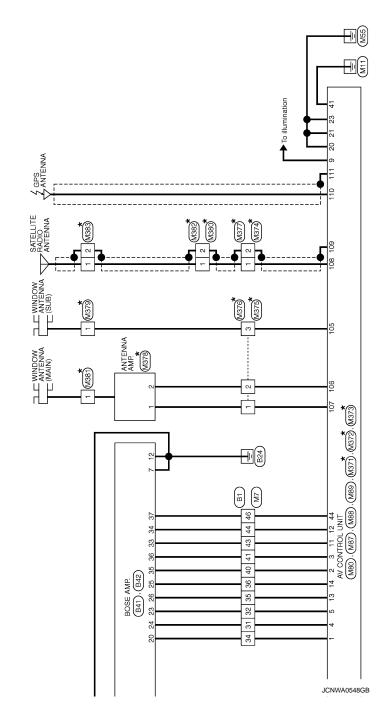




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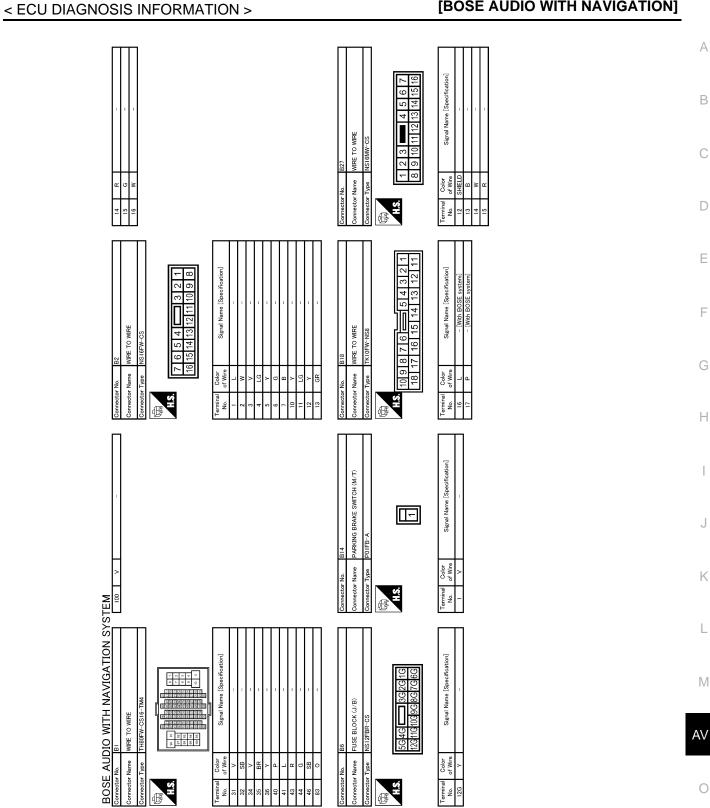
[BOSE AUDIO WITH NAVIGATION]

< ECU DIAGNOSIS INFORMATION >



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

Revision: 2008 September



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[BOSE AUDIO WITH NAVIGATION]

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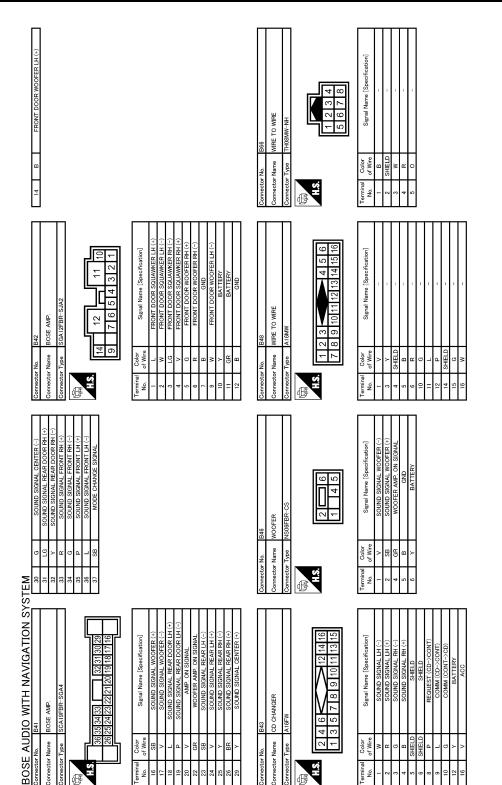
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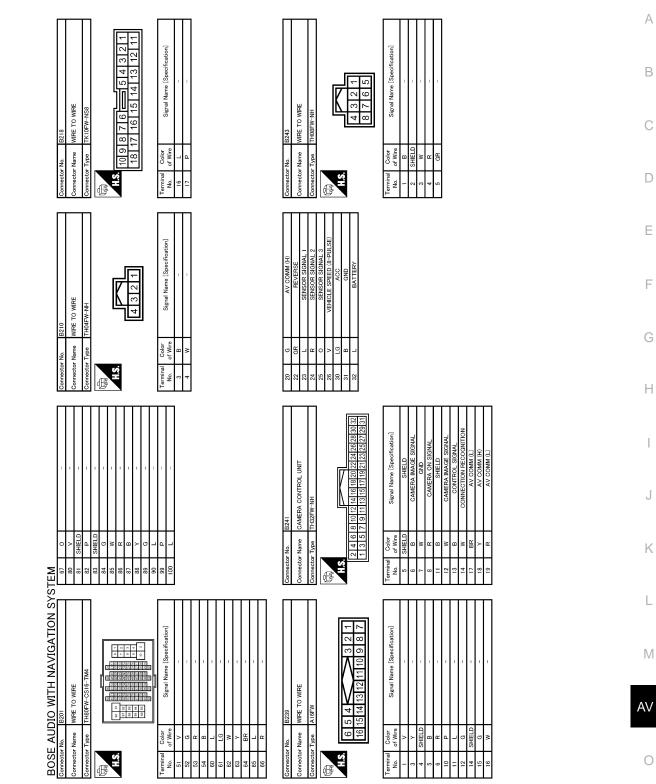
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[BOSE AUDIO WITH NAVIGATION]

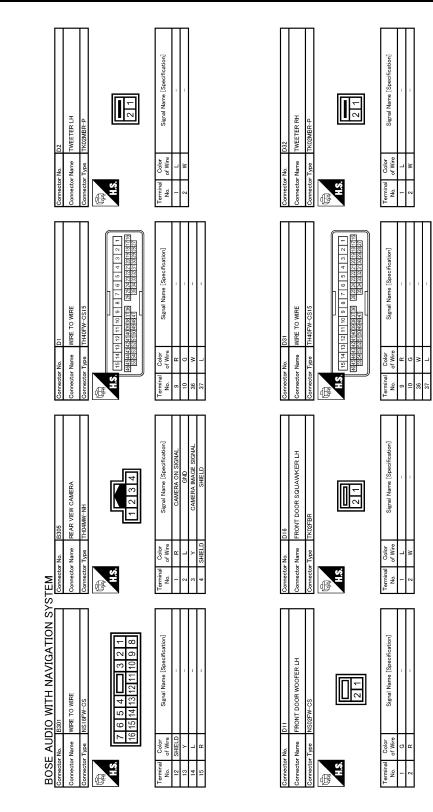


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< ECU DIAGNOSIS INFORMATION >

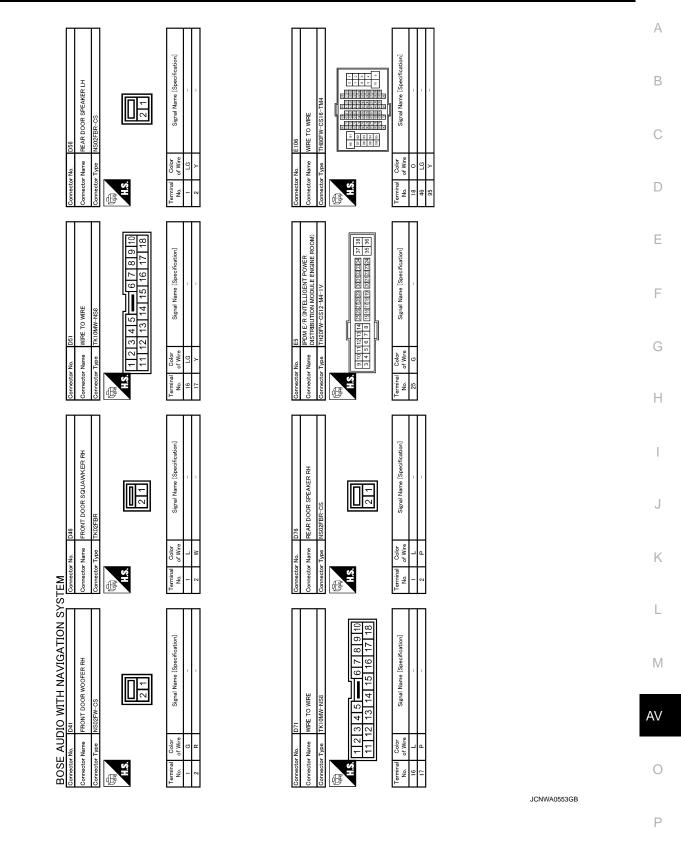
[BOSE AUDIO WITH NAVIGATION]



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< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]



Signal Name [Specification]

Color of Wire

Terminal No. 12C

Signal Name [Specification]

Color of Wire

Terminal No. 1B

Signal Name [Specification]

Color of Wire

erminal No. 2A 5A

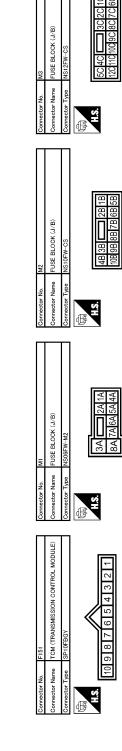
Signal Name [Specification]

Color of Wire

Terminal No.

< ECU DIAGNOSIS INFORMATION >

Signal Name [Specification] Ē h MIRE TO WIRE Color of Wire connector Name Terminal No. AHS, G Signal Name [Specification] BACK-UP LAMP SWITCH Color of Wire nnector Name H.S. Terminal No. ſ Signal Name [Specification] A/T ASSEMBLY Color of Wire Connector Name Terminal No. 7 H.S. Ŧ Con Signal Name [Specification] PARKING BRAKE SWITCH (A/T) Ð



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[BOSE AUDIO WITH NAVIGATION]

BOSE AUDIO WITH NAVIGATION SYSTEM

Connector Name

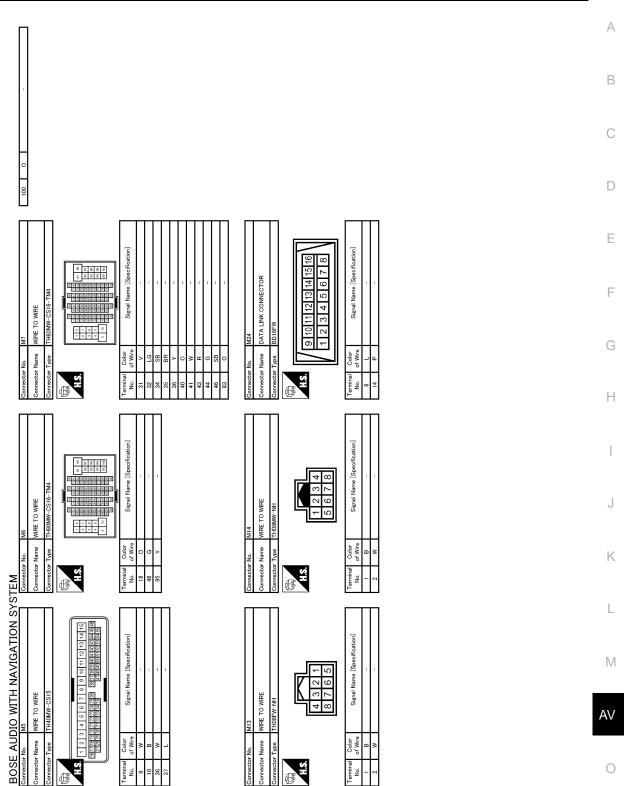
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Color of Wir

erminal No.





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< ECU DIAGNOSIS INFORMATION >

Revision: 2008 September

< ECU DIAGNOSIS INFORMATION >

Signal Name [Specification] Signal Name [Specification STEERING ANGLE SENSOR BACK-UP LAMP RELAY <mark>15</mark> 2X Color of Wire Color of Wire connector Name Connector Name ЯB ∝≥വ H.S. Terminal No. HS. erminal No. 倨 仍 COMBINATION SWITCH (SPIRAL CABLE) Signal Name [Specification] Signal Name [Specification] UNIFIED METER AND A/C AMP. CAN-H CAN-L 32 24 31 Color of Wire Color of Wire Connector Name nnector Name 42 H.S. Terminal No. H.S. Terminal No. ſ Ē 2 Signal Name [Specification] EHICLE SPEED (8-PUI UNIFIED METER AND A/C AMP. Color of Wire Connector Name 21 22 Terminal No. ŝ 28 15 Conne E ပိ Signal Name [Specification] Signal Name [Specification] 2 1 CENTER SPEAKER WIRE TO WIRE ć

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BOSE AUDIO WITH NAVIGATION SYSTEM

Connector Name

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H.S.H

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Color of Wire

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Connector Name

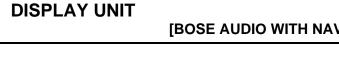
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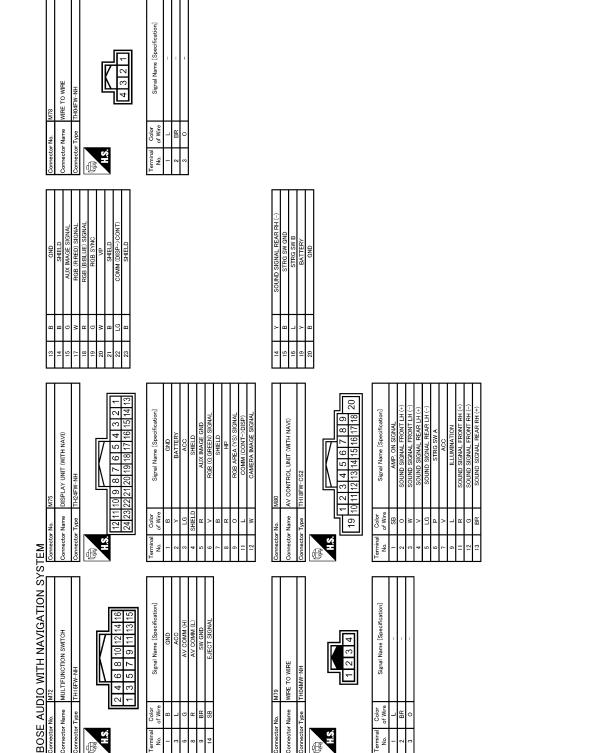
H.S.H

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Color of Wire

erminal No.





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Revision: 2008 September

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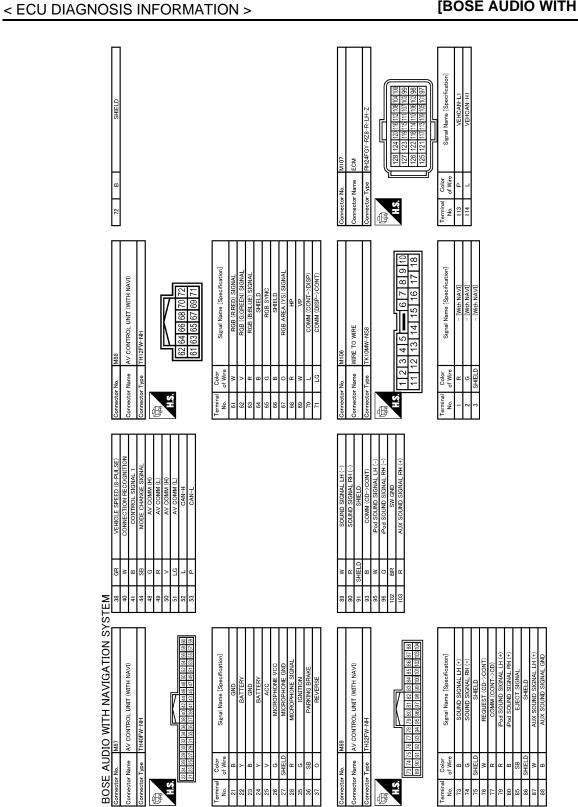
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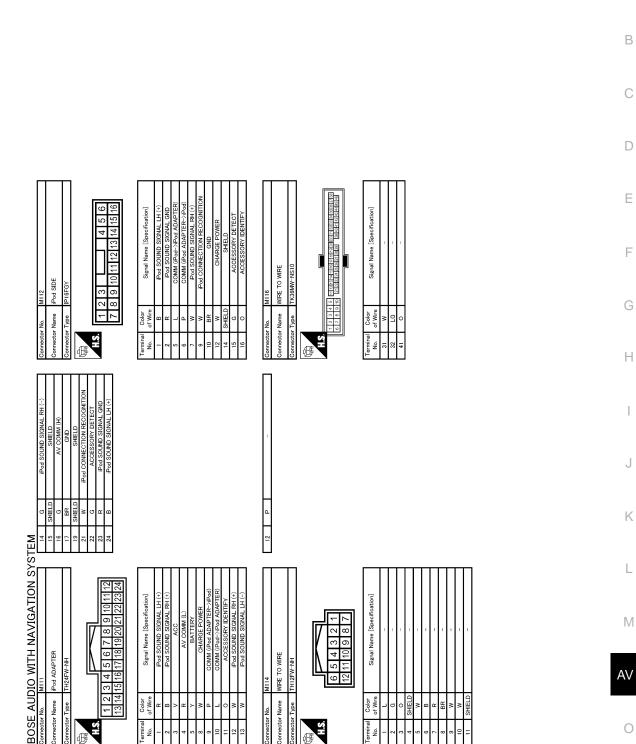
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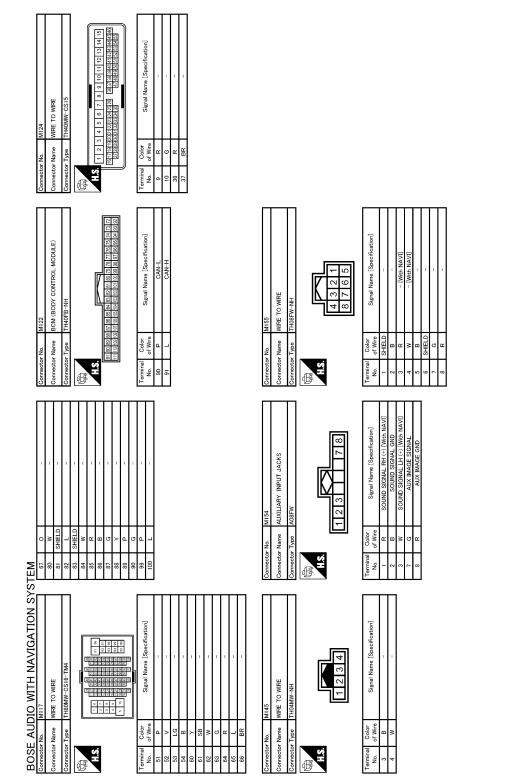
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[BOSE AUDIO WITH NAVIGATION]

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< ECU DIAGNOSIS INFORMATION >

Revision: 2008 September

2008 G35 Sedan

NTION SWITCH (SPIRAL CABLE)		WITH NAVD	Skynal Name [Specification] SAETLLITE ANTENNA SHELD	A
		No. M372 Name AV CONTROL UNIT (WITH NAVI) Type FAKRA JACK	Color of Wire of - SHELD	С
Connector No. Connector Name Connector Type Connector Type Connector Type Connector Type Connector Type Connector Type Connector Conneco		Connector Name Connector Type	Terminal 08 109 109	D
eeffeation	NAL LH (+) ADAL GND ADAL GND TER-XPOID TER-XPOID MAL RH (+) MAL RH (+) MAL RH (+) MAL RH (+) MAC RH	I NAVI)	soficiation] B AIN DN SIGNAL	Е
Stignal Name (Sp	Ped SOUND STANAL LH (+) Ped SOUND STANAL LH (+) Ped SOUND (Ped->Ped ADAPTER> COMM (Ped->Ped ADAPTER>Ped OMM (Ped ADAPTER>Ped OMM (PED STANAL TH (+) Ped SOUND STANAL TH (+) Ped SOUND STANAL TH (+) Ped SOUND STANAL TH (+) Ped SOUND FOR PED STANAL ADD STANAL PED STANAL ACCESSONY DETTECT	Ma71 AV CONTROL UNIT (MITH NAVI) GTI3SH-2/15-HU 100 100	Signal Name [Specification] FM SUB ANFTINIA AMP. ON SIGNAL	F
			Oddar 1 Hite	G
Connector No. Connector Name Connector Type Connector Type	No. 2 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Connector No. Connector Type	Terniss No. 105 107	Н
		TARKS	Signal Name (Specification) - [With NAVI] - [With NAVI]	I
		M362 AUXILIARY INPUT JACKS A00FW 1 2 3 7 7	Signal Nam - 1 <u>M</u> - 1 <u>M</u> - 1 <u>M</u>	J
 ▲ ≥ ≊		ector No. ector Name ector Type	Termina Color No. 0 Color No. 1 - No. 2 2 No. 2 2 No. 2 2	К
S S S S T T S C T		Communication Communication		L
BOSE AUDIO WITH NAVIGATION SYST Connector Name WIE TO WIE Connector Thi ZMM* Nit Connector Type THI ZMM* Nit T 2 3 4 5 6 7 8 9 10 11 12 Terminal Color Signal Name Specification			Signal Name (Specification) - (With NAV() - (With NAV() 	Μ
MIBI MIRE TO WIRE THIZAWF-NH		M361 WIRE TO WIRE THOBAW-NH		AV
BOSE AUIC Connector Name Connector Name Connector Type Connector Type		Connector No. Connector Type	Terminal Color 1 5-410 2 8-410 3 8 6 5 8-416 0 8 6 8 6 8 6	0

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< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Signal Name [Specification]

Color of Wire

Ferminal No.

Signal Name [Specification]

Color of Wire

Terminal No.

> Signal Name [Specification ANTENNA AMP. ON SIGNA

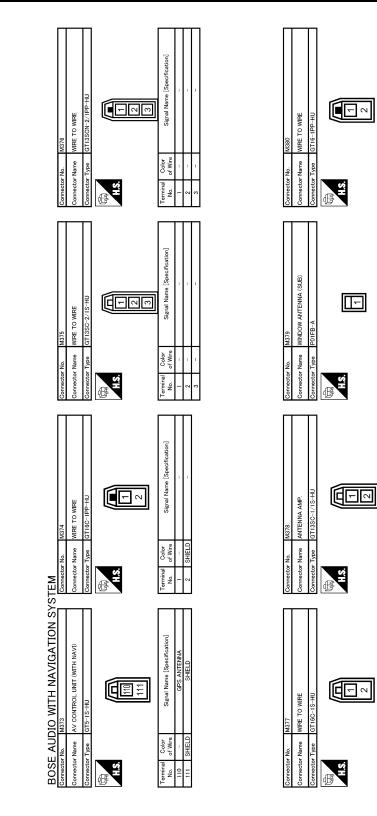
Color of Wire

erminal No.

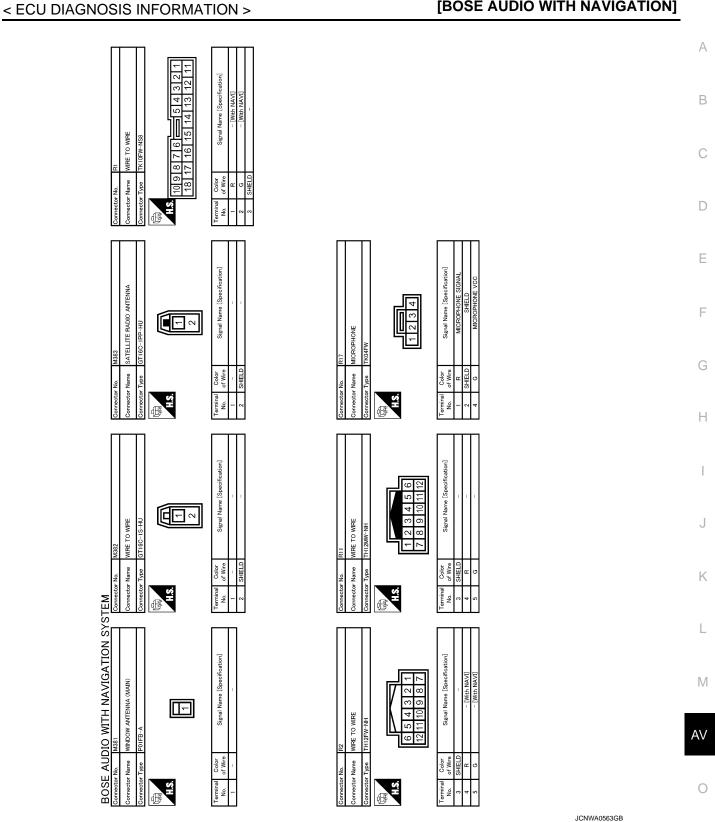
Signal Name [Specification]

Color of Wire

erminal No.



