SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

AUDIO WITH NAVIGATION

PRECAUTION

PRECAUTIONS

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

INFOID:0000000006573346

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. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

The vehicle may be equipped with a passenger air bag deactivation switch. Because no rear seat exists where a rear-facing child restraint can be placed, the switch is designed to turn off the passenger air bag so that a rear-facing child restraint can be used in the front passenger seat. The switch is located in the center of the instrument panel, near the ashtray. When the switch is turned to the ON position, the passenger air bag is enabled and could inflate for certain types of collision. When the switch is turned to the OFF position, the passenger air bag is disabled and will not inflate. A passenger air bag OFF indicator on the instrument panel lights up when the passenger air bag is switched OFF. The driver air bag always remains enabled and is not affected by the passenger air bag deactivation switch.

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.**
- **The vehicle may be equipped with a passenger air bag deactivation switch which can be operated by the customer. When the passenger air bag is switched OFF, the passenger air bag is disabled and will not inflate. When the passenger air bag is switched ON, the passenger air bag is enabled and could inflate for certain types of collision. After SRS maintenance or repair, make sure the passenger air bag deactivation switch is in the same position (ON or OFF) as when the vehicle arrived for service.**

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.**

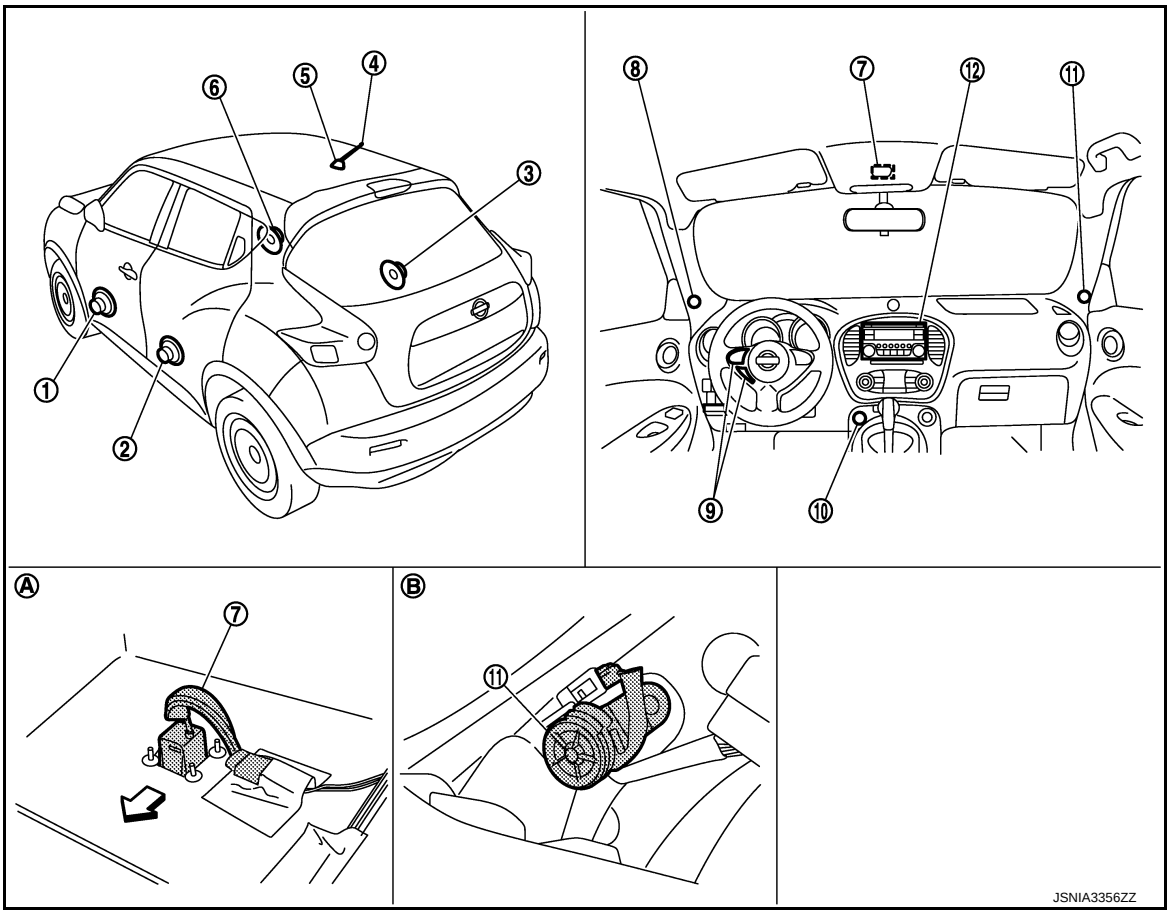
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000006414371