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NOTE:

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

[BOSE AUDIO WITH NAVIGATION]

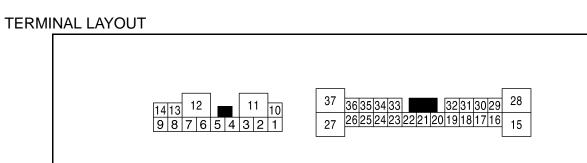
< ECU DIAGNOSIS INFORMATION >

BOSE AMP.

Reference Value

INFOID:000000001911596

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PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
1 (L)	2 (W)	Sound signal front door squawker LH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 • 2ms SKIB3609E	
4 (V)	3 (LG)	Sound signal front door squawker RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 • + 2ms SKIB3609E	
5 (G)	6 (R)	Sound signal front door woofer RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 +2ms SKIB3609E	
7 (B)	Ground	GND	_	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	GND	_	Ignition switch ON	_	0 V	

BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

	minal color)	Description		Condition		Reference value	А
+	-	Signal name	Input/ Output			(Approx.)	D
14 (B)	9 (W)	Sound signal front door woofer LH	Output	Ignition switch ON	Voice output	(V) 1 -1 + 2ms SKIB3609E	B C D
16 (SB)	17 (V)	Sound signal rear woofer	Output	Ignition switch ON	Voice output	(V) 1 0 -1 • 2ms SKIB3609E	E F
18 (L)	19 (P)	Sound signal rear door speaker LH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	G
20 (V)	Ground	Amp. ON signal	Input	Ignition switch ACC	_	10 V	
22 (GR)	Ground	Woofer Amp. ON signal	Output	Ignition switch ACC	_	10 V	J
24 (V)	23 (SB)	Sound signal rear LH	Input	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E	K L M
26 (BR)	25 (Y)	Sound signal rear RH	Input	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E	AV O
29 (Y)	30 (G)	Sound signal center speak- er	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E	Ρ

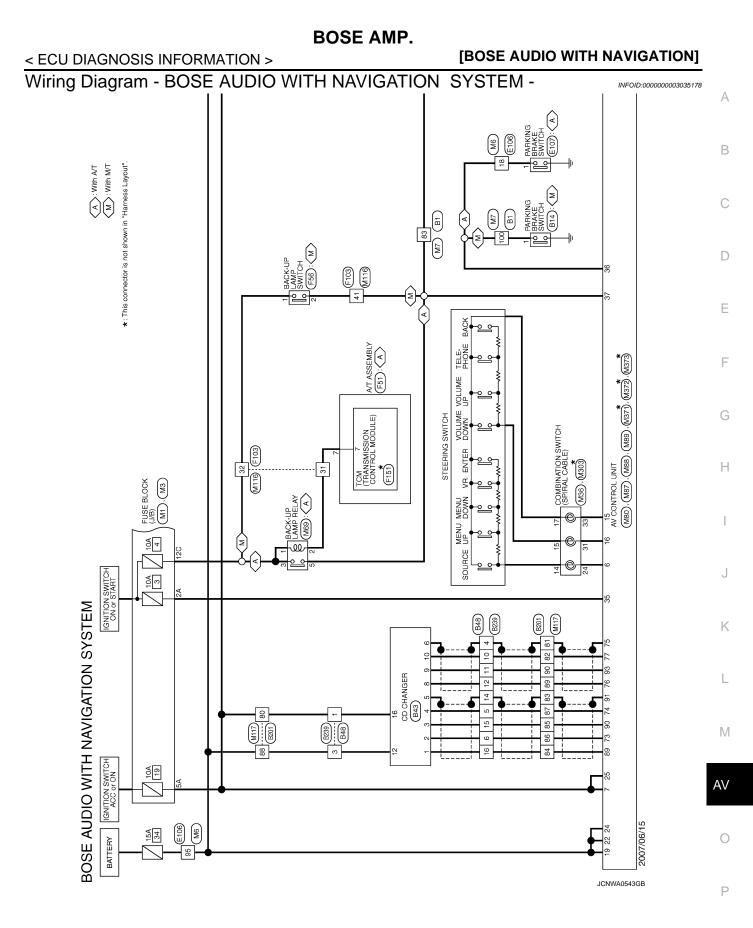
Revision: 2008 September

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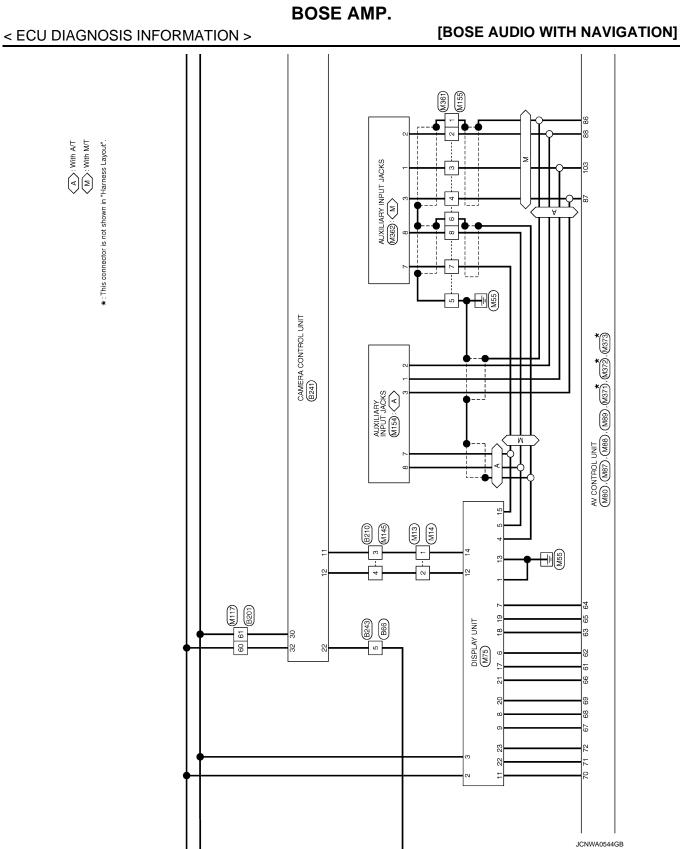
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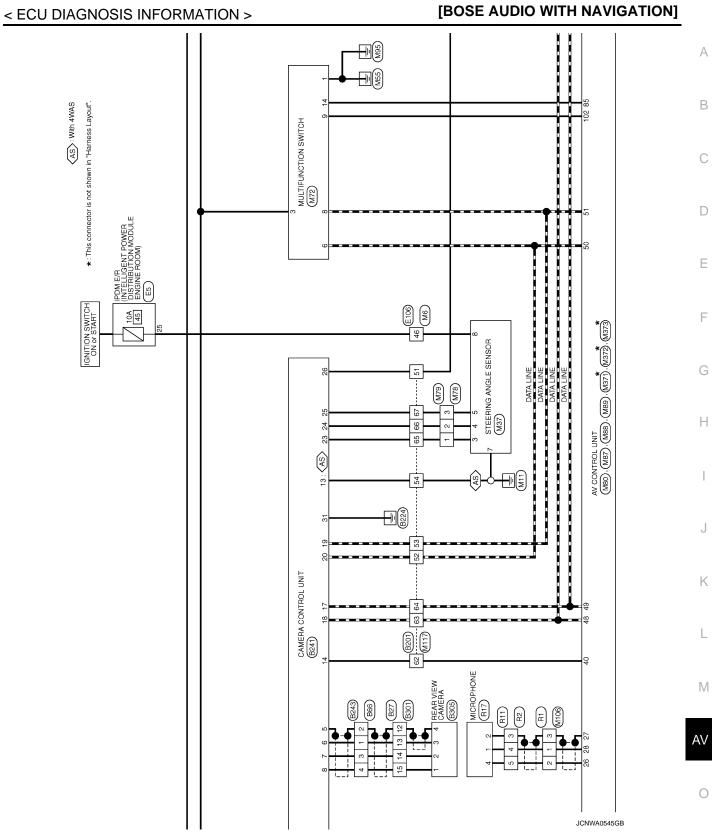
[BOSE AUDIO WITH NAVIGATION]

	minal e color)	Description			Condition	Reference value
+	-	Signal name	Input/ Output	Contaition		(Approx.)
31 (LG)	32 (Y)	Sound signal rear door speaker RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 2ms SKIB3609E
33 (R)	34 (G)	Sound signal front RH	Input	Ignition switch ON	Voice output	(V) 1 0 -1 * 2ms SKIB3609E
35 (P)	36 (L)	Sound signal front LH	Input	Ignition switch ON	Voice output	(V) 1 0 -1 2ms SKIB3609E
37	Ground	Mode change signal	Input	Ignition switch	Driver's Audio Stage ON	0 V
(SB)	2.00.10			ON	Driver's Audio Stage OFF	8.5 V



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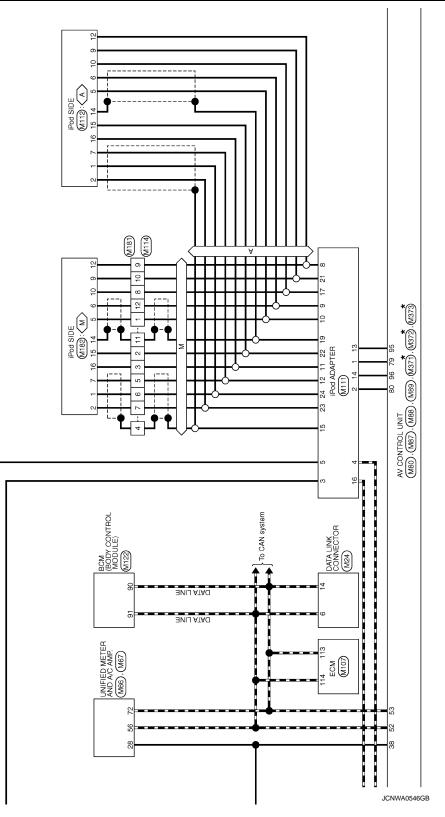
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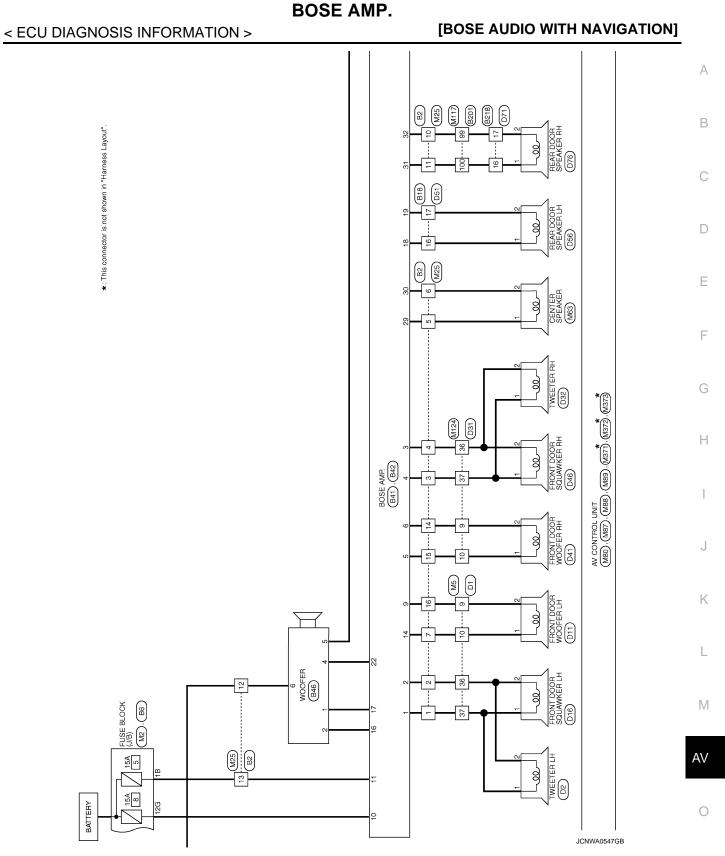
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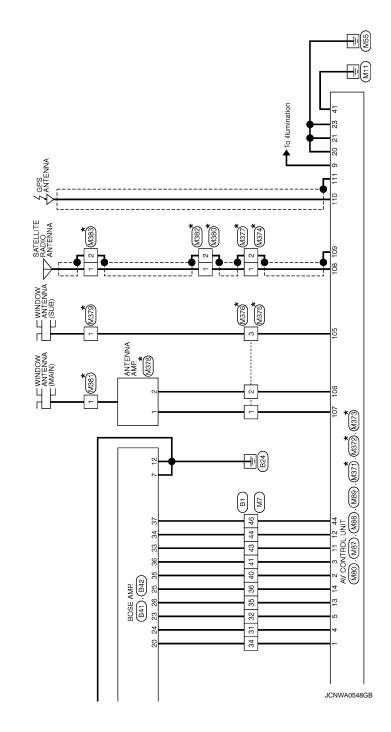






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*: This connector is not shown in "Harness Layout".

Revision: 2008 September

BOSE AMP.

2008 G35 Sedan

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1 1 1 6 7 8 7 1 1	Odmeetor Nume B27 Connector Name WIFE TO WIRE Connector Type WISIGMN-CS Connector Type NISIGMN-CS Connector Type NISIGMN-CS Connector Type NISIGMN-CS Connector Type NISIGMN-CS	Terminal No. Color Signal Name [Specification] 12 SHELD - 13 K - 14 K -	A B C D
Connector No. B2 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Type NS16FW-CS Connector Type Signal Name [5] 14] 10 9 8 Terminal Connector Type No. Signal Name [Socification] 1 C C 2 W C C 3 V C C 5 Y C C 6 C C C 10 U C C C 11 LG C C C 12 Y C C C 11 LG C C C 11 LG C C C C 12 Y C C C C C 12 Y C C C C C 13 GR C C C C	Ommetcor No. B18 Connector Name WIRE TO WRE Connector Type MR. Connector Type TK10FW-HS8 MS 10987 54321 MS 10987 654321 MS 1211 1211	Terminal No. Cdor of Wire 16 Signal Name [Specification] 16 L - [With BOSE system] 17 P - (With BOSE system]	E F G
	Connector No. B14 Connector Name PARKING BRAKE SWITCH (M/T) Connector Type POIFB-A	Terminal No. Color Sunal Name [Specification] 1 V	І Ј К
Provide the second state of the sec	Connector No. B6 Connector Name FUSE BLOCK (J/B) Connector Type NS12FBR-CS Connector Type NS12FBR-CS	Terminal Color Signal Name [Specification] No. of Wire Signal Name [Specification]	L M AV

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14 B FRONT DOOR WOOFER LH (-)	Connector No. B66 Connector No Mile TO WIRE Connector Type H10B/MH HI Connector Type Signal Name (Specification) 2 Signal Name (Specification) 3 W - 5 O -
Connector No. B42 Connector Name BOSE ANP. Connector Name BOSE ANP. Connector Type SQA1ZFBF-SJA2 March SQA1ZFBF March SQA1ZFBF March SQA1ZFBF March SQA1ZFBF March SQA1ZFBF March SQA1Z	Connector No. B48 Connector Name WRE TO WRE Connector Type MRE TO WRE Connector Type A16MW Alish Table Alish Table Alish Table Alish Table Alish Table Alish Signal Name (Specification) I V - I V - I V - I V - I - - I - - I - - I - - I - - I - - I - - I - - I - - I - - I - - I - - I - - I <
RTEM 30 G SOUND SIGNAL CENTER (-) 31 LG SOUND SIGNAL REAR DOOR RH (-) 32 P SOUND SIGNAL REAR DOOR RH (-) 34 G SOUND SIGNAL REAR POOR RH (-) 36 L SOUND SIGNAL REAR POOR RH (-) 37 SG SOUND SIGNAL REAR POOR RH (-) 37 SG L SOUND SIGNAL REAR POOR RH (-) 37 SG L SOUND SIGNAL REAR RH (-) 37 SG NODE CHANGE SIGNAL H	Odmetica Na. B46 Connector Name WOOFER Connector Type WOOFER-CS Connector Type Signal Name [Specification] No. of Nire No. of Nire 2 Signal Name [Specification] 6 Y 6 Y
BOSE AUDIO WITH NAVIGATION SYSTEM Connector Mann BOSE AUDIO WITH NAVIGATION SYSTEM Connector Mann BOSE ANF. Connector Mann BOSE ANF. Connector Mann BOSE ANF. Connector Mann BOSE ANF. Connector Type SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19FBR-SCA4 SCA19DS SCA14 SCA1	Connector No. B43 Connector Name CD (HANGER) Connector Type AIGFW Connector Type Connector Type Connector Connector Type Connector Type Connector Type Connector Type Connector Type Connector Type

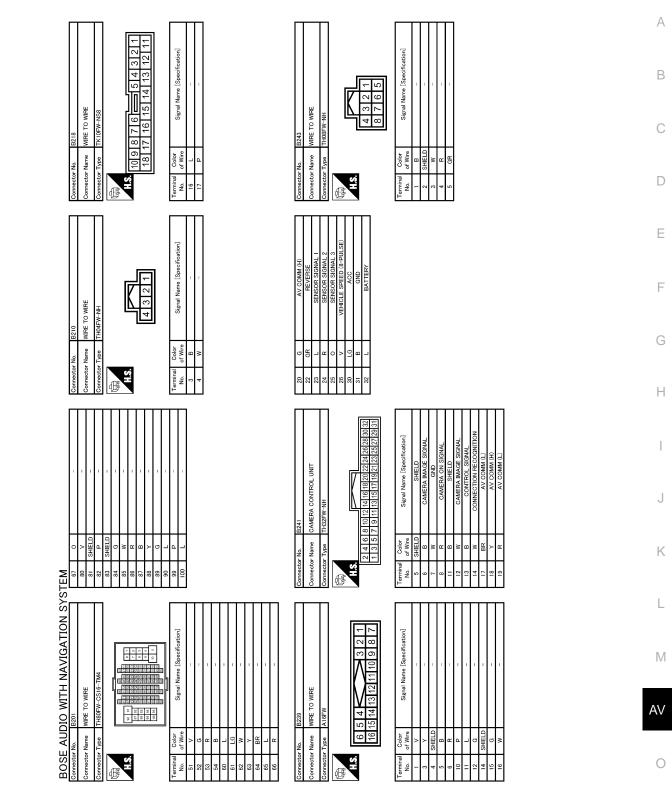
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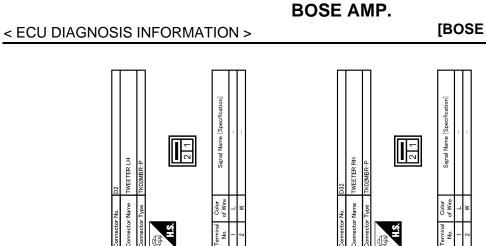
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Signal Name [Specification]

Color of Wire

Terminal No.

Signal Name [Specification]

Color of Wire

erminal No.

Signal Name [Specification]

Color of Wire

erminal No.

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TWEETER LH

connector Name

WIRE TO WIRE

onnector Name

REAR VIEW CAMERA

Connector Name

WIRE TO WIRE

Connector Name

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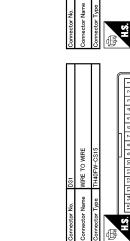
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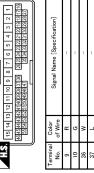
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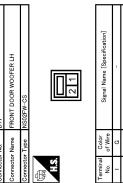
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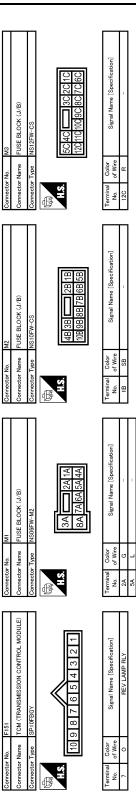
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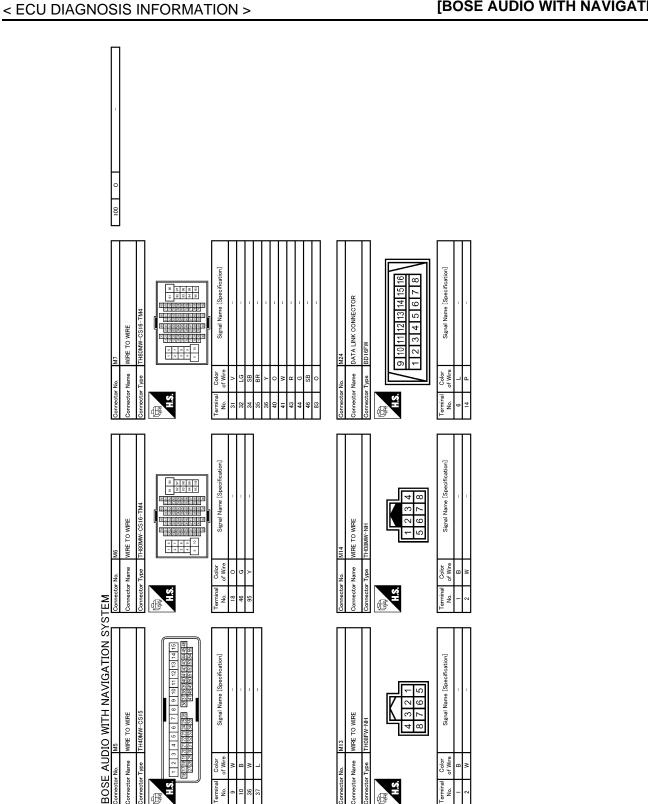
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Signal Name [Specification] Ć h MIRE TO WIRE Color of Wire Connector Name SH. Terminal No. G Signal Name [Specification] BACK-UP LAMP SWITCH Color of Wire nnector Name H.S. Terminal No. ſ Signal Name [Specification] A/T ASSEMBLY Color of Wire Connector Name Terminal No. 7 H.S. BOSE AUDIO WITH NAVIGATION SYSTEM Ē Con Signal Name [Specification] PARKING BRAKE SWITCH (A/T) Ð Connector Name Color of Wire H.S.H erminal No. Ē



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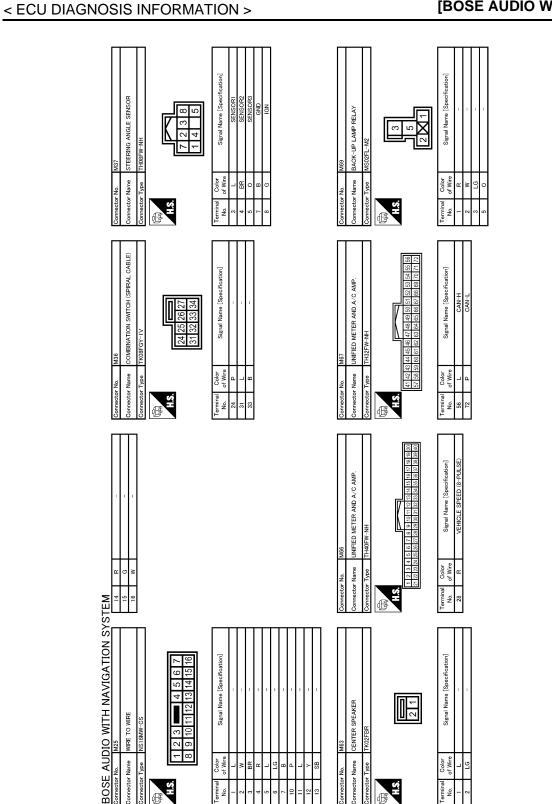
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Revision: 2008 September

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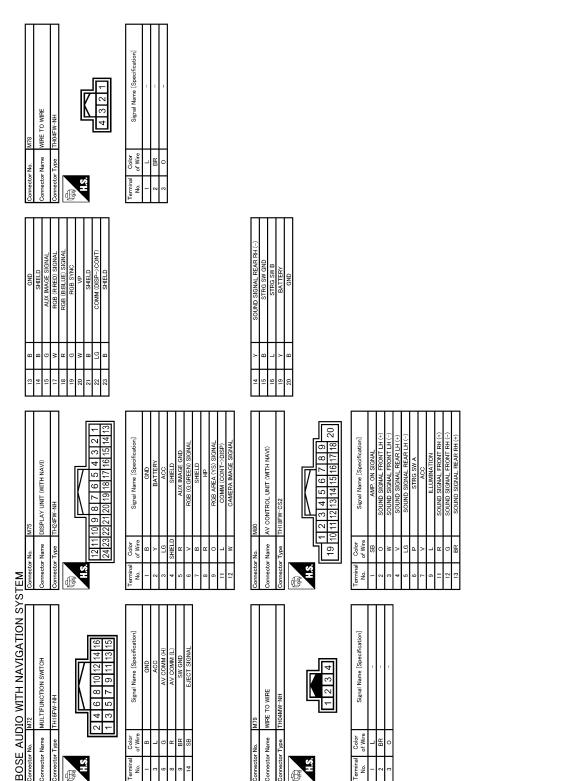
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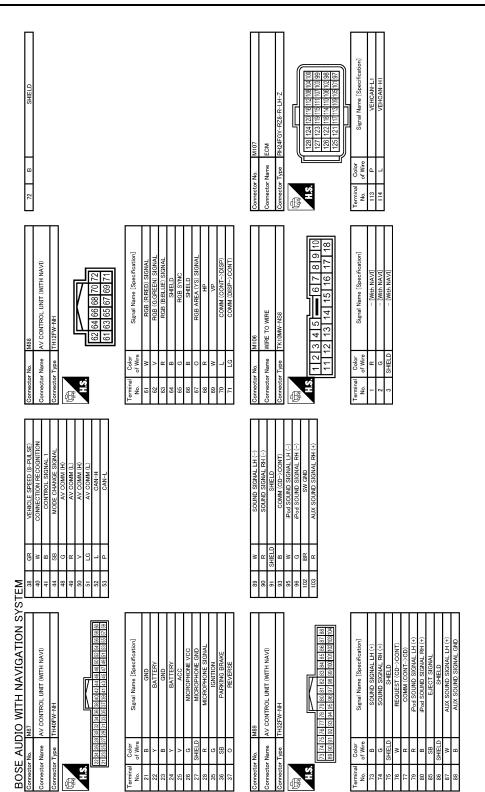
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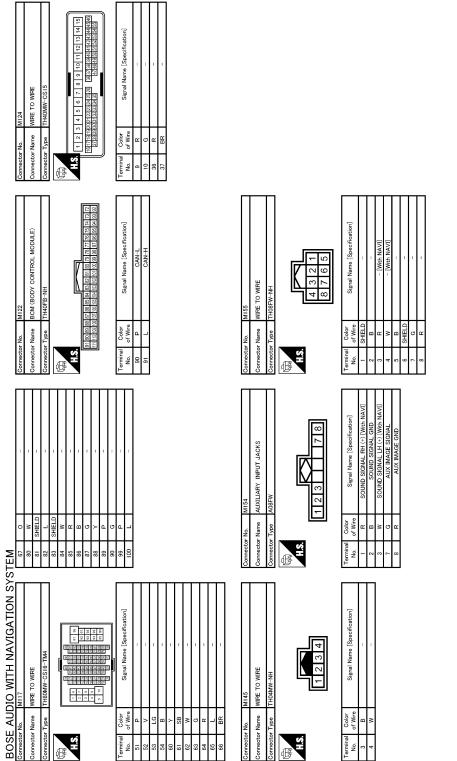
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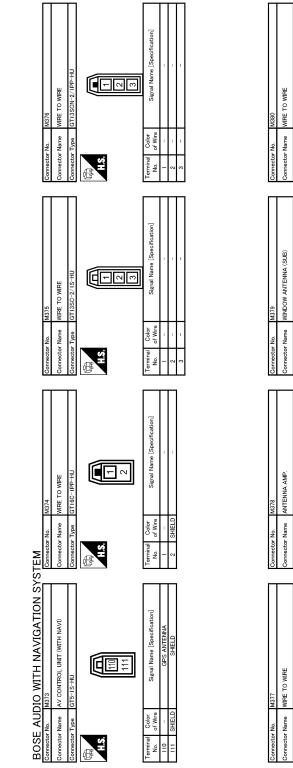
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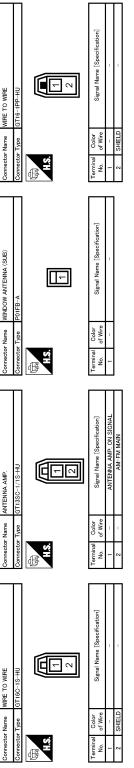
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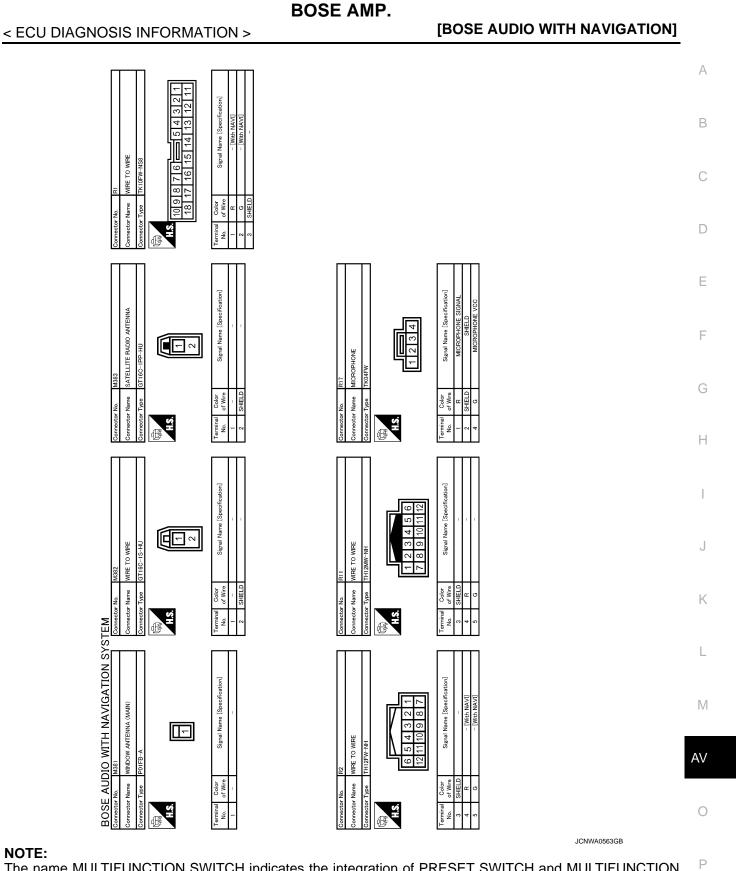
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[BOSE AUDIO WITH NAVIGATION]





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NOTE:

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

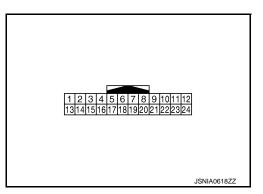
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IPOD ADAPTER

Reference Value

TERMINAL LAYOUT

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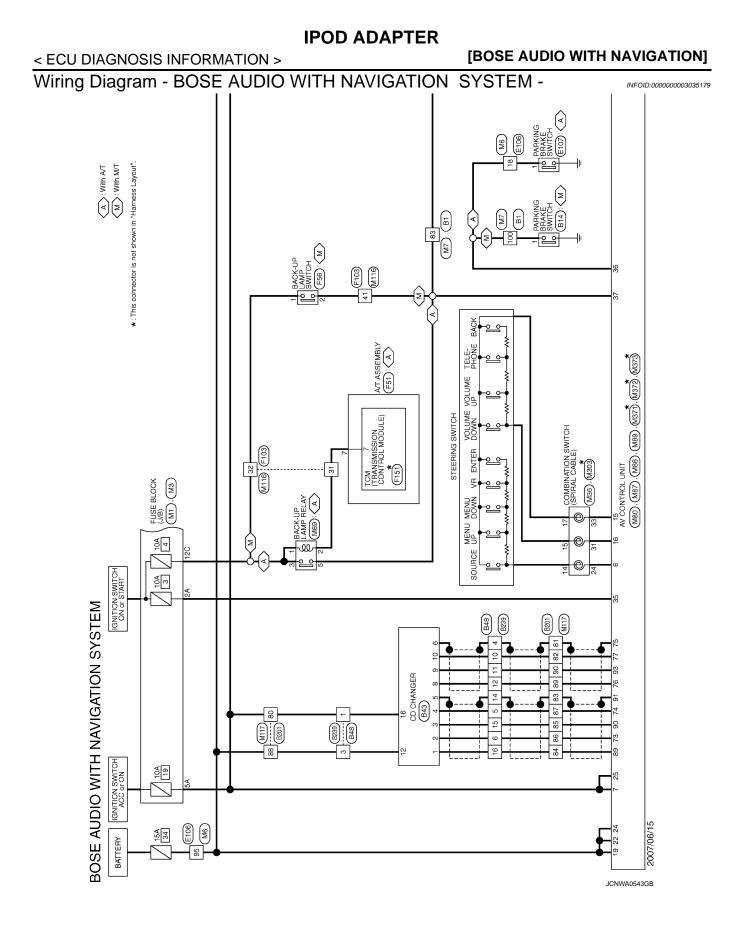


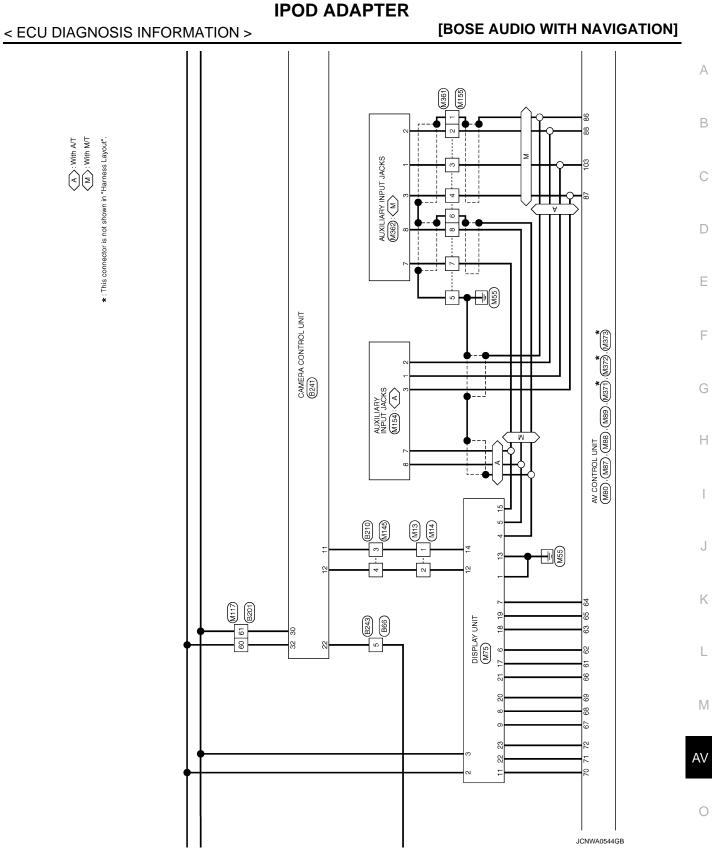
PHYSICAL VALUES

	minal e color)	Description			Condition	Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
1 (R)	13 (W)	iPod sound signal LH	Output	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	
2 (B)	14 (G)	iPod sound signal RH	Output	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	
3 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	
4 (R)	-	AV communication signal (L)	Input/ Output	—	—	—	
5 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
8 (W)	Ground	iPod battery charge	Output	Ignition switch ON	Connected to iPod [®]	12 V	

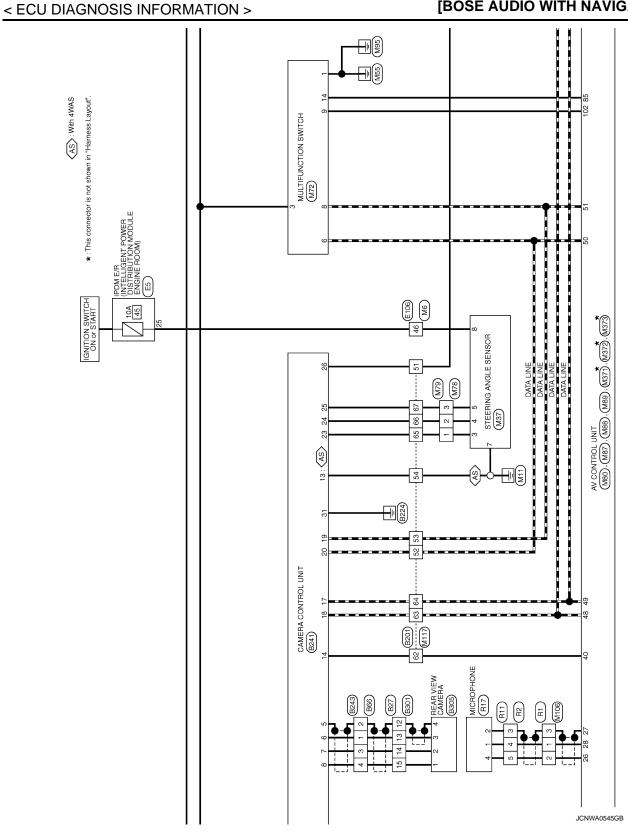
< ECU DIAGNOSIS INFORMATION >

	minal e color)	Description		Condition		Condition Reference value	
+	-	Signal name	Input/ Output		Condition	(Approx.)	
9 (P)	Ground	Communication signal (iPod adapter→iPod [®])	Output	Ignition switch ON	The wave pattern is dis- played just after iPod con- nection.	(V) 2 1 0 <i>y</i> <i>y</i> <i>y</i> <i>y</i> <i>y</i> <i>y</i> <i>y</i> <i>y</i>	B C D
10 (L)	Ground	Communication signal (iPod [®] →iPod adapter)	Input	Ignition switch ON	Connected to iPod [®]	(V) 32 10 ++2ms JPNIA0462GB	F
11 (O)	Ground	ACCESSORY-IDENTIFY	_	Ignition switch ON	Connected to iPod [®]	0 V	Н
12 (W)	23 (R)	iPod sound signal RH	Input	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 -1 -1 -1 -1 -2ms SKIB3609E	l J
15		Shield					K
16 (G)	_	AV communication signal (H)	Input/ Output		_	_	
17 (BR)	Ground	GND	_	Ignition switch ON	_	0 V	L
19	_	Shield	_		—	_	M
21	Ground	iPod connection recogni-	Input	Ignition switch	Not connected to $iPod^{\mathbb{R}}$	4 V	
(W)	Giouna	tion signal	mput	ON	Connected to iPod [®]	0 V	AV
22 (G)	Ground	ACCESSORY-DETECT	_	Ignition switch ON	Connected to iPod [®]	0 V	
24 (B)	23 (W)	iPod sound signal LH	Input	Ignition switch ON	When iPod mode is select- ed	(V) 1 0 -1 • • 2ms SKIB3609E	O P





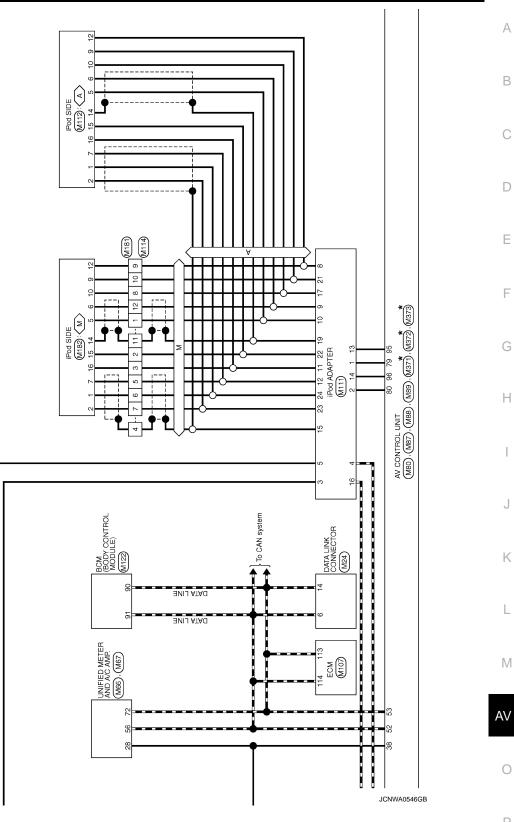
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< ECU DIAGNOSIS INFORMATION >

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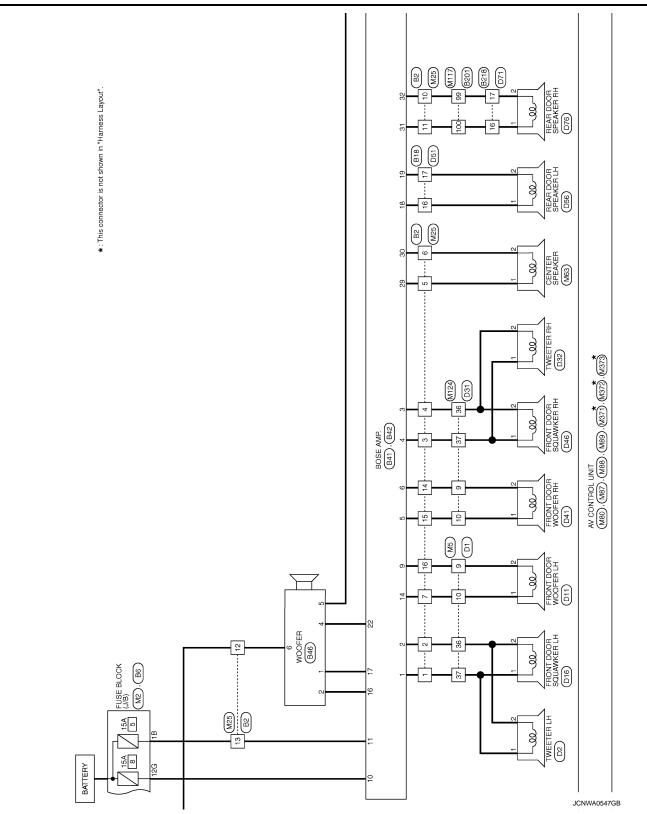


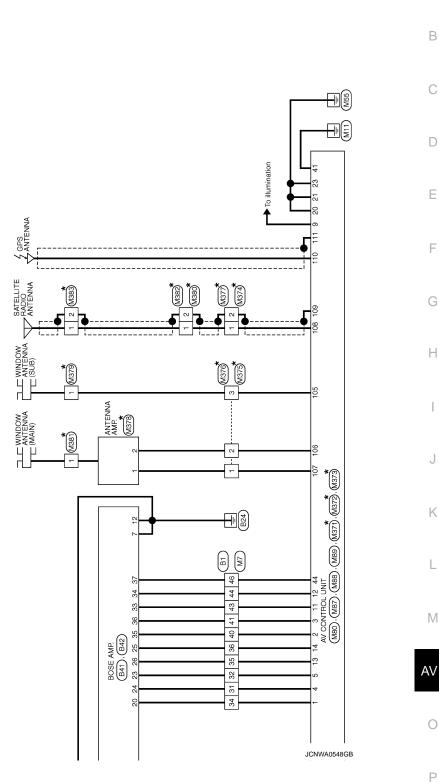
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*: This connector is not shown in "Harness Layout".

< ECU DIAGNOSIS INFORMATION >

IPOD ADAPTER

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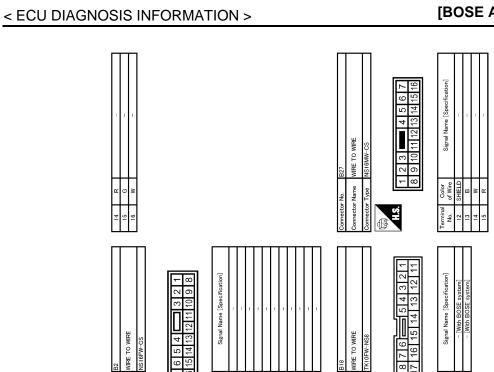
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Revision: 2008 September



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Connector Name

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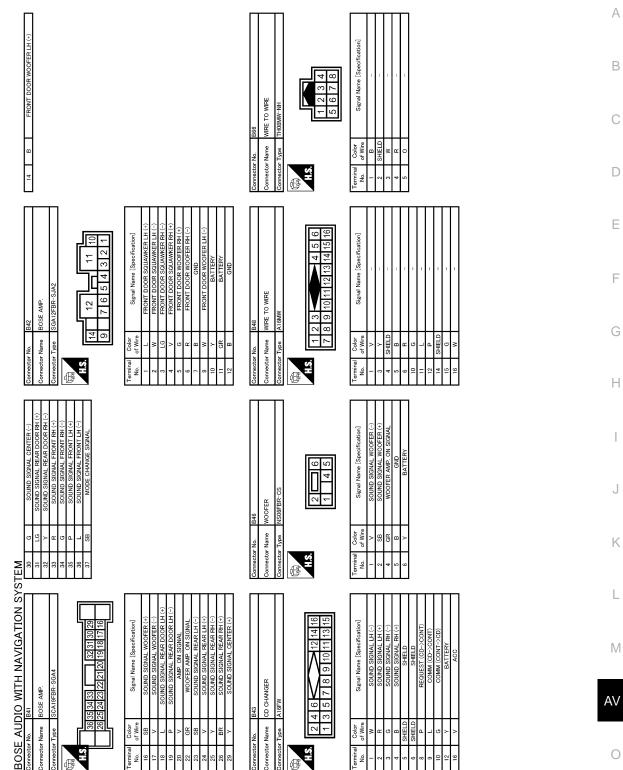
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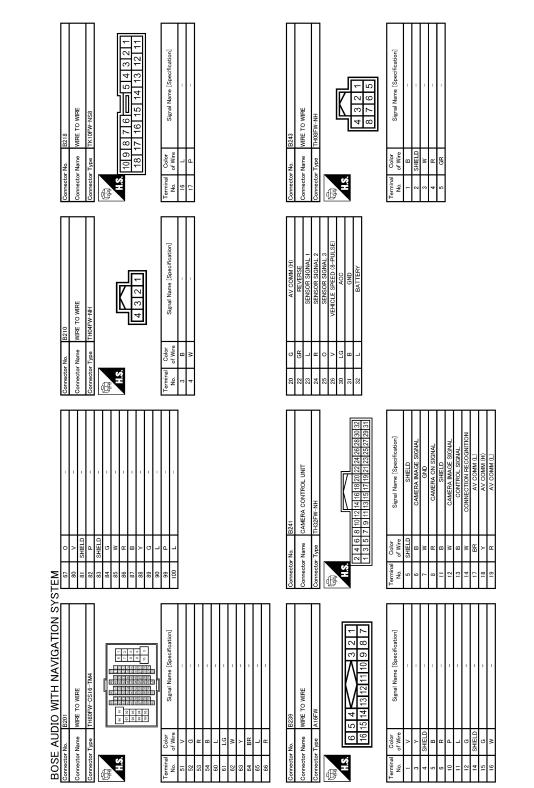
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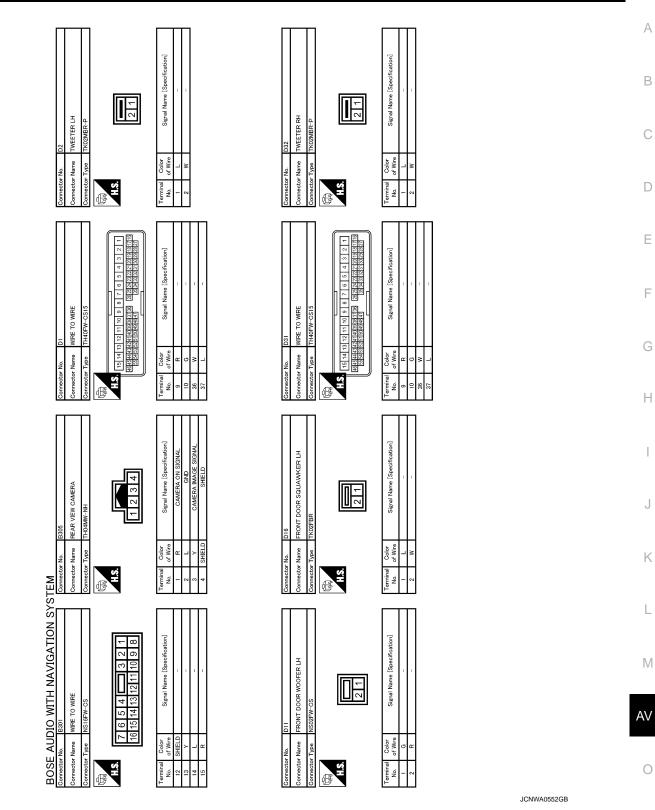
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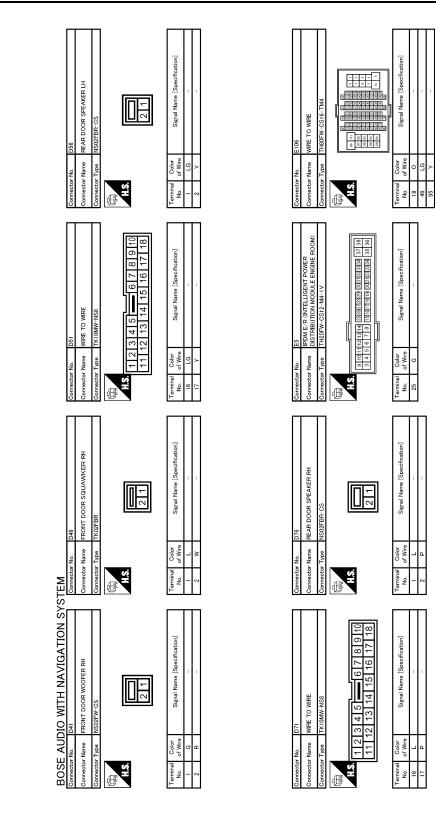
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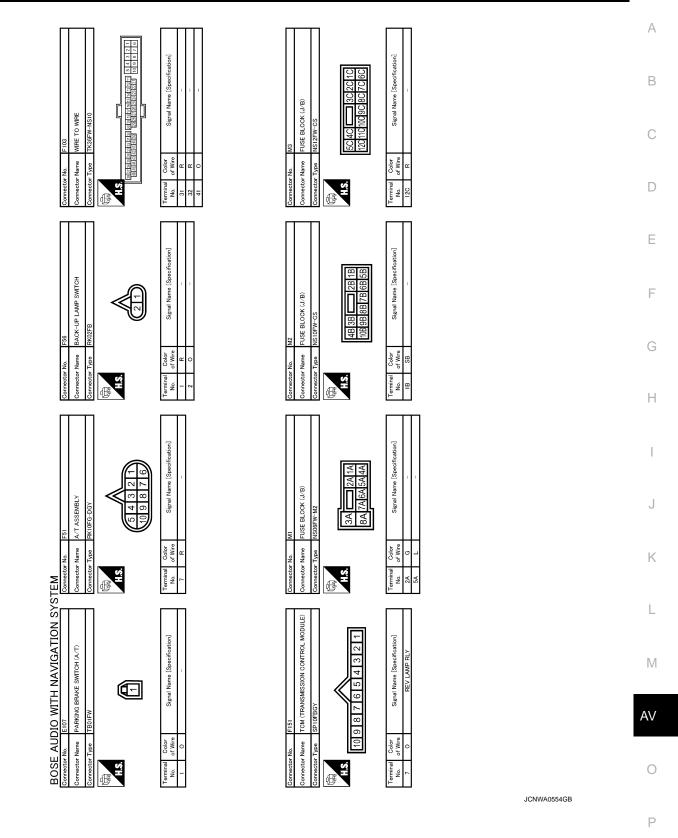
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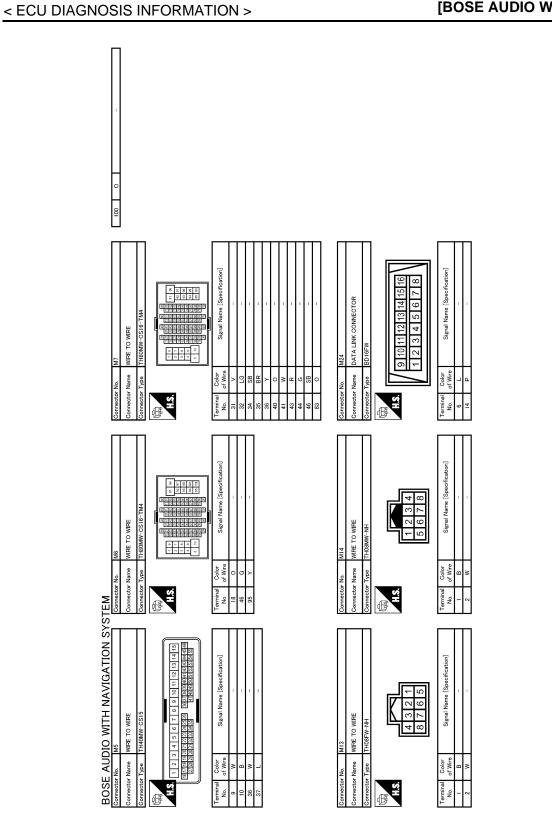
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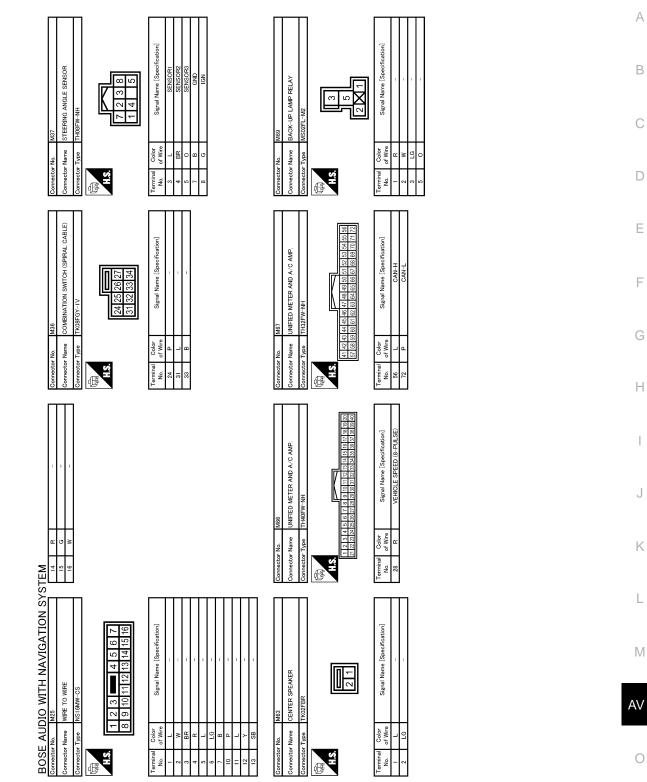