MODELS WITH USB CONNECTION FUNCTION

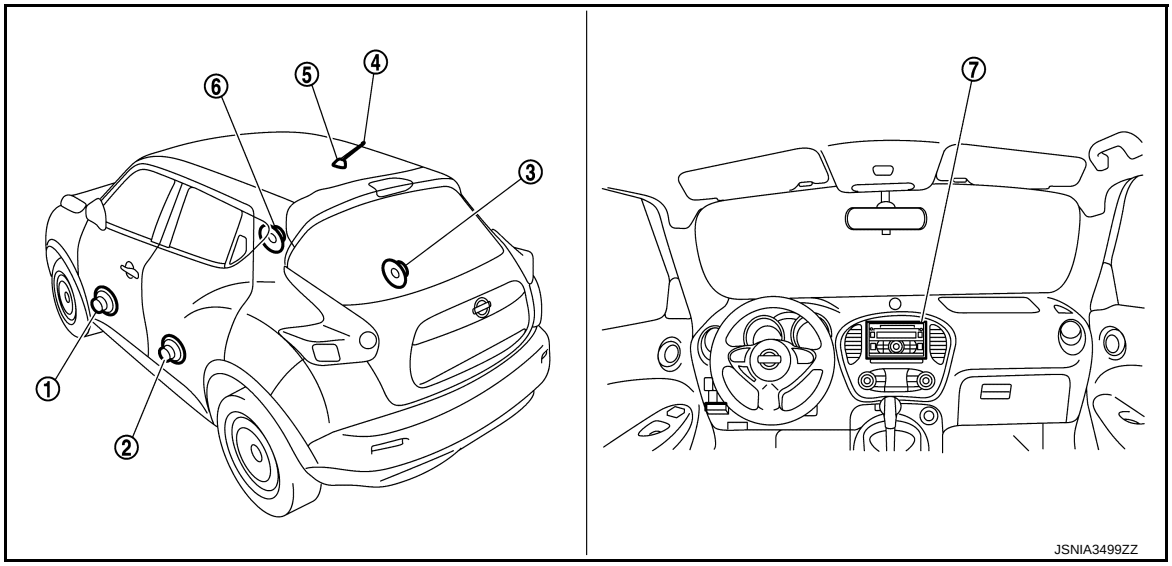


1. Front door speaker LH
2. Rear door speaker LH
3. Rear door speaker RH
4. Antenna rod
5. Antenna base (antenna amp.)
6. Front door speaker RH
7. Microphone
8. Tweeter LH
9. Steering switch
10. USB connector and AUX jack
11. Tweeter RH
12. Audio unit

A. Back of headlining
B. Front pillar finisher removed condition

⇦: Vehicle front

MODELS WITHOUT USB CONNECTION FUNCTION



1. Front door speaker LH
2. Rear door speaker LH
3. Rear door speaker RH
4. Antenna rod
5. Antenna base (antenna amp.)
6. Front door speaker RH
7. Audio unit

Component Description

INFOID:0000000006414372

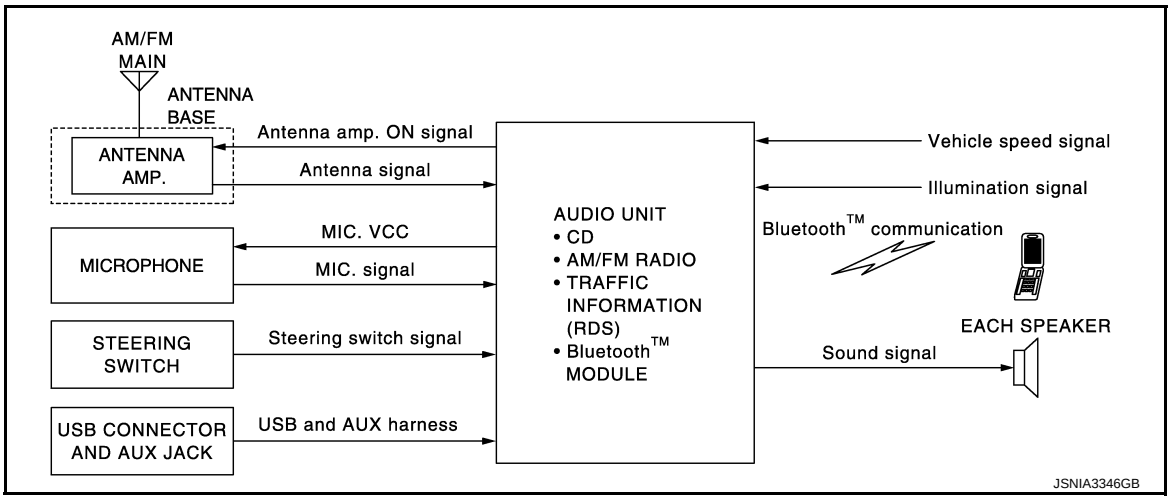
Part name	Description	
Audio unit	Models with USB connection function	Controls audio system and hands-free phone system functions.
	Models without USB connection function	Controls audio system function.
Steering switch	• Operations for audio and hands-free phone are possible. • Steering switch signal (operation signal) is output to audio unit.	
Front door speaker	• Inputs sound signal from audio unit. • Outputs mid and low range sounds.	
Tweeter	• Inputs sound signal from audio unit. • Outputs high range sounds.	
Rear door speaker	• Inputs sound signal from audio unit. • Outputs high, mid and low range sounds.	
Antenna base	• An antenna base integrated with antenna amp. • Radio signal received by rod antenna is amplified and transmitted to audio unit. • Power (antenna amp. ON signal) is supplied from audio unit.	
Microphone	• Used for hands-free phone operation. • Mic. signal is transmitted to audio unit. • Power (Mic. VCC) is supplied from audio unit.	
USB connector and AUX jack	• Sound signal of auxiliary input is transmitted to audio unit. • Sound signal of USB input is transmitted to audio unit.	