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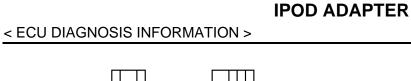
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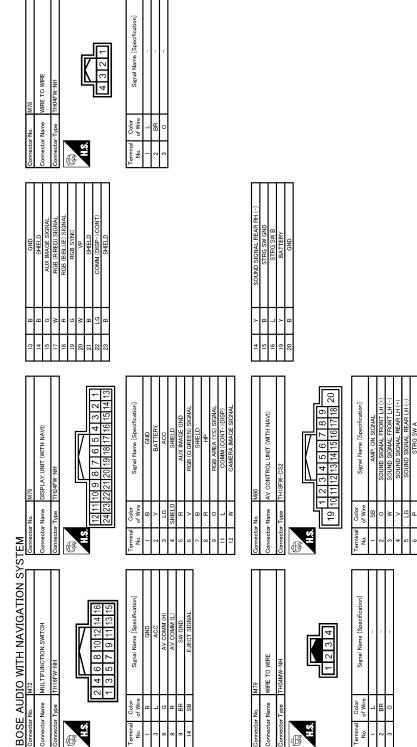
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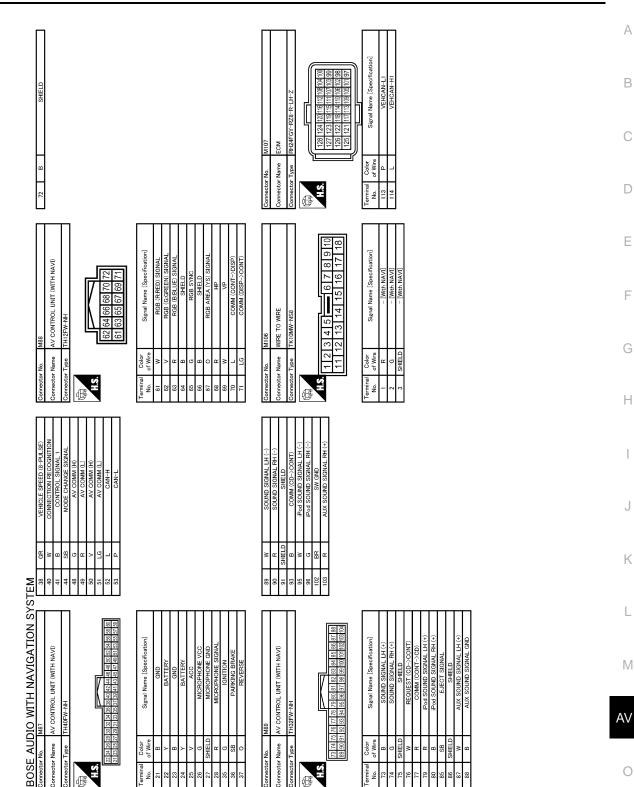
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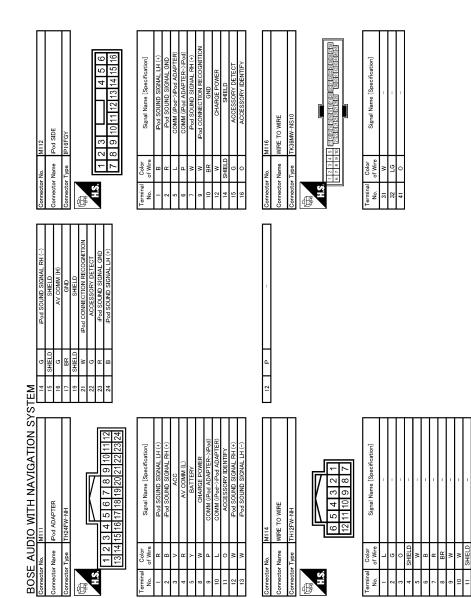
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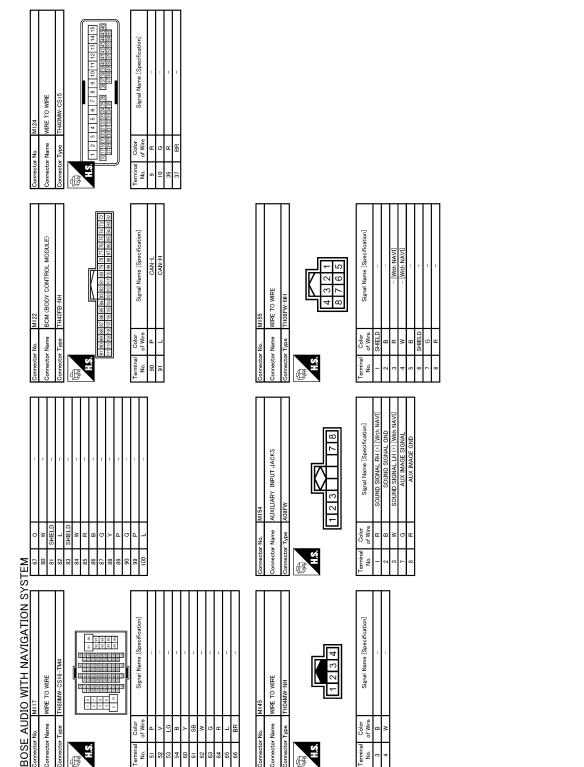
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COMBINATION SWITCH (SPIRAL CABLE) Signal Name [Specification] Signal Name [Specification] AV CONTROL UNIT (WITH NAVI) ANT Color of Wire Color of Wire Connector Name Connector Name ALS. Terminal No. Terminal No. E S 108 Ŧ Ŧ Signal Name [Specification] Signal Name [Specification] AV CONTROL UNIT (WITH NAVI) iPod SIDE \sim ß Color of Wire Color of Wire Connector Name nector Name 0 H.S. ALS. Terminal No. erminal No. 105 106 ſ C ပိ Signal Name [Specification] AUXILIARY INPUT JACKS 2 Color of Wire Connector Name Connector 12 H.S. erminal No. BOSE AUDIO WITH NAVIGATION SYSTEM E ŏ Signal Name [Specification] Signal Name [Specification] 0 2 WIRE TO WIRE WIRE TO WIRE 2 THORMW M36 SHELD GR BR W BR SHIELD SHIELD G Color of Wire SHIELD Color of Wire Connector Name Connector Name H.S. H.S. srmina No. rmina No.

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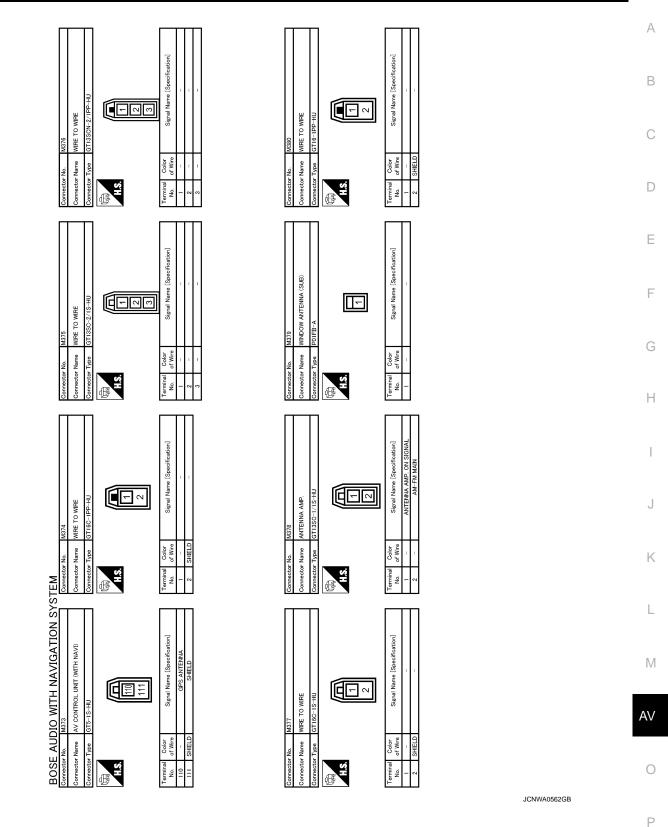
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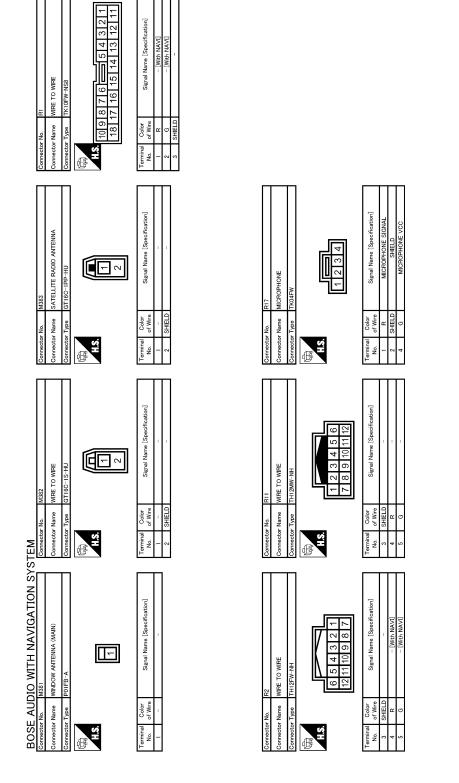
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< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]





NOTE:

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

[BOSE AUDIO WITH NAVIGATION]

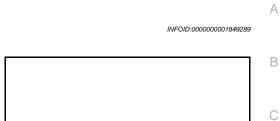
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< ECU DIAGNOSIS INFORMATION >

CAMERA CONTROL UNIT

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PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value	
+	-	Signal name	Input/ Output	Condition		(Approx.)	
5		Shield	_	_	—	_	
6 (B)	Ground	Camera image signal	Input	Ignition switch ON	At rear view camera image is displayed	(V) 0.4 0 −0.4 •••40µs SKIB2251J	
7 (W)	Ground	GND	_	Ignition switch ON	_	0 V	
8				Ignition	R position	6 V	
(R)	Ground	Camera ON signal	Output	switch ON	Other than R position	0 V	
11	_	Shield	_	_	—	—	
12 (W)	Ground	Camera image signal	Output	Ignition switch ON	At rear view camera image is displayed	(V) 0.4 0 -0.4 •••40µs SKIB2251J	
13* (B)	Ground	Control signal	_	Ignition switch ON	_	0 V	
14 (W)	Ground	d Camera-connection recog-		utput Switch ON	Connected to camera con- trol unit connector	0 V	
		nition signal			Not connected to camera control unit connector	5 V	
17 (BR)	_	AV communication signal (L)	Input/ Output	_	_	_	

< ECU DIAGNOSIS INFORMATION >

Terminal (Wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
18 (Y)	_	AV communication signal (H)	Input/ Output	_	_	_	
19 (R)	_	AV communication signal (L)	Input/ Output	_	—	_	
20 (G)	_	AV communication signal (H)	Input/ Output	_	—	_	
22 (GR)	Ground	Reverse signal	Input	Ignition switch	R position Other than R position	12 V 0 V	
23	Ground	Sensor signal 1	Input	Ugnition ut Ignition Switch ON	Turn the steering to the right	(V) 4 2 0 4 2 0 4 5 KIB3827E A: Sensor signal 1 B: Sensor signal 2	
(L)	Ground	Sensor signal 1			Turn the steering to the left	(V) 4 2 0 4 2 0 4 2 0 4 5 KIB3828E A: Sensor signal 1 B: Sensor signal 2	
24	Ground	Sround Sensor signal 2 Input	locut	Ignition	Turn the steering to the right	(V) 4 0 4 0 4 0 4 0 4 0 5 KIB3827E A: Sensor signal 1 B: Sensor signal 2	
(R)			ON	Turn the steering to the left	(V) 4 0 4 0 4 0 4 0 5 KIB3828E A: Sensor signal 1 B: Sensor signal 2		

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ Output			(Approx.)	
25 (O)	Ground	Sensor signal 3	Input	Ignition switch ON	Turn the steering around the neutral position	(V) 4 2 0 4 2 0 4 2 0 5 KIB3829E A: Sensor signal 3 B: Sensor signal 1	B C D
26 (V)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	NOTE: Maximum voltage may be 12 V due to specifications (connected units). (V) 6 4 2 0 • • • • • • • • • • • • • • • • • •	E F G
30 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	Η
31 (B)	Ground	GND	_	Ignition switch ON	_	0 V	I
32 (L)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	J

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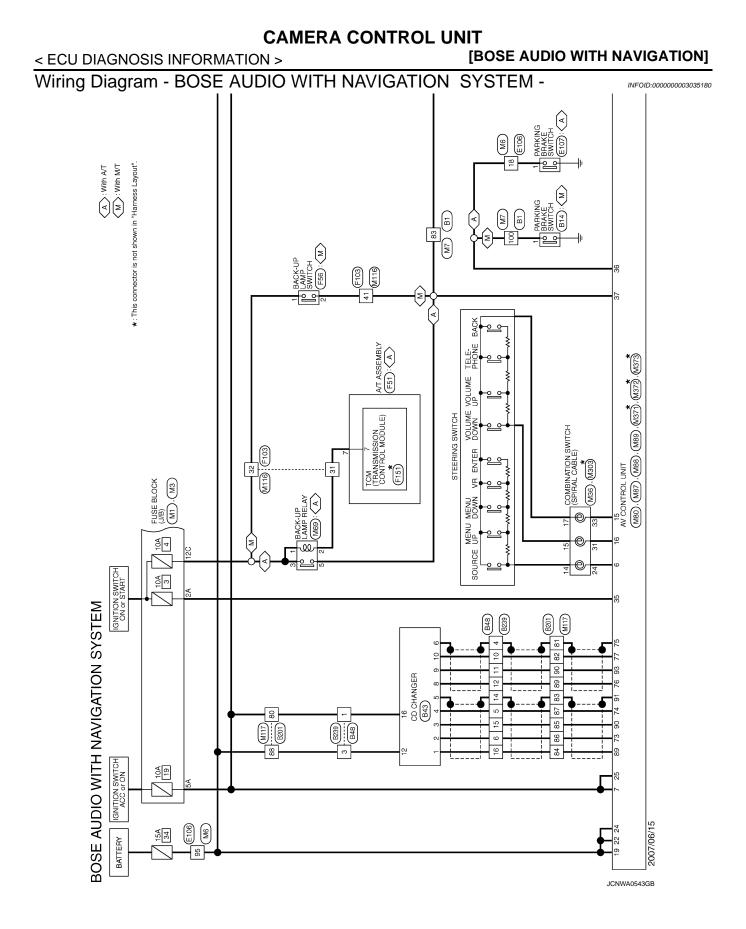
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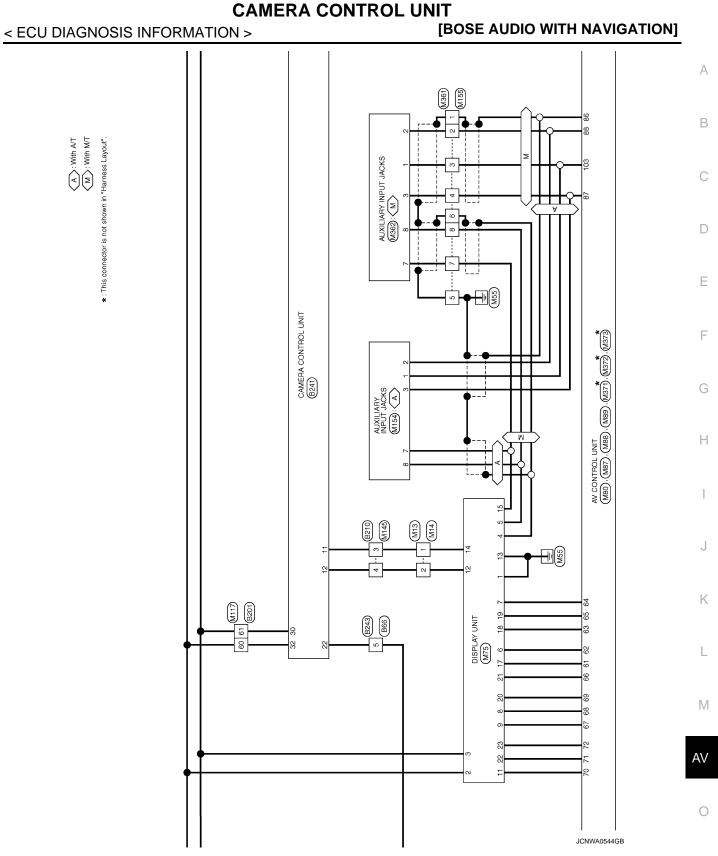
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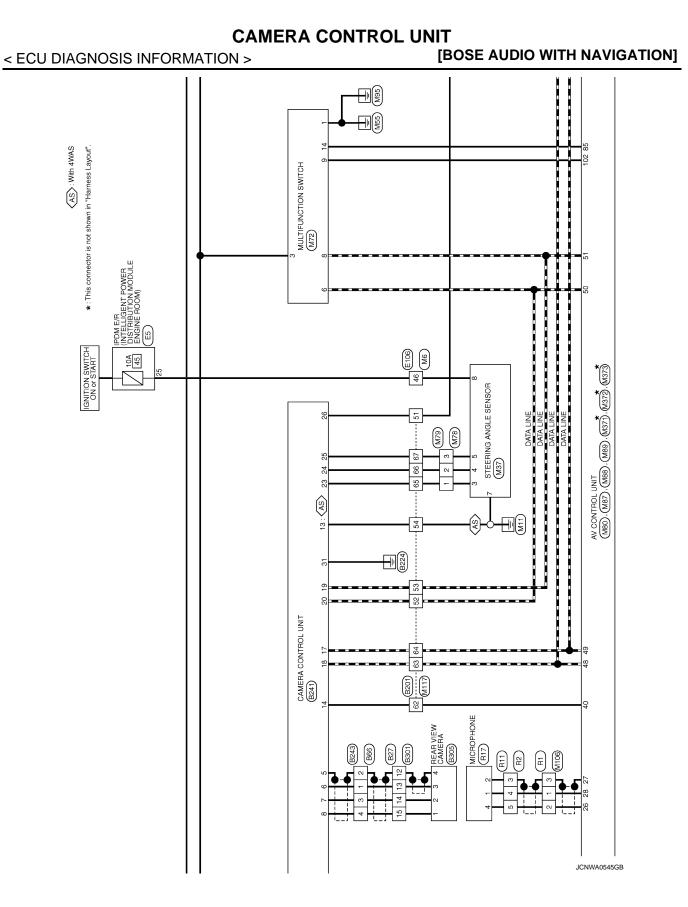
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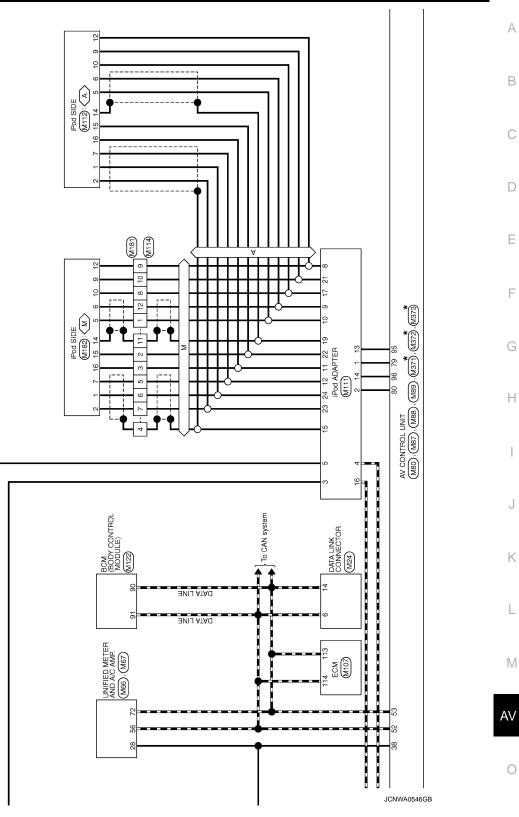


Revision: 2008 September

< ECU DIAGNOSIS INFORMATION >

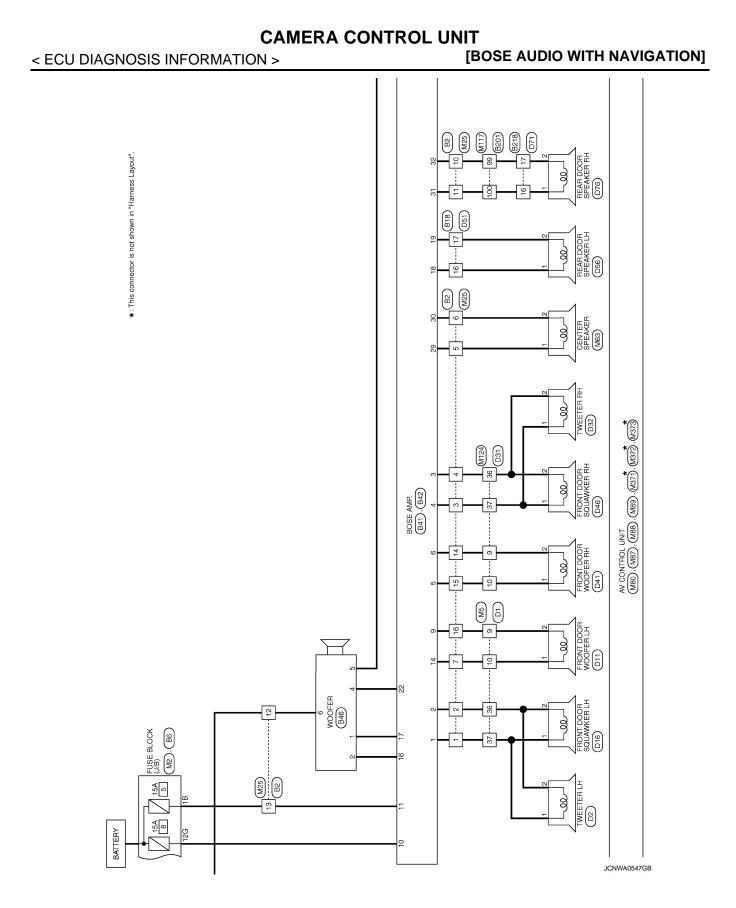
[BOSE AUDIO WITH NAVIGATION]

A : With A/T M : With M/T *: This connector is not shown in "Harness Layout".

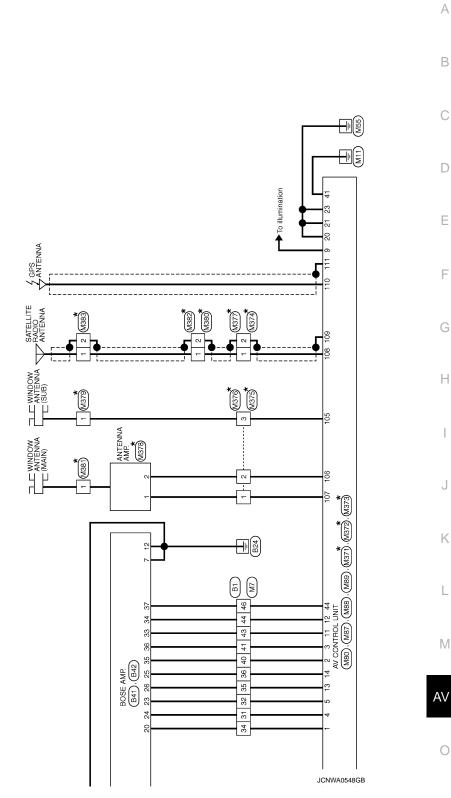


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Revision: 2008 September



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

< ECU DIAGNOSIS INFORMATION >

CAMERA CONTROL UNIT

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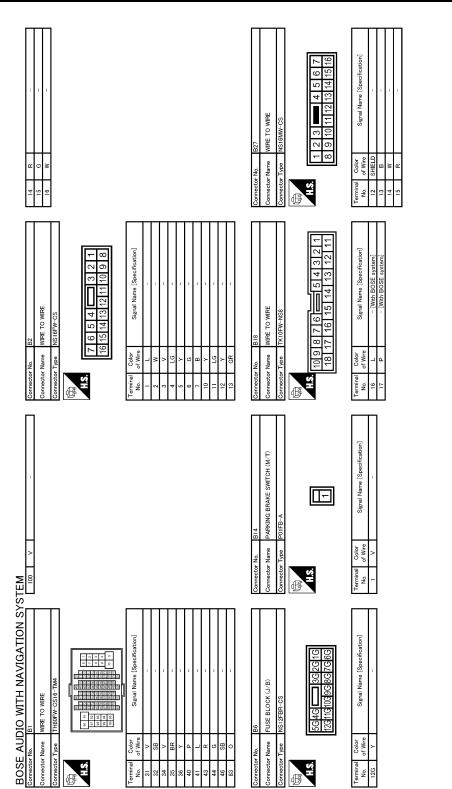
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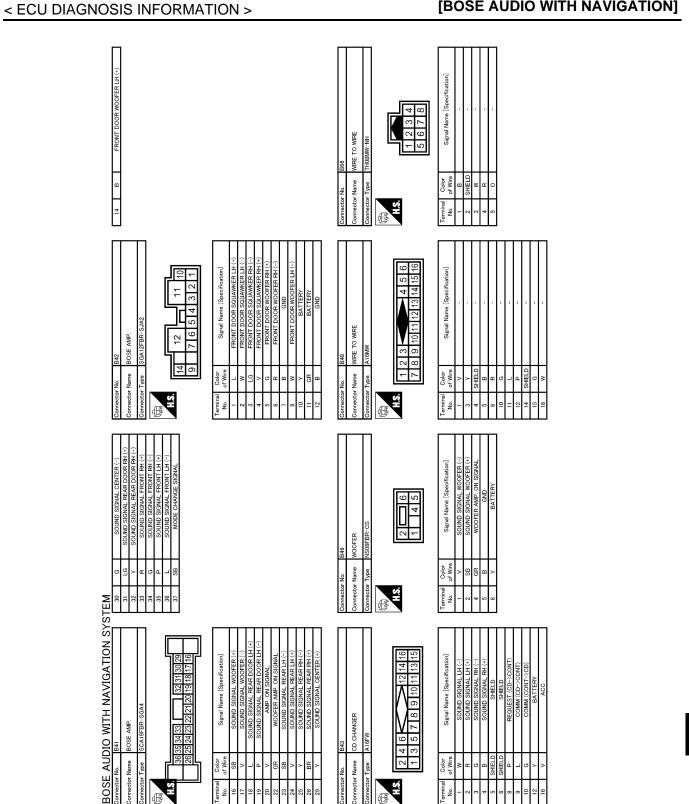
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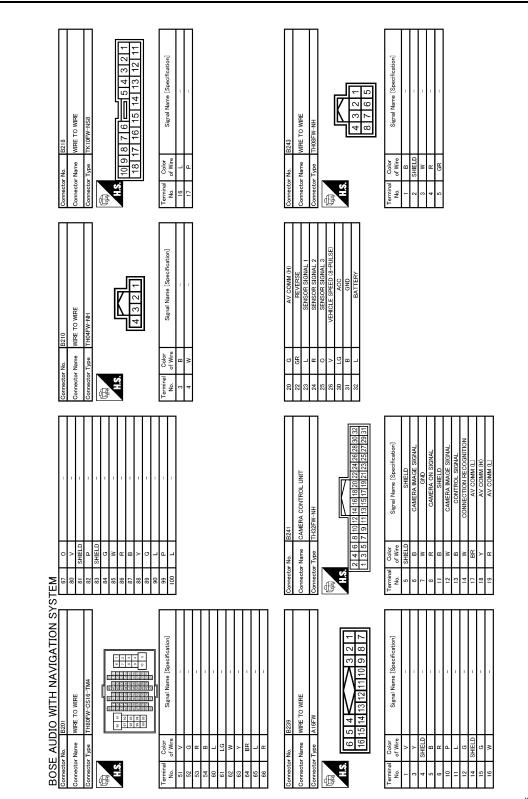
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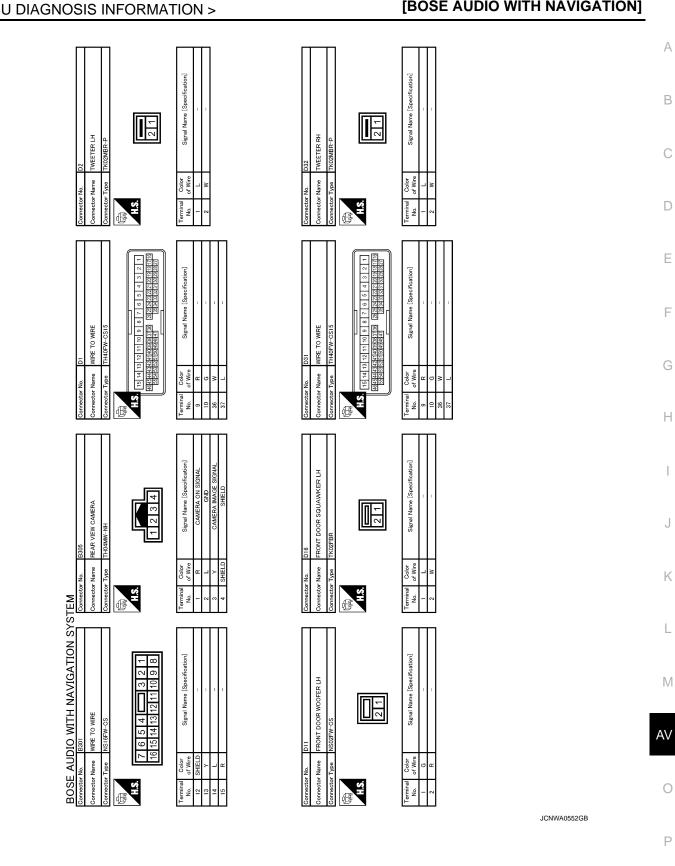
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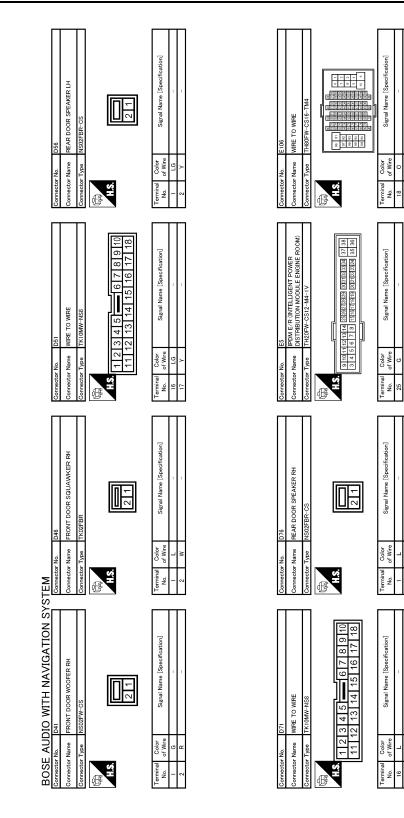


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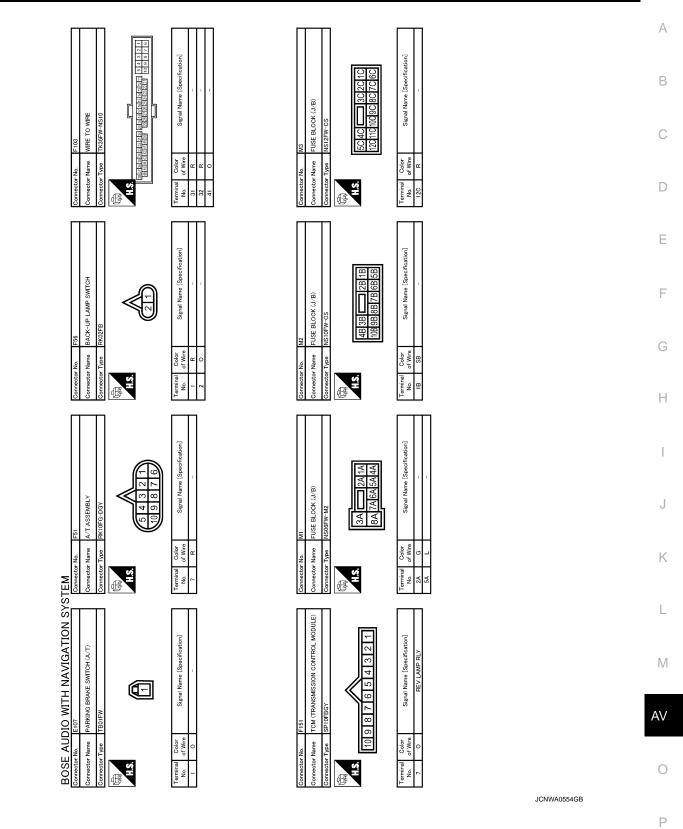
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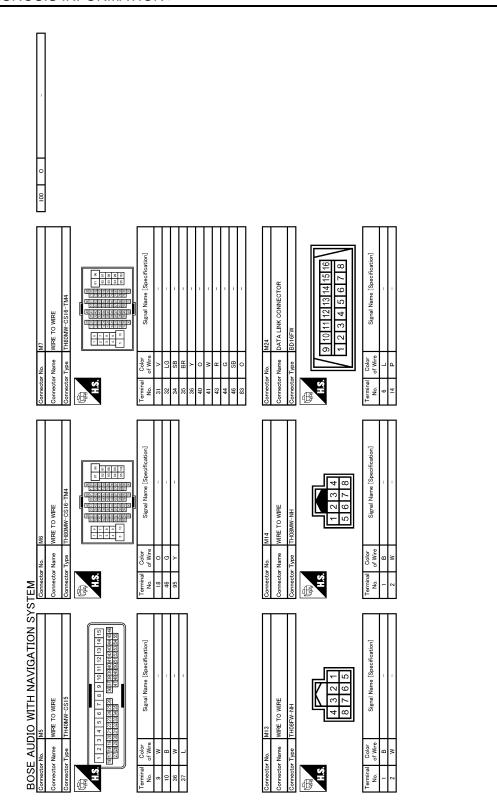


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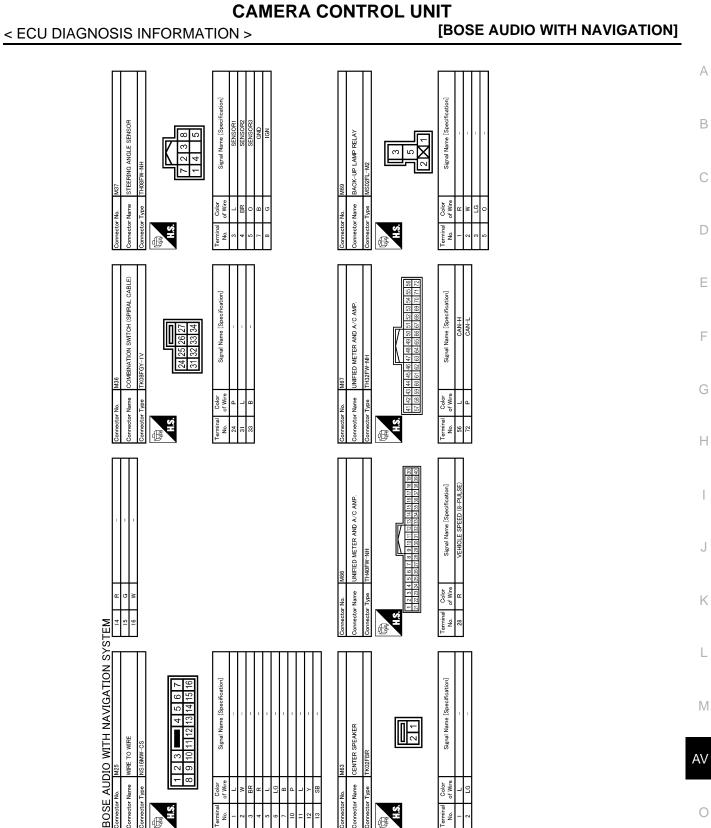
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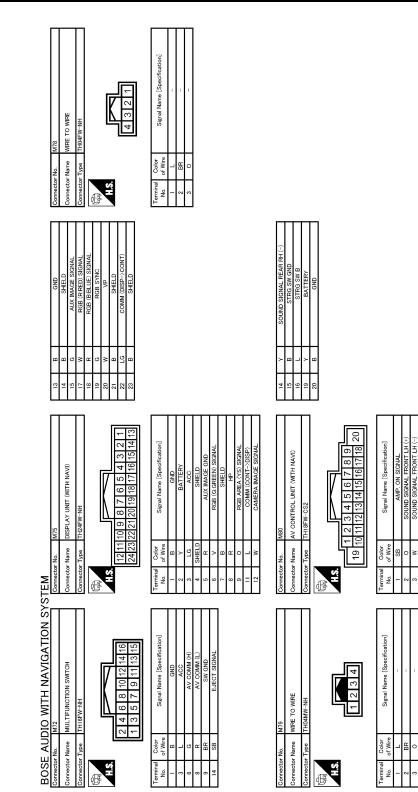
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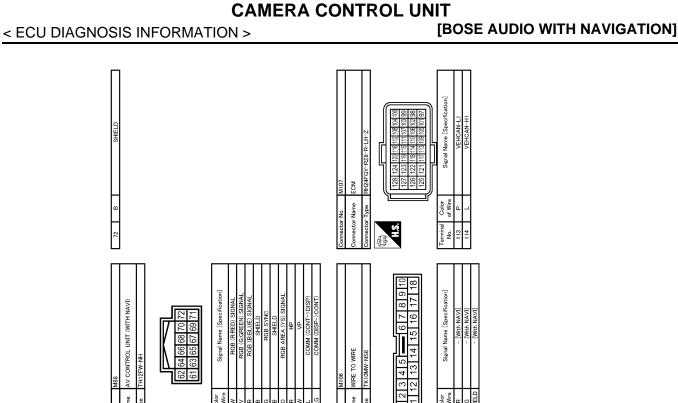


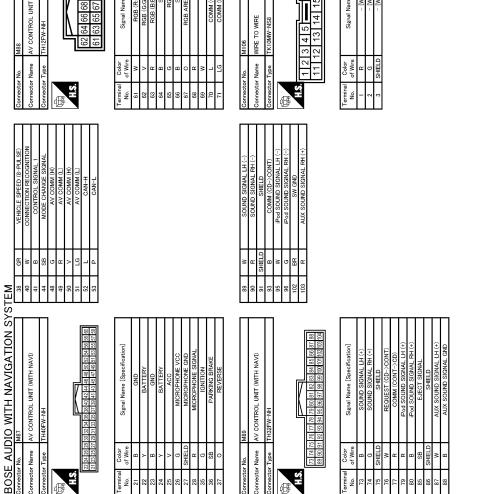
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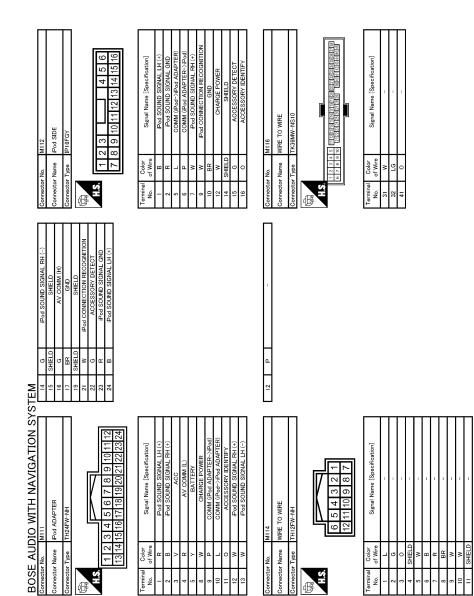
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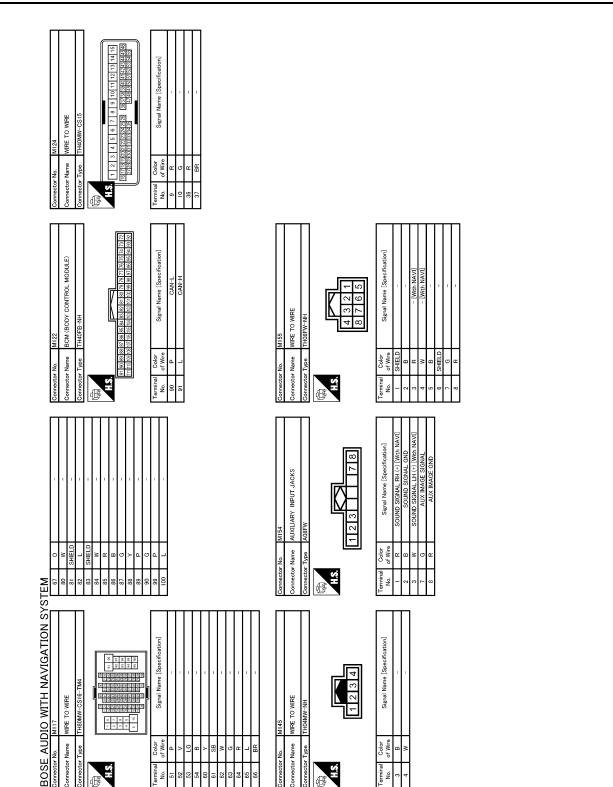
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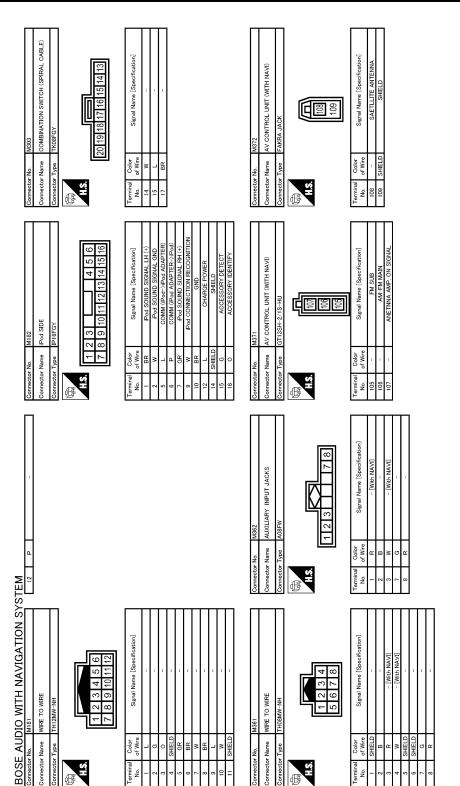
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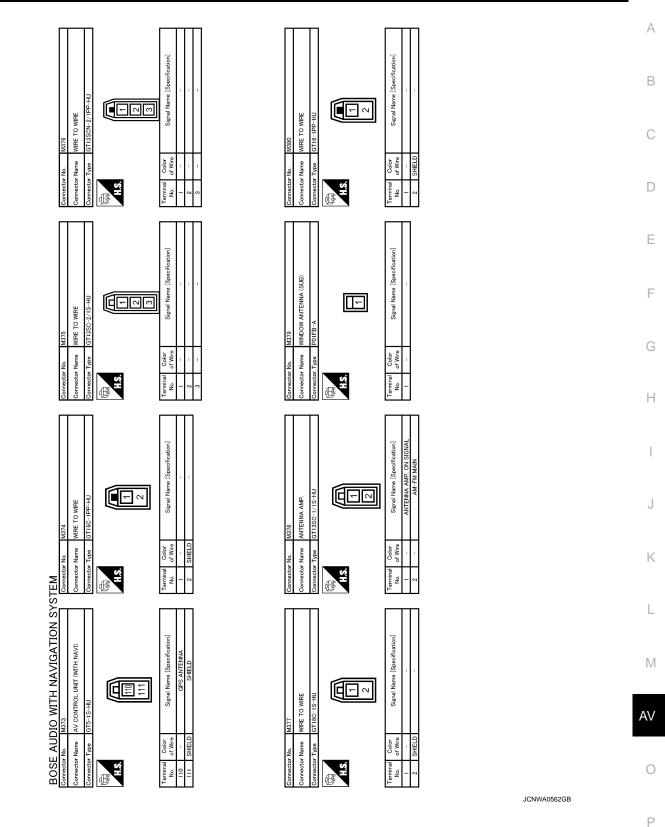
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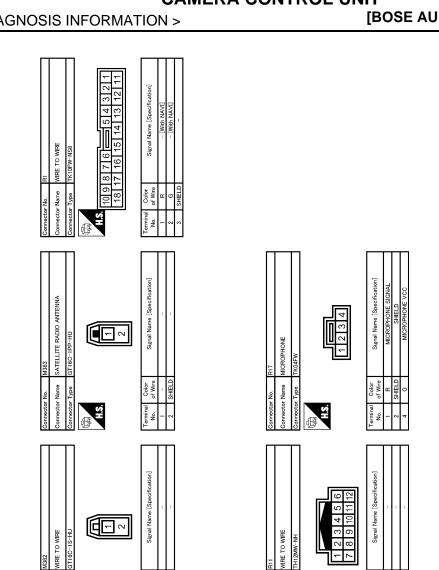
CAMERA CONTROL UNIT

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NOTE:

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

ector Name

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stor Name

Color of Wire

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Signal Name [Specification]

Connector Name

WINDOW ANTENNA (MAIN)

nnector Name

BOSE AUDIO WITH NAVIGATION SYSTEM

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No.

Signal Name [Specification]

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CD CHANGER

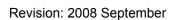
Reference Value

TERMINAL LAYOUT

B 2 4 6 121416 1 3 5 7 8 9 10111315 D JPNIA0005ZZ E

PHYSICAL VALUES

Terminal (Wire color)		Description	Description		Condition	Reference value	
+	_	Signal name	Input/ Output	Condition		(Approx.)	
2 (R)	1 (W)	CD changer sound signal LH	Output	Ignition switch ON	When CD change mode is selected	(V) 1 0 -1 • 2ms SKIB3609E	
4 (B)	3 (G)	CD changer sound signal RH	Output	Ignition switch ON	When CD change mode is selected	(V) 1 0 −1 + 2ms SKIB3609E	
5		Shield			_	_	
6		Shield	—		—	_	
8 (P)	Ground	Request signal (CD→CONT)	Output	Ignition switch ON	When CD change mode is selected	(V) 10 0 -10 • • 10ms SKIA9299J	
9 (L)	Ground	Communication signal (CD→CONT)	Output	Ignition switch ON	When CD change mode is selected	(V) 10 0 -10 • • • 1ms SKIA9300J	



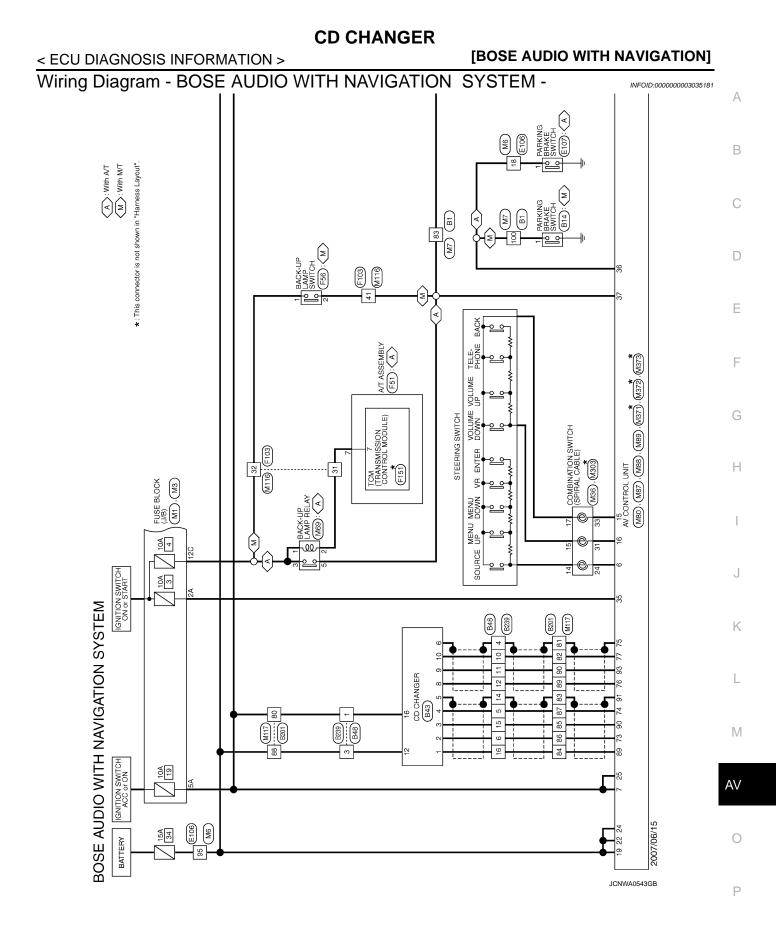
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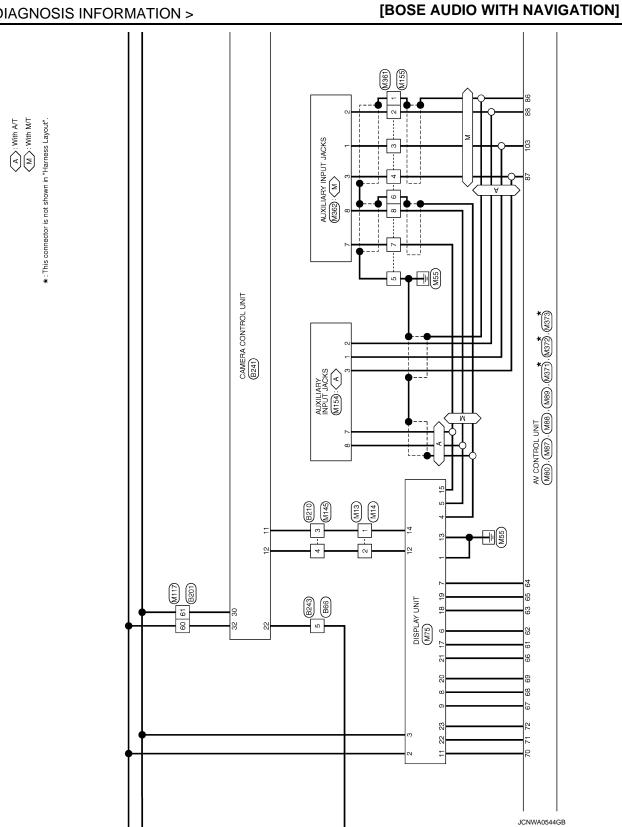
< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

	minal e color)	Description		Condition		Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
10 (G)	Ground	Communication signal (CONT→CD)	Input	Ignition switch ON	When CD change mode is selected	(V) 10 0 -10 • 1 ms SKIA9301J	
12 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage	
16 (V)	Ground	ACC power supply	Input	Ignition switch ACC	_	Battery voltage	

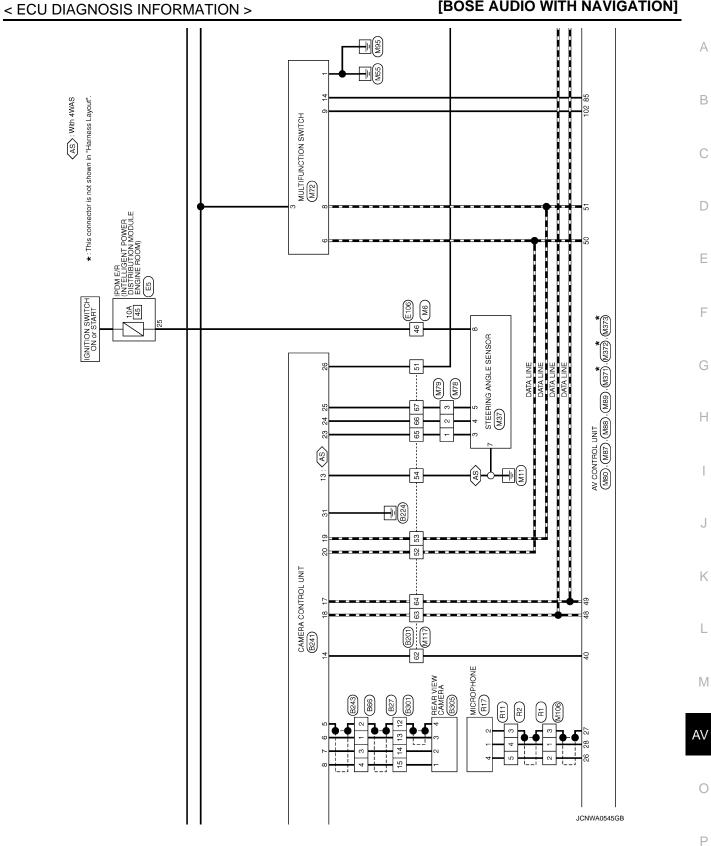


Revision: 2008 September



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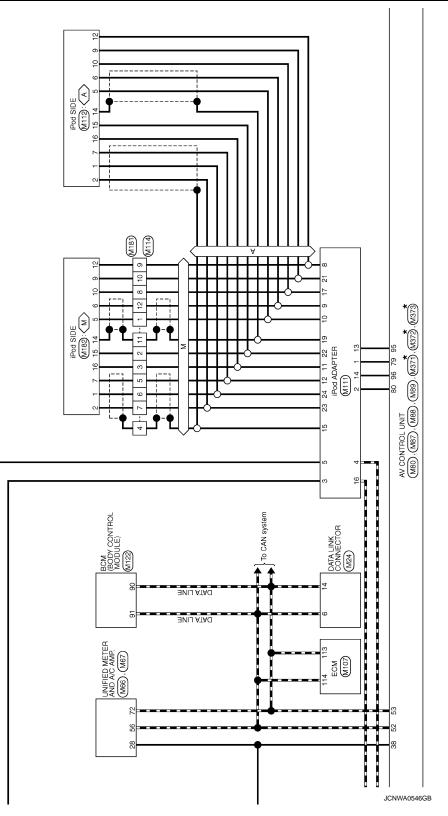


Revision: 2008 September

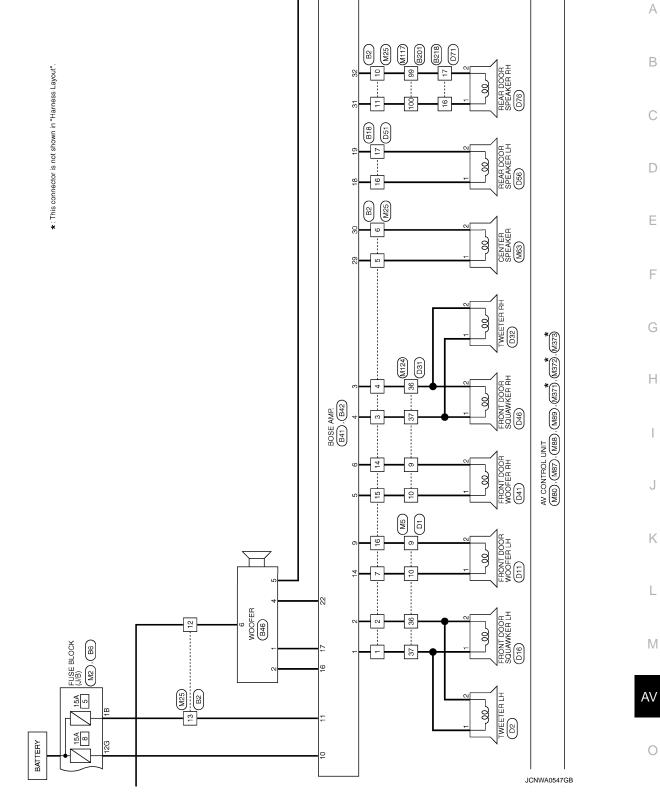
2008 G35 Sedan

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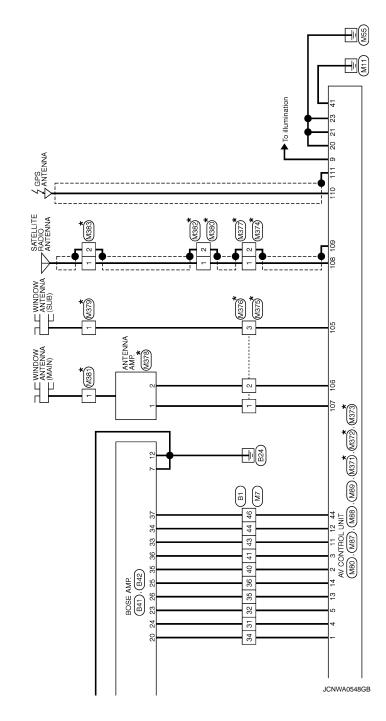
CD CHANGER < ECU DIAGNOSIS INFORMATION > [BOSE AUDIO WITH NAVIGATION]



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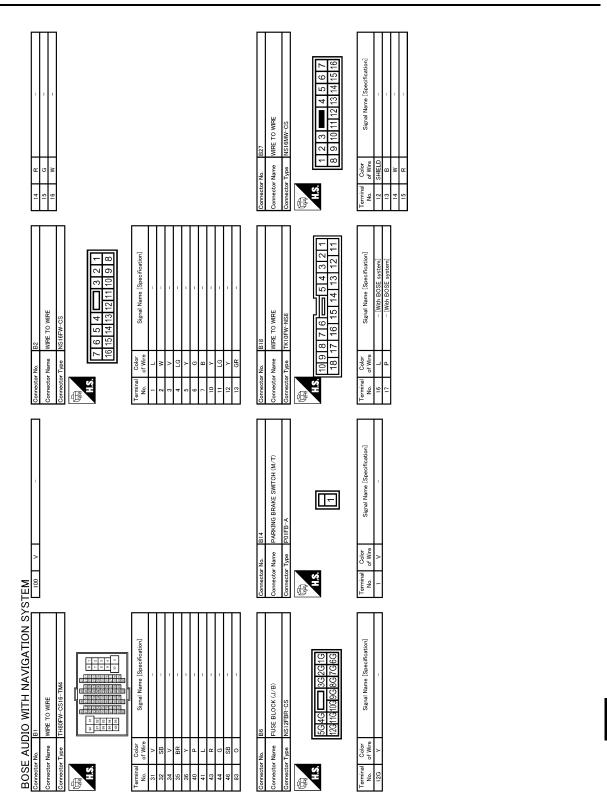
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* : This connector is not shown in "Harness Layout".

Revision: 2008 September

2008 G35 Sedan



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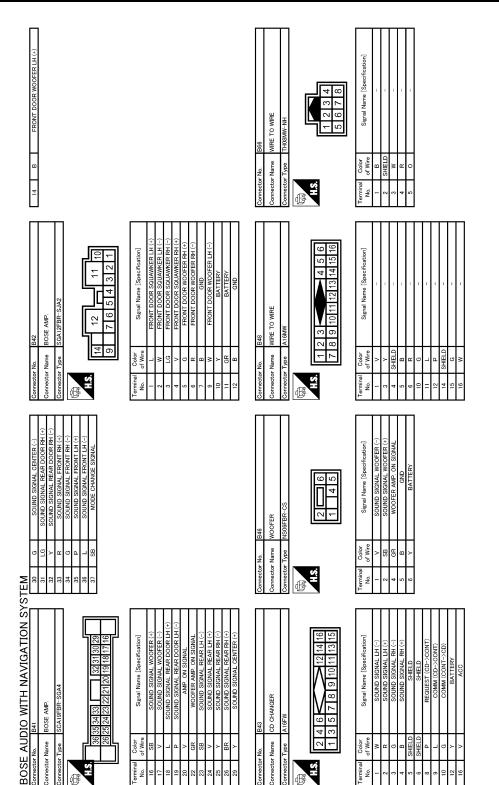
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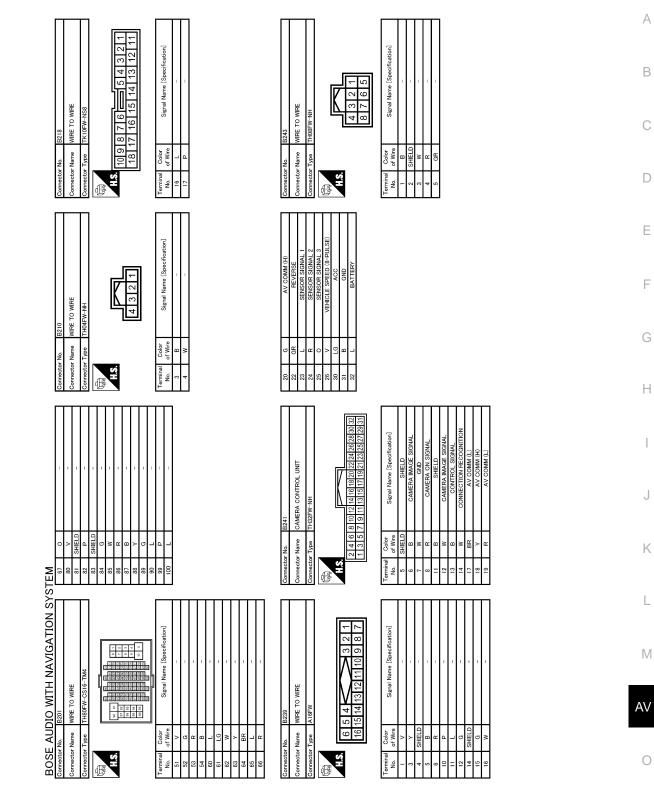
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CD CHANGER

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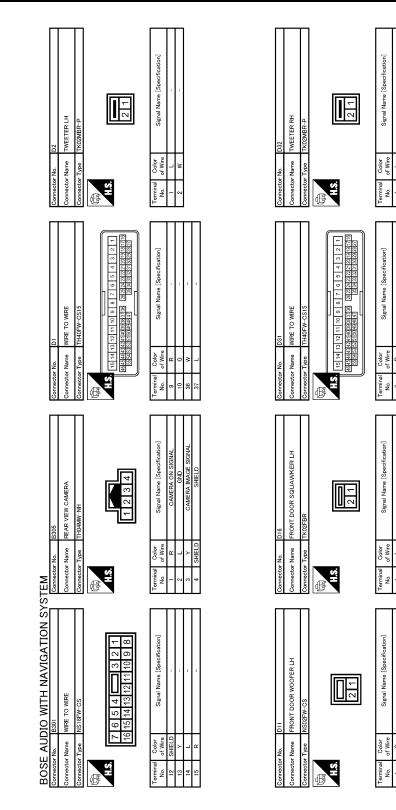
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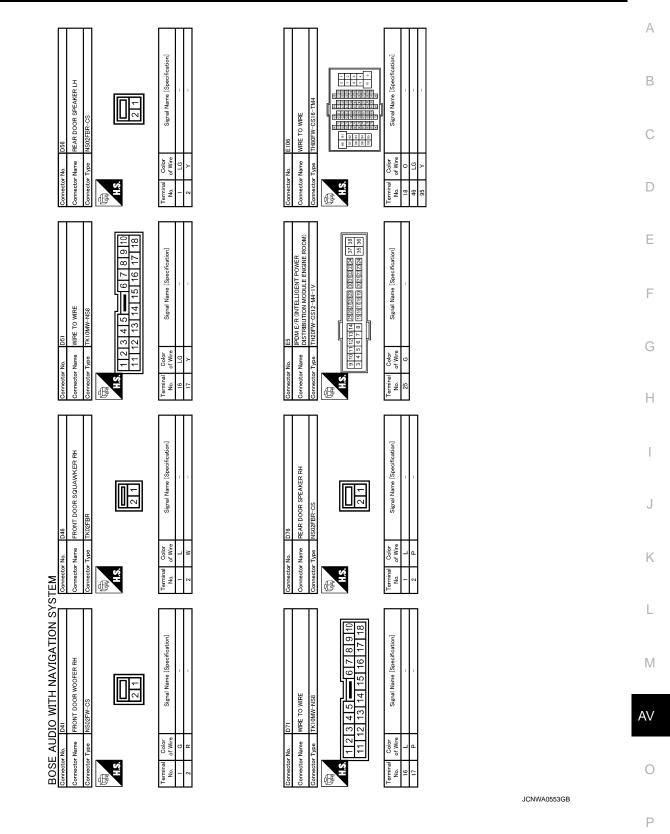
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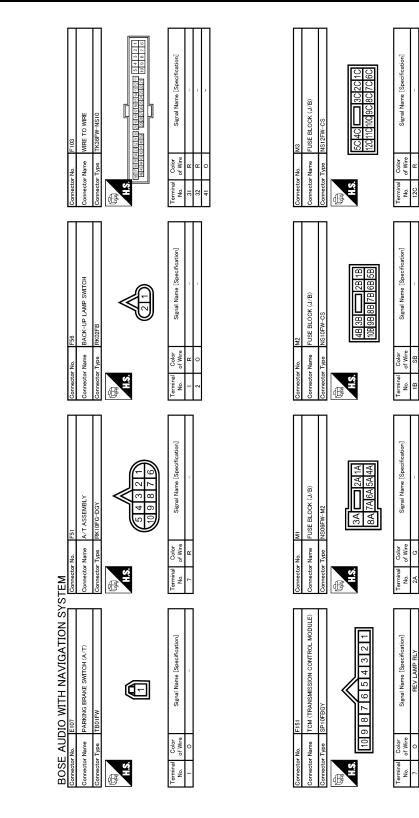
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Revision: 2008 September

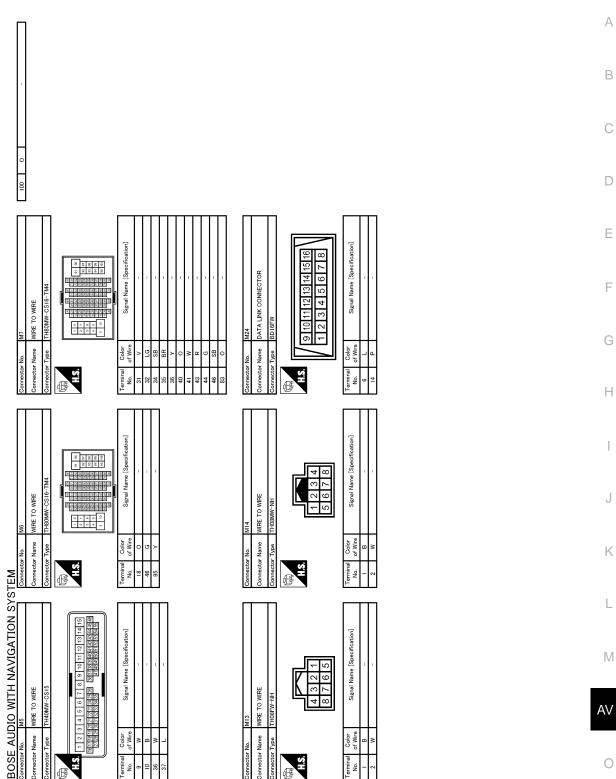
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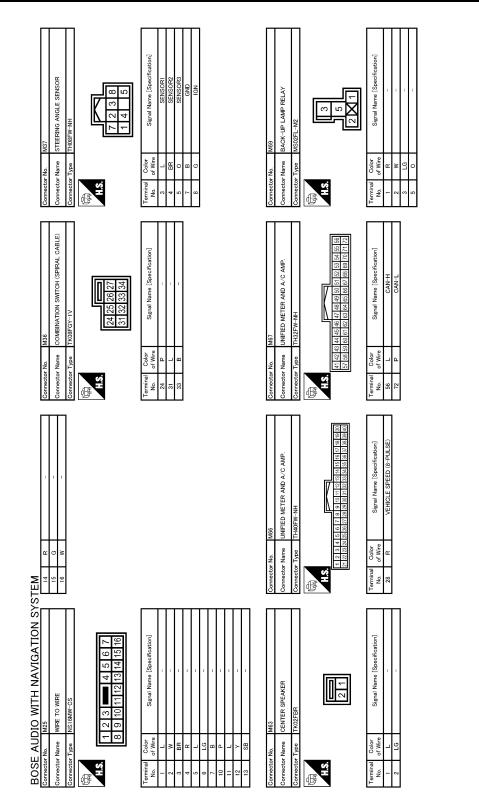


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Revision: 2008 September

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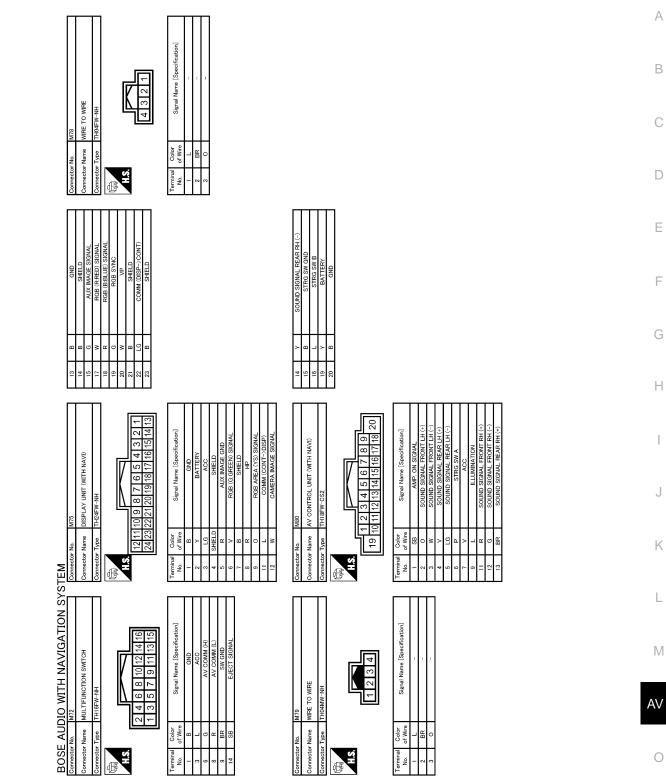
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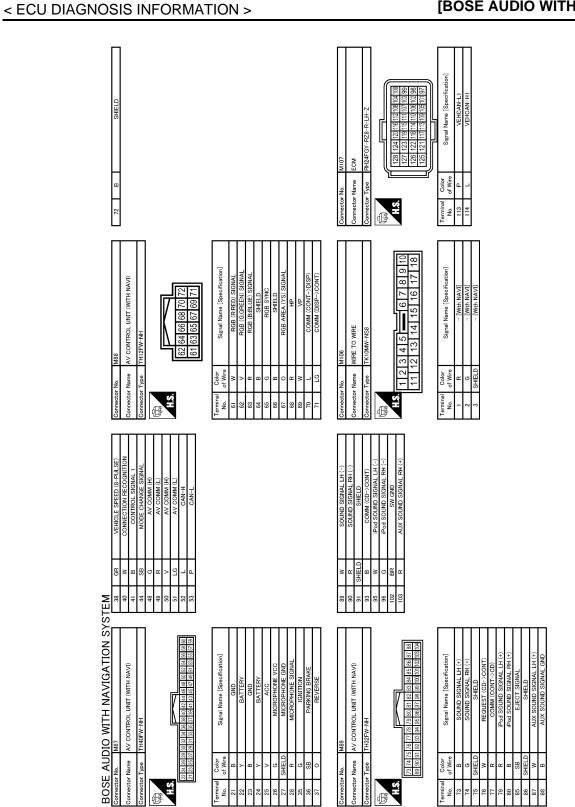
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< ECU DIAGNOSIS INFORMATION >

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Revision: 2008 September

Connector No. M112 Connector Name Pod SIDE Connector Type Pod SIDE	Terminal No. Color of Wire of Wire Signal Name [Specification] 1 B Pod SOUND SIGNAL LH (*) 2 R Pod SOUND SIGNAL LH (*) 2 L COMM (Fiber-ADDETER-Piped) 6 P COMM (Fiber-ADDETER-Piped) 7 W Pod SOUND SIGNAL RH (*) 9 W Pod SOUND SIGNAL RH (*) 10 BR COMM (Fiber-ADDETER-Piped) 12 W Pod SOUND SIGNAL RH (*) 13 W COMM (Fiber-ADDETER-Piped) 14 SHELD SHELD 15 G AOCESSORY DETERT 16 O AOCESSORY DETERT	Ommetor No. M116 Connector Name WRE TO WRE Connector Type W/SI6MM-NS10 M.S. Unstant and an an and an an an and an	Terminal No. Color of Wire Signal Name [Specification] 31 W - 41 O -	
STEM 14 G FP-04 SQIMD SIGNAL RH (-) 15 SHELD SHELD 16 G A COMM (H) 17 BF ANTELD SHELD 21 W FP-04 SQUMD SIGNAL RH (-) 22 G ANTERD SHELD 23 R FP-04 SQUMD SIGNAL LH (+) 24 B FP-04 SQUND SIGNAL LH (+)		- L		
BOSE AUDIO WITH NAVIGATION SYSTEM Connector Name Ped ADAPTER 111 Connector Type TH24FW NH Connector Type 110 123 1314151611718192021222224	Terminal No. Color of Wire of Wire Signal Name (Specification) 1 R Peod SOUND SIGNAL LH (+) 2 B Peod SOUND SIGNAL LH (+) 3 V ACC 4 R ACC 9 V CMMRLD 10 L COMM (Piol ADAPTER-)Feol) 11 V COMM (Peod ADAPTER-)Feol) 12 W COMM (Peod ADAPTER-)Feol) 13 W Peod SOUND SIGNAL RH (+)	Opmetter No. MI 14 Connector Name WRE: TO WRE Connector Type THI2FW-NH Connector Type THI2FW-NH List 12 11 List 12 11	Terminal No. Color of Wre Signal Name [Specification] 1 L - 2 G - 3 O - 4 SHELD - 5 W - 6 B - 7 R - 8 BR - 10 W - 11 SHIELD -	

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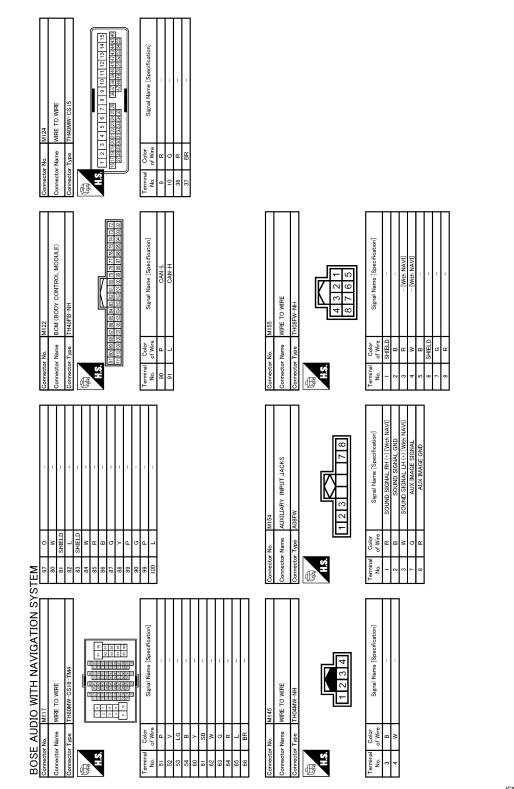
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Ma03 COMBINATION SWITCH (SPIRAL CABLE) TK08FGY 20119181771615141413 Signal Name [Specification]	(IVAAN HTTM)	100 Signal Name [Specification] SAETLUTTE ANTENNA SHIELD	A
	BR Land Control UNIT (WITH NAVI) Spen FAKRA JACK	Color Name SHELD SHELD SHELD SHELD SHELD SHELD SHELD SHELD SHELD SHELD SHELD SHELD SHELD SHELD SHER SHE	С
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	Manual Manual Manual Manual Manual Manual Communication Second Landor Communication Reconstricts Provided Review Manual M	Signal Name (Specification) Signal Name (Specification) AM-FM MAIN ANETINA AMP. ON SIGNAL	F
o Color of Wire	tor Name tor Name tor Name	Color Color 1 I I I I I I I I I I I I I I I I I I I	G
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		3 7 8 Signal Name [Specification] - (With NAVI] - [With NAVI]	I
	M862 AUXILARY INPUT JACKS AGBFW		J
	Connector No. Connector Name Connector Type		K
		tion	L
WITH NAVIGATIC o WIRE W-NH 2 3 4 5 6 8 9 10 11 12 Signal Name [Specification]		Signal Name (Specification) - (With MAV) - (With MAV) - (With MAV)	Μ
		Color Color SHELD SHELD R R R R SHELD R	AV
BOSE AUI Connector Name Connector Name Connector Type	2 4 3 3 0 3 3 0 1 5 5 6 R 1 6 BR 1 1 1 1 7 W 1 1 1 1 1 10 W 1 1 2 1	Terminal O. 0.1 0.1 1 1 2 2 3 3 3 3 4 4 7 3 8 3	0

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CD CHANGER

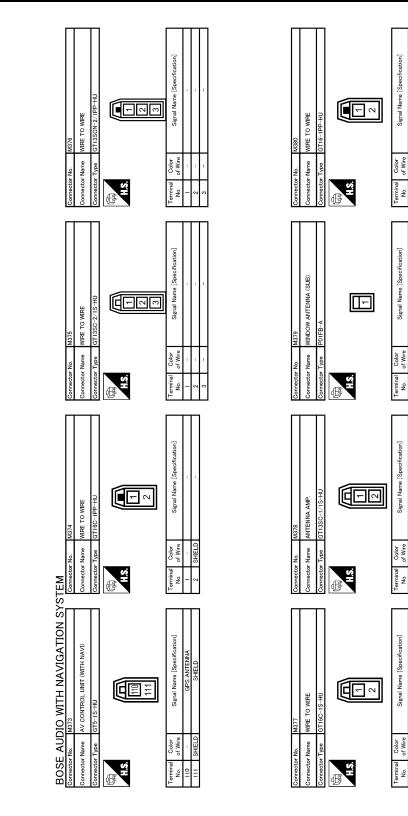
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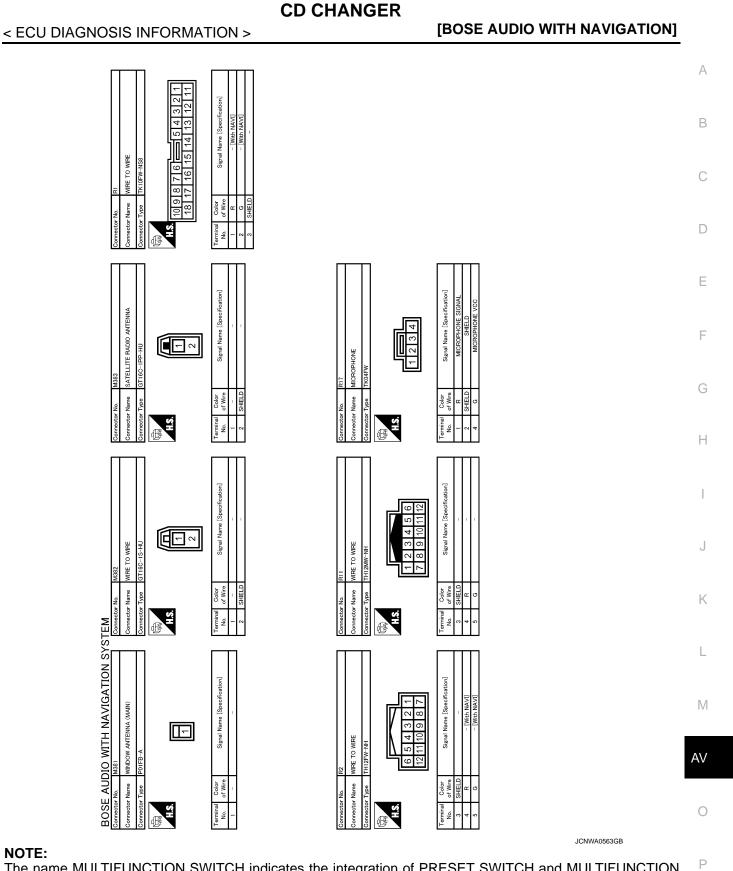
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NOTE:

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

SYMPTOM DIAGNOSIS MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:000000001911705

RELATED TO NAVIGATION

Trouble diagnosis chart by symptom

Symptoms	Check items	Possible malfunction location / Action to take
	 All switches cannot be operated. "MULTI AV" is displayed on system selection screen when the CON-SULT-III is started. 	 Multifunction switch power supply and ground circuit. AV communication circuit between AV control unit and multifunction switch. Perform CONSULT-III self-diagnosis. Refer to <u>AV-382.</u> <u>"CONSULT - III Function (MULTI AV)"</u>.
Multifunction switch and preset switch operation does not work.	 All switches cannot be operated. "MULTI AV" is not displayed on system selection screen when the CON- SULT-III is initialized. 	AV control unit power supply and ground circuit mal- function. Refer to <u>AV-414</u> , " <u>AV CONTROL UNIT : Diag- nosis Procedure</u> ".
	Only specified switch cannot be oper- ated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-di- agnosis function. Refer to <u>AV-367</u> , " <u>Diagnosis Descrip-</u> <u>tion</u> ".
Fuel economy display, vehicle	There is malfunction in the CONSULT- III self-diagnosis result.	Perform detected DTC self-diagnosis. Refer to <u>AV-382, "CONSULT - III Function (MULTI AV)"</u> .
Fuel economy display, vehicle setting operation is abnormal.	There is no malfunction in the self-di- agnosis results.	Ignition signal circuit malfunction. Refer to <u>AV-414, "AV CONTROL UNIT : Diagnosis Pro-</u> cedure".
Guide sound is not heard.	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 <u>AV-603, "Exploded</u> <u>View"</u> .

RELATED TO HANDS-FREE PHONE

- Check that the cellular phone is corresponding type (Bluetooth[®] correspond) when the hands-free related malfunction vehicle is in service before performing a diagnosis.
- There is a case that malfunction occurs due to the version change of the phone type, etc. even though it is a corresponding type. Therefore, confirm it by changing the cellular phone to another corresponding type phone, and check that it operates normally. It is necessary to distinguish whether the cause is the vehicle or cellular phone.

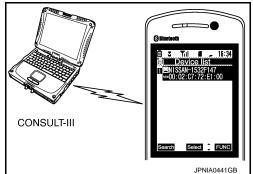
Simple check for Bluetooth® communication

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.
- 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.





2008 G35 Sedan

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Trouble diagnosis chart by symptom

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (no con- nection is displayed on the dis- play at the guide.)	Repeat the registration of cellular phone.	AV control unit malfunction. Replace AV control unit. Refer to <u>AV-603, "Exploded</u> <u>View"</u> .
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. 	AV control unit malfunction. Replace AV control unit. Refer to <u>AV-603, "Exploded View"</u> .
The other party's voice cannot	Check the "microphone speaker" in In- spection & Adjustment Mode if sound is heard.	AV control unit malfunction. Replace AV control unit. Refer to <u>AV-603</u> , "Exploded <u>View"</u> .
be heard by hands-free phone.	Check the "microphone speaker" in In- spection & Adjustment Mode if sound is not heard.	AV control unit malfunction. Replace AV control unit. Refer to <u>AV-603</u> , "Exploded <u>View"</u> .
Originating sound is not heard by the other party with hands-	Sound operation function is normal.	AV control unit malfunction. Replace AV control unit. Refer to <u>AV-603</u> , "Exploded <u>View"</u> .
free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to <u>AV-429, "Diagnosis Procedure"</u> .

RELATED TO CAMERA

Trouble diagnosis chart by symptom

Symptoms	Check items	Probable malfunction location
Camera image is not dis- played (displayed in black and nothing can be displayed)	AUX image is not displayed.	 Horizontal synchronizing (HP) signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-424</u>. "Diagnosis Procedure". Vertical synchronizing (VP) signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-425</u>. "Diagnosis Procedure".
Camera image is not shown. (Vehicle width and possible route line is displayed.)		 Camera image signal circuit between camera control unit and rear view camera. Refer to <u>AV-430</u>, "Diagnosis Procedure". Rear view camera ON signal circuit. Refer to <u>AV-431</u>, "Diagnosis Procedure".
Camera image is not dis- played. (Only warning mes- sage under area is displayed.)	There is malfunction in the CONSULT-III self-diagnosis result.	Perform detected DTC self-diagnosis. Refer to <u>AV-382, "CONSULT - III Function (MULTI AV)"</u> .
	AUX image is normal.	Camera image signal circuit malfunction between camera control unit and display unit. Refer to <u>AV-432</u> , " <u>Diagnosis Procedure</u> ".
	AUX image is not displayed.	RGB area (YS) signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-423</u> , " <u>Diagnosis Procedure</u> ".
	Select "Camera Cont." of confirmation/ Adjustment mode, Reverse Sensor is not turned ON at "Connection Confirmation".	Reverse signal circuit malfunction (camera control unit).
CAMERA image is rolling.	AUX image is also rolling.	Vertical synchronizing (VP) signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-425</u> , " <u>Diagnosis Procedure</u> ".

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Symptoms	Check items	Probable malfunction location
Camera image does not switch.	Malfunction of self-diagnosis result is in- dicated.	Camera-connection recognition signal circuit malfunc- tion between AV control unit and camera control unit. Refer to <u>AV-411, "Diagnosis Procedure"</u> .
Switch.	Malfunction of self-diagnosis result is not indicated.	Reverse signal circuit malfunction (AV control unit).
Possible route line is indicated	"Steer. Angle Sensor" turns ON at "Con- firmation/Adjustment" of on board diag- nosis item "Camera Cont." turns ON.	Sensor signal 3 circuit malfunction. Refer to <u>AV-435, "Diagnosis Procedure"</u> .
abnormally when camera im- age is displayed.	"Steer. Angle Sensor" turns ON at "Con- firmation/Adjustment" of on board diag- nosis item "Camera Cont." does not turns ON.	 Sensor signal 1circuit. Refer to <u>AV-433, "Diagnosis Procedure"</u>. Sensor signal 2 circuit. Refer to <u>AV-433, "Diagnosis Procedure"</u>.

RELATED TO RGB IMAGE

Trouble diagnosis chart by symptom

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	 All RGB images are not shown. "MULTI AV" is displayed on system selection screen when the CON-SULT-III is started. 	Perform CONSULT-III self-diagnosis. Refer to <u>AV-382, "CONSULT - III Function (MULTI AV)"</u> .
NGD image is not shown.	 All RGB images are not shown. "MULTI AV" is not displayed on system selection screen when the CON-SULT-III is started. 	AV control unit power supply and ground circuit malfunc- tion. Refer to <u>AV-414, "AV CONTROL UNIT : Diagnosis Pro-</u> <u>cedure"</u> .
	Light blue (Cyan) tint.	RGB signal (R: red) circuit malfunction between AV con- trol unit and display unit. Refer to <u>AV-419, "Diagnosis Procedure"</u> .
Color of RGB image is not proper.	Purple (Magenta) tint.	RGB signal (G: green) circuit malfunction between AV control unit and display unit. Refer to <u>AV-420, "Diagnosis Procedure"</u> .
	Screen looks yellowish.	RGB signal (B: blue) circuit malfunction between AV control unit and display unit. Refer to <u>AV-421, "Diagnosis Procedure"</u> .
RGB screen is rolling.	_	RGB synchronizing signal circuit malfunction between AV control unit and display unit. Refer to <u>AV-422</u> , " <u>Diagnosis Procedure</u> ".

RELATED TO VOICE CONTROL

Trouble diagnosis chart by symptom

Symptoms	Check items	Probable malfunction location
The voice cannot be controlled	Voice sounds at "Voice Microphone Test" of Confirmation/Adjustment mode.	AV control unit malfunction. Replace AV control unit. Refer to <u>AV-603</u> , "Exploded <u>View"</u> .
screen is displayed.	Voice does not sound at "Voice Micro- phone Test" of Confirmation/Adjustment mode.	Microphone circuit malfunction. Refer to <u>AV-429, "Diagnosis Procedure"</u> .
The voice cannot be controlled (Voice control screen is not displayed).	Steering switch's "SOURCE", "MENU UP", "MENU DOWN switch works,", "EN- TER" but" _w ≨"it does not work.	Steering switch malfunction. Replace steering switch. Refer to <u>AV-616, "Exploded</u> <u>View"</u> .
	Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "⊮≨", "EN- TER"switches do not work.	Steering switch signal A circuit malfunction. Refer to <u>AV-436, "Diagnosis Procedure"</u> .
	All steering switches do not work.	Steering switch signal GND circuit malfunction. Refer to <u>AV-440</u> , "Diagnosis Procedure".

< SYMPTOM DIAGNOSIS >

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 malfunction between AV control unit and preset switch. Refer to <u>AV-428. "Diagnosis Procedure"</u> .
	The CD changer magazine can be re- moved.	Request signal circuit.Communication signal circuit.
It cannot be switched to CD changer mode.	The CD changer magazine cannot be removed.	CD changer power supply and ground circuit. Refer to <u>AV-417</u> , "CD CHANGER : Diagnosis Proce- dure".
	No sound from all speakers.	 Amp. ON signal circuit. BOSE amp. power supply and ground circuit. Refer to <u>AV-416, "BOSE AMP. : Diagnosis Proce- dure"</u>.
Audio sound is not heard.	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 woofer amp.
	Sound is not heard from center speaker.	Sound signal center speaker circuit.
	Sound is heard only from specific places (RH front, RH rear, LH front and LH rear).	Sound signal circuit of suspect system.
It does not change to "Driver's Audio Stage" mode.		Mode change signal circuit. Refer to <u>AV-427, "Diagnosis Procedure"</u> .
	There is malfunction in the CONSULT- III self-diagnosis result.	Perform CONSULT-III self-diagnosis. Refer to <u>AV-382, "CONSULT - III Function (MULTI AV)"</u>
Satellite radio is not received.	There is no malfunction in the CON- SULT-III self-diagnosis result.	 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 <u>AV-613, "Exploded View"</u>. 4. Replace the AV control unit. Refer to <u>AV-603, "Exploded View"</u>.
AM/FM radio is not received.	Other audio sounds are normal.	Antenna amp. ON signal circuit.Antenna feeder.

RELATED TO iPod[®]

Trouble diagnosis chart by symptom

Connect another iPod[®] and check if the symptom is reproduced or not. If the symptom is reproduced, diagnose the vehicle. If no malfunction is detected, replace the iPod harness. **NOTE:**

It is unable to check that between iPod[®] and iPod harness.

Symptoms	Check items	Possible malfunction location / Action to take
The sound of iPod [®] is not heard.	Other audio sounds are normal.	 iPod sound signal circuit between AV control unit and iPod adapter. iPod sound signal circuit between iPod[®] and iPod adapter.
It does not change to iPod mode.	There is malfunction in the CONSULT- III self-diagnosis.	Perform CONSULT-III self-diagnosis. Refer to <u>AV-382, "CONSULT - III Function (MULTI AV)"</u> .

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[BOSE AUDIO WITH NAVIGATION]

AV

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< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Symptoms	Check items	Possible malfunction location / Action to take
"iPod is not connected" is dis- played when it comes to iPod mode.	Connected to iPod [®] .	iPod connection recognition signal circuit between iP- od [®] and iPod adapter.
iPod [®] cannot charge the bat- tery.	_	iPod battery charge circuit between iPod [®] and iPod adapter.
The title of music file in the iP- od [®] is not indicated.		
Accessing the iPod [®] is un- available from the vehicle.	·	Communication circuit between iPod [®] and iPod adapter.

RELATED TO STEERING SWITCH

Trouble diagnosis chart by symptom

Symptoms	Probable malfunction location	
None of the steering switch operations work.	Steering switch signal GND circuit malfunction. Refer to <u>AV-440, "Diagnosis Procedure"</u> .	
Only specified switch (1) cannot be operated.	Steering switch malfunction. Refer to <u>AV-616, "Exploded View"</u> .	
Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "vý", "ENTER"switches do not work.	Steering switch signal A circuit malfunction. Refer to <u>AV-436, "Diagnosis Procedure"</u> .	
Steering switch's "", "VOL UP", "VOL DOWN", """ switches do not work.	Steering switch signal B circuit malfunction. Refer to <u>AV-438, "Diagnosis Procedure"</u> .	

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 circuit (auxiliary input jacks to AV control unit).
Image is not displayed when AUX mode is selected.	Camera image is displayed.	AUX image signal circuit malfunction. Refer to <u>AV-426, "Diagnosis Procedure"</u> .

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

INFOID:000000001911706

[BOSE AUDIO WITH NAVIGATION]

NOTE:

For Navigation system operation information, refer to Navigation system Owner's Manual.

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
	The brightness is at the lowest setting.	Adjust the brightness of the display.
No image is displayed.	The systems in the video mode.	Push <disc-aux></disc-aux> to change the mode.
	The display is turned off.	Push <day night=""> to turn on the display.</day>
	The volume is not set correctly, or it is turned off.	Adjust the volume of voice guidance.
No voice guidance is available. Or The volume is too high or too low.	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.	Push <map></map> .
The screen is too dim. The move- ment 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.

NORMAL OPERATING CONDITION

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 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.
The system does not recognize your com- mand.	You are speaking before the voice recognition is ready	Push and release " \swarrow " switch on the steering switch, and speak a command after the tone sounds.
or The system recognizes your command incor- rectly	8 seconds or more have passed after you pushed and released " $\sqrt{2}$ " switch on the steering switch.	Make sure to speak a command within 8 sec- onds after you push and release "w≨" 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.	If the air conditioner is set to "Auto", the fan speed is automatically lowered and voice com- mands can be recognized more easily. Lower the fan speed as necessary or set the air conditioner to "Auto".

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.

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< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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
	1. Ensure that the command format is valid.
Displays "COMMAND NOT REC- OGNIZED" or the system fails to interpret the command correctly.	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 con- firmed 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
	1. Ensure that the command is valid.
System fails to interpret the com- mand correctly.	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	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the "List Names" command.
the wrong voicetag	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/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 DIAGNOSIS >

Symptom	Cause and Counter measure	
	Check if the CD/CF was inserted correctly.	
	Check if the CD/CF 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.	
Cannot play	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 addi- tion, 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/CF is protected by copyright.	
Poor sound quality	Check if the CD/CF is scratched or dirty.	
It takes a relatively long time be- fore the music starts playing.	If there are many folder or file levels on the MP3/WMA CD/CF, 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 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.

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 dis- played multiple times, and the names appear- ing on the screen may be different because of a processing procedure.	This is not a malfunction.
The vehicle icen is not displayed in	The vehicle was transported after the ignition switch was pushed 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 vehicle icon is not displayed in the correct position.	The position and direction of the vehicle icon may be incorrect depending on the driving en- vironments and the levels of positioning accu- racy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the posi- tion 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 ve- hicle icon on the nearest road available.	Updated road information will be included in the next version of the map data.

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< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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 us- ing <day night=""> when you turn on the head- lights.</day>
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Push <map></map> .
The vehicle icon is not displayed.	The current location map screen is not displayed.	Push <map></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 approximate- ly 19 MPH for about 30 minutes) to automat- ically correct the vehicle icon position. If this does not correct the vehicle icon posi- tion, 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 calculation has not yet been performed.	Set the destination and perform route calculation.
Route information is not dis-	You are not driving on the suggested route.	Drive on the suggested route.
played.	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) sug- gests the same route as the one previously suggested.	Route calculations took priority conditions into consider- ation, 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 neces- sary.
	Roads near the destination cannot be calculated.	Reset the destination to a main or or- dinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
The suggested route is not dis- played.	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.
An indirect route is suggested.	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 or- dinary road, and recalculate the route.

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Symptom	Possible cause	Possible solution	^
The landmark information does not correspond to the ac- tual information.	This may be caused by insufficient or incorrect map data.	Updated information will be included in the next version of the data.	A
The suggested route does not exactly connect to the starting point, waypoints, or destina- tion.	There is no data for route calculation closes to these loca- tions.	Set the starting point, waypoints and destination on a main road, and per- form route calculation.	В

RELATED TO VOICE GUIDANCE

Symptom	Possible cause	Possible solution
	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.
Voice guidance is not available	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.

RELATED TO TRAFFIC INFORMATION

Symptom	Possible cause	Possible solution
	The traffic information is not set to on.	Set the traffic information to on.
	You are in an area where traffic information is not available	Scroll to an area where traffic information is available
The traffic information is not displayed	You have not subscribed to XM NavTraffic or, your sub- scription to XM NavTraffic has expired.	Check your subscription status of XM NavTraffic.
	The map scale is set at a level where the display of icons is impossible.	Check that the map scale is set at a level in which the display of icons is possible.
With the automatic de- tour route search ON, no detour route is set to avoid congested areas.	There is no faster route compared to the current route, based on the road network and traffic information.	The automatic detour search is not intended for avoiding traffic jams. It searches for the fastest route taking into consideration such things as traffic jams.
The route does not avoid road section with traffic information stat- ing it is closed due to road construction.	The navigation system is designed not to avoid this event because the actual period of closure may differ from the declared roadwork period.	Observe the actual road condition and follow the instructions on road for detour when necessary. If the road closure is for certain, use detour function and set the detour distance to avoid the closed road section.
Traffic information dis- played differs from in- formation from other media (e.g. radio).	Other media may use different information sources.	Observe the actual road conditions and regula- tions. Always observe safe driving practices and follow all traffic regulations.

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< PRECAUTION > PRECAUTION PRECAUTIONS

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

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:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which 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 the "SRS AIR BAG".
- Do not 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:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT 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:000000001911749

AV COMMUNICATION SYSTEM

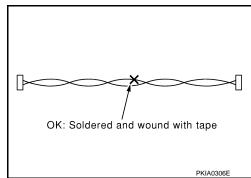
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000001911750

AV COMMUNICATION SYSTEM

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

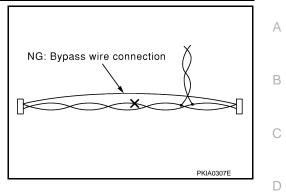


PRECAUTIONS

< PRECAUTION >

• 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.)

[BOSE AUDIO WITH NAVIGATION]



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< PREPARATION > PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000001911751

Tool name		Description
Power tool	PBIC0191E	Loosening bolts and nuts

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

REMOVAL

Refer to IP-11, "Exploded View".

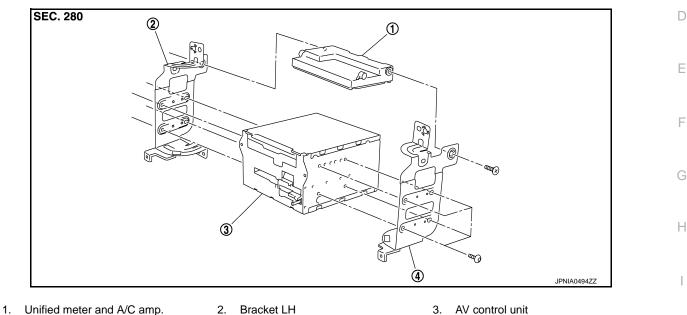
DISASSEMBLY



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4. Bracket RH

Removal and Installation

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.

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< REMOVAL AND INSTALLATION >

DISPLAY UNIT

Exploded View

Refer to IP-11, "Exploded View".

Removal and Installation

REMOVAL

- 1. Remove cluster lid D. Refer to IP-11, "Exploded View".
- 2. Remove display unit with bracket as a single unit.

INSTALLATION

Installation is the reverse order of removal.

[BOSE AUDIO WITH NAVIGATION]

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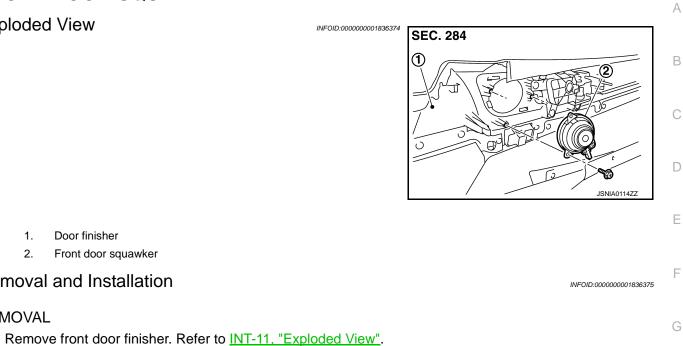
INFOID:000000001836373

FRONT DOOR SQUAWKER

< REMOVAL AND INSTALLATION >

FRONT DOOR SQUAWKER

Exploded View



1. 2.

REMOVAL

1.

2.

Remove front door squawker from door finisher. **INSTALLATION**

Door finisher

Removal and Installation

Front door squawker

Installation is the reverse order of removal.

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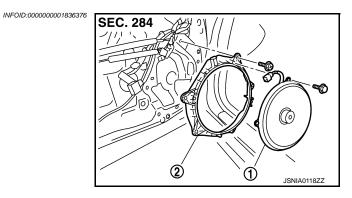
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< REMOVAL AND INSTALLATION >

FRONT DOOR WOOFER

Exploded View



- 1. Front door woofer
- 2. Woofer bracket

Removal and Installation

REMOVAL

- 1. Remove front door finisher. Refer to INT-11, "Exploded View".
- 2. Remove front door woofer from woofer bracket.

INSTALLATION

Installation is the reverse order of removal.

INFOID:000000001836377

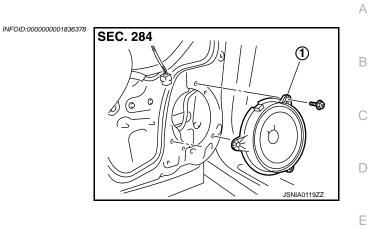
REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

REAR DOOR SPEAKER

Exploded View



1. Rear door speaker

Removal and Installation

REMOVAL

- 1. Remove rear door finisher. Refer to INT-11, "Exploded View".
- 2. Remove rear door speaker from rear door.

INSTALLATION

Installation is the reverse order of removal.

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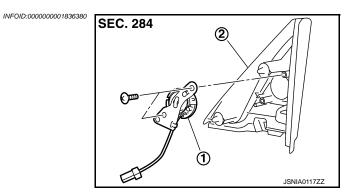
AV

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< REMOVAL AND INSTALLATION >

TWEETER

Exploded View



- 1. Tweeter
- 2. Corner cover inner

Removal and Installation

INFOID:000000001836381

REMOVAL

- 1. Remove front door finisher, and then remove corner cover inner. Refer to INT-11, "Exploded View".
- 2. Remove tweeter from corner cover inner.

INSTALLATION

Installation is the reverse order of removal.

CENTER SPEAKER

[BOSE AUDIO WITH NAVIGATION]

< REMOVAL AND INSTALLATION > **CENTER SPEAKER**

Exploded View

OENTER OF EARER				А
Exploded View	INFOID:000000001836382	SEC. 284		1
			/	В
				С
		0	JSNIA0120ZZ	D
1. Center speaker				Е
Removal and Installation			INFOID:000000001836383	F
REMOVAL				
1. Remove upper grille, and then remove center sp INSTALLATION	beaker. Refer to <u>I</u>	P-11, "Exploded View".		G
Installation is the reverse order of removal.				
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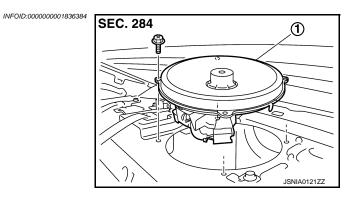
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< REMOVAL AND INSTALLATION >

REAR WOOFER Exploded View



1. Rear woofer

Removal and Installation

REMOVAL

- 1. Remove rear parcel shelf finisher. Refer to INT-19, "Exploded View".
- 2. Remove rear woofer from rear parcel shelf.

INSTALLATION

Installation is the reverse order of removal.

INFOID:000000001836385

[BOSE AUDIO WITH NAVIGATION]

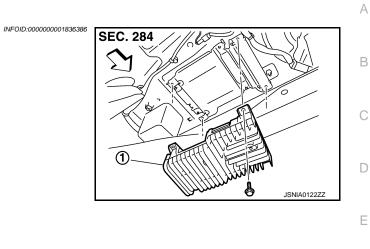
< REMOVAL AND INSTALLATION >

BOSE amp.

BOSE AMP.



1.



<⊐: Vehicle front	
Removal and Installation	INFOID:000000001836387
 REMOVAL 1. Remove trunk front finisher. Refer to <u>INT-27, "Exploded View"</u>. 2. Remove BOSE amp. from rear parcel shelf. INSTALLATION Installation is the reverse order of removal. 	

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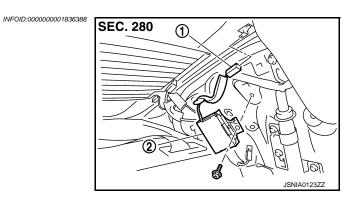
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< REMOVAL AND INSTALLATION >

ANTENNA AMP.



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

Removal and Installation

REMOVAL

- 1. Remove rear pillar finisher LH. Refer to INT-14, "Exploded View".
- 2. Remove antenna amp. from rear pillar LH.

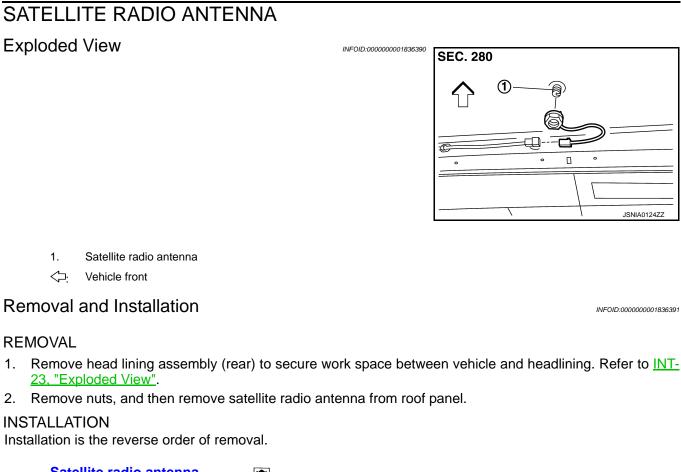
INSTALLATION

Installation is the reverse order of removal.

INFOID:000000001836389

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >



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.

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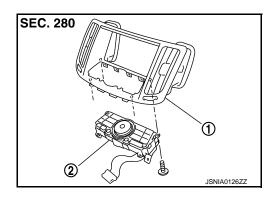
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MULTIFUNCTION SWITCH

Exploded View

REMOVAL Refer to <u>IP-11, "Exploded View"</u>. DISASSEMBLY



- 1. Center ventilator grille
- 2. Multifunction switch

Removal and Installation

REMOVAL

- 1. Remove cluster lid D. Refer to <u>IP-11, "Exploded View"</u>.
- 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.

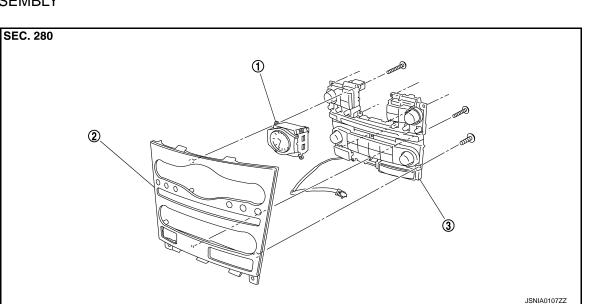
INFOID:000000001836393

< REMOVAL AND INSTALLATION > PRESET SWITCH

Exploded View

REMOVAL Refer to <u>IP-11, "Exploded View"</u>.

DISASSEMBLY



1. Clock

2. Cluster lid C

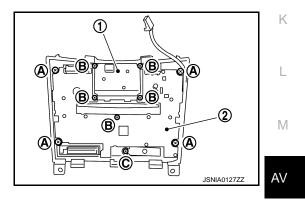
Preset switch

3.

Removal and Installation

REMOVAL

- 1. Remove cluster lid C. Refer to IP-11, "Exploded View".
- 2. Remove preset switch (2) from cluster lid C.
 - 1. Clock
 - A. Screw
 - B. Screw
 - C. Screw



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.

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[BOSE AUDIO WITH NAVIGATION]

INFOID:000000001836394

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STEERING SWITCH

Exploded View

Refer to ST-17, "Exploded View".

Removal and Installation

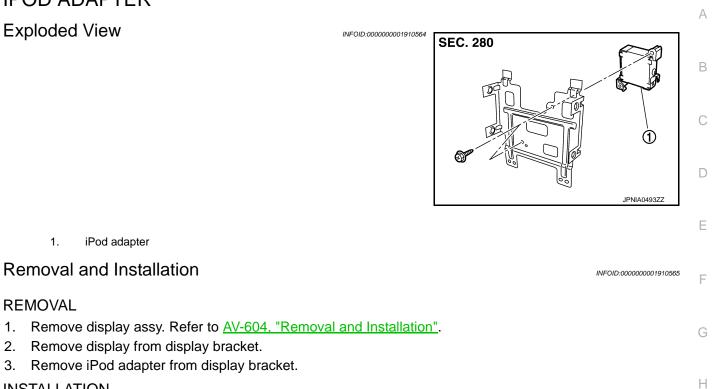
REMOVAL Refer to <u>ST-17, "Removal and Installation"</u>.

INSTALLATION Installation is the reverse order of removal. INFOID:000000001836396

[BOSE AUDIO WITH NAVIGATION]

< REMOVAL AND INSTALLATION > **IPOD ADAPTER**

Exploded View



INSTALLATION

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REMOVAL

1.

2.

3.

Install in the reverse order of removal.

iPod adapter

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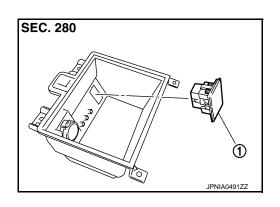
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IPOD CONNECTOR

Exploded View

REMOVAL Refer to IP-22, "Exploded View". DISASSEMBLY



1. iPod connector

Removal and Installation

INFOID:000000001910567

REMOVAL

- Remove center console. (M/T models) Refer to IP-22, "Exploded View". 1. Remove center console. (A/T models) Refer to IP-22, "Exploded View".
- 2. Push the pawl from the back of center console to remove iPod connector.

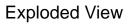
INSTALLATION

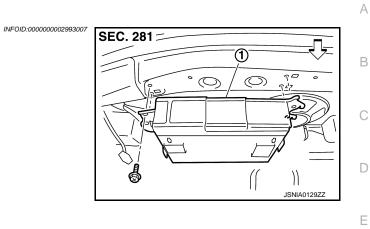
Install in the reverse order of removal.

[BOSE AUDIO WITH NAVIGATION]

< REMOVAL AND INSTALLATION >

CD CHANGER





1. CD changer	
<□. Vehicle front	
Removal and Installation	INFOID:000000002993008
REMOVAL	
1. Remove trunk front finisher. Refer to INT-27. "Exploded View".	
2. Remove CD changer from rear parcel shelf.	
INSTALLATION	
Installation is the reverse order of removal.	

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AUXILIARY INPUT JACKS

< REMOVAL AND INSTALLATION >

AUXILIARY INPUT JACKS

Exploded View

REMOVAL Refer to IP-22, "Exploded View". DISASSEMBLY

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Auxiliary input jacks 1.

Removal and Installation

INFOID:000000001836401

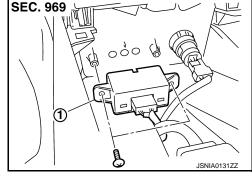
INFOID:000000001836400

REMOVAL

- 1. Remove center console. (M/T models) Refer to IP-22, "Exploded View". Remove center console cup. (A/T models) Refer to IP-22, "Exploded View".
- Remove auxiliary input jacks from center console. (M/T models) 2. Remove auxiliary input jacks from center console cup. (A/T models)

INSTALLATION

Installation is the reverse order of removal.



< REMOVAL AND INSTALLATION > MICROPHONE

Exploded View

REMOVAL Refer to INL-97, "Exploded View". DISASSEMBLY

Microphone

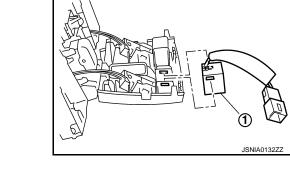
Pawl

1.

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REMOVAL

1. 2.



SEC. 283

Removal and Installation INFOID:000000001836403 Remove map lamp. Refer to INL-97, "Exploded View". Remove microphone from map lamp. **INSTALLATION** Installation is the reverse order of removal.

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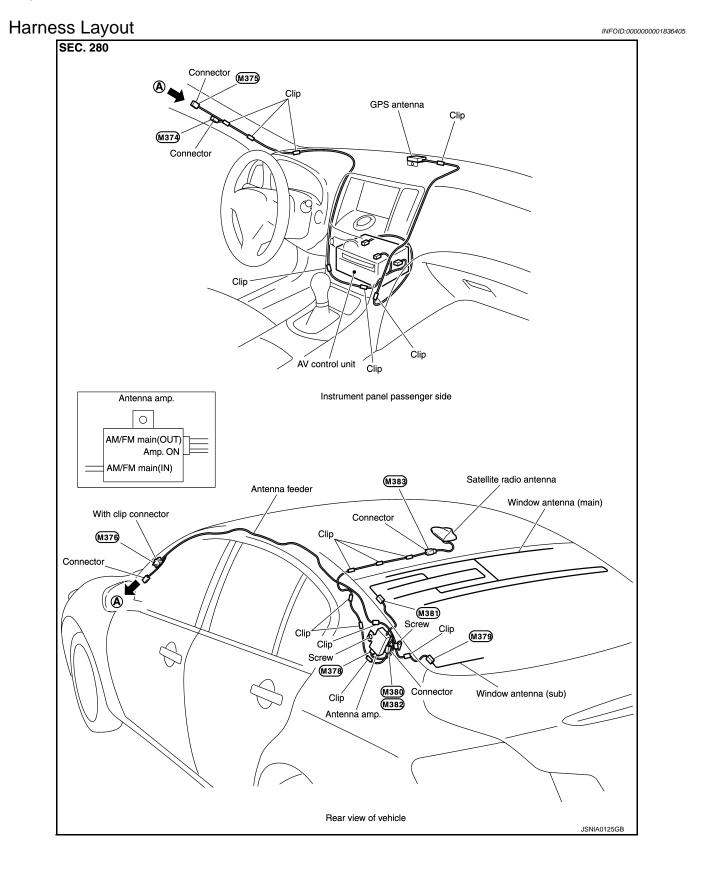
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GPS ANTENNA

Exploded View



Removal and Installation

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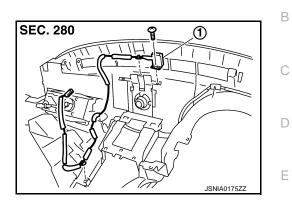
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REMOVAL

- 1. Remove instrument panel. Refer to <u>IP-11, "Exploded View"</u>.
- 2. Remove GPS antenna (1) from instrument panel.



[BOSE AUDIO WITH NAVIGATION]

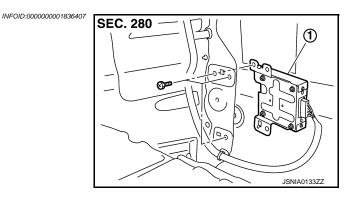
INSTALLATION Installation is the reverse order of removal.

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CAMERA CONTROL UNIT

Exploded View



1. Camera control unit

Removal and Installation

REMOVAL

1. Remove trunk side finisher (RH), and then remove camera control unit. Refer to INT-27, "Exploded View".

INSTALLATION

Installation is the reverse order of removal.

Adjustment

INFOID:000000001836409

INFOID:000000001836408

ADJUSTMENT

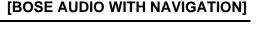
There may be a misalignment of possible route line center position of rear view monitor after removing camera control unit. Therefore, correct neutral position with the following procedure.

- 1. Steer the steering wheel to the leftmost and rightmost ends.
- 2. Drive vehicle at 30 km/h (18.6 MPH) min. speed at least 100 m (328.1 ft).

REAR VIEW CAMERA

Exploded View

REMOVAL Refer to <u>EXT-37, "Exploded View"</u>. DISASSEMBLY



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INFOID:000000001836410

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INFOID:000000001836412

1. Rear view camera

Removal and Installation

REMOVAL

- 1. Remove trunk lid finisher outer. Refer to EXT-37, "Exploded View".
- 2. Remove rear view camera from trunk lid finisher outer.

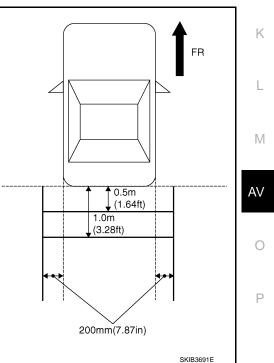
INSTALLATION

Installation is the reverse order of removal.

Adjustment

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: 20 cm (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.



REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

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

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 ""

:7

Up/Down adjustment range	: – 20 – 20
Left/Right adjustment range	: – 20 – 20

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+	+
Use DIAL to select range marking type (4/7)	
⊕ ⊕ Use arrow keys to adjust position (0,0)	

CAUTION:

Never operate other function such as pressing BACK while writing index data.

If Confirmation/Adjustment mode does not function in the above procedure, perform one of the following service to adjust the index again.

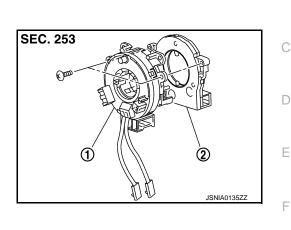
- Remove battery for five min. Then reconnect battery.
- Remove camera control unit connector for five min. Then reconnect camera control unit connector.

[BOSE AUDIO WITH NAVIGATION]

STEERING ANGLE SENSOR

Exploded View

REMOVAL Refer to <u>SR-7, "Exploded View"</u>. DISASSEMBLY



- 1. Spiral cable 2. Steering angle sensor **Removal and Installation** INFOID:000000001836414 REMOVAL Н 1. Remove spiral cable. 2. Remove steering angle sensor from spiral cable. **INSTALLATION** Installation is the reverse order of removal. Adjustment INFOID:000000001836415 J Perform 4WAS front actuator adjustment. Refer to STC-28, "4WAS FRONT ACTUATOR NEUTRAL POSI-TION ADJUSTMENT : Description" Κ
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INFOID:000000001836413

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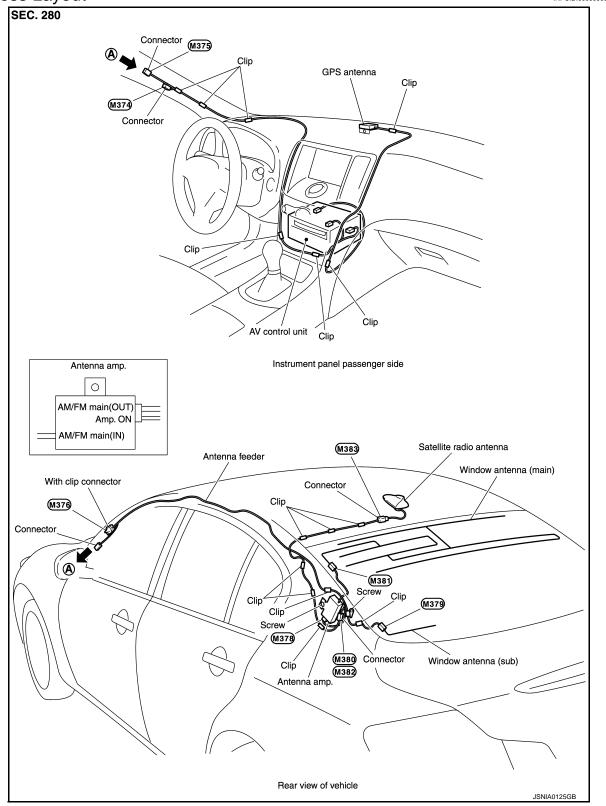
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ANTENNA FEEDER (RADIO) DN > [BOSE AUDIO WITH NAVIGATION]

< REMOVAL AND INSTALLATION >

ANTENNA FEEDER (RADIO)

Harness Layout



ANTENNA FEEDER (SATELLITE RADIO)

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

ANTENNA FEEDER (SATELLITE RADIO)

Harness Layout



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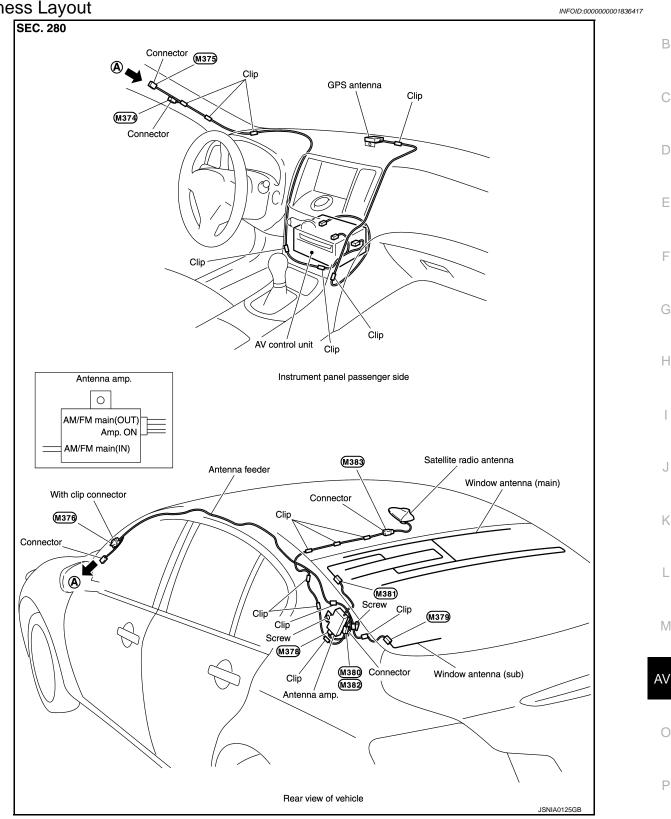
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ANTENNA FEEDER (GPS) [BOSE AUDIO WITH NAVIGATION]

< REMOVAL AND INSTALLATION >

ANTENNA FEEDER (GPS)

Harness Layout