SYSTEM

System Diagram

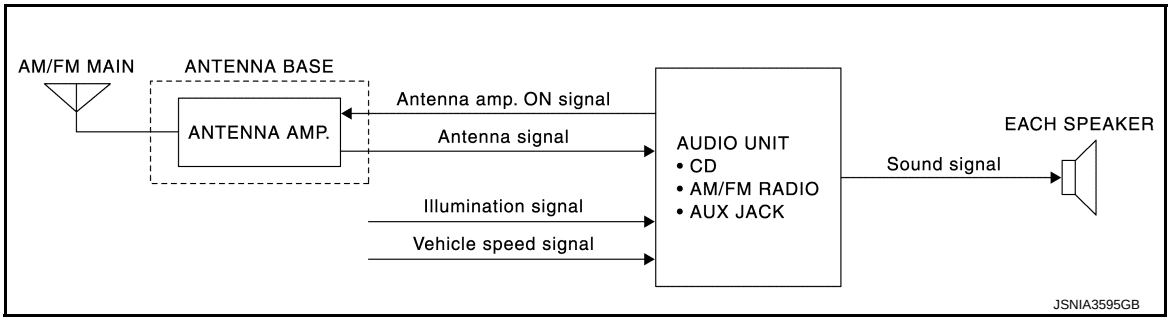
INFOID:0000000006414373

MODELS WITH USB CONNECTION FUNCTION



NOTE:
An antenna base integrated with radio antenna amp. is adopted.

MODELS WITHOUT USB CONNECTION FUNCTION



NOTE:
An antenna base integrated with radio antenna amp. is adopted.

System Description

INFOID:0000000006414374

AUDIO SYSTEM

Audio functions

×: Applicable

		Models without USB connection function	Models with USB connection function
Audio function	AM/FM radio	×	×
	Traffic information (RDS)	×	×
	CD	×	×
	Speed sensitive volume	×	×
	AUX connection	×	×
	USB connection	—	×
	Bluetooth™ audio	—	×
Hands-free phone system		—	×
Anti-theft system (anti-theft code input)		—	×
Anti-theft system (NATS audio link)		×	—

AUDIO FUNCTION

AM/FM Radio
- AM/FM radio tuner is built into audio unit.
- Radio signals are received by radio antenna, next they are amplified by antenna amp., and finally the they are input to audio unit. (Antenna amp. is built into antenna base.)
- Audio unit outputs the sound signal to each speaker.

CD
- CD function is built into audio unit.
- Audio unit outputs sound signal to each speaker when CD is inserted to audio unit.

Speed Sensitive Volume
- Volume level of this system gone up and down automatically in proportion to the vehicle speed.
- The control level can be selected by the customer.

Auxiliary input
- When the external device is connected to the auxiliary (AUX) input jack of the audio unit, the external device inputs a sound signal to the audio unit.
- When AUX mode is selected, audio unit outputs sound signal to each speaker.

USB Connection
- iPod® or music files in USB memory can be played.
- iPod® sound signals are transmitted from USB connector to each speaker via audio unit.
- iPod® is recharged when connected to USB connector.

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

Bluetooth™ Audio Mode
- Bluetooth™ audio function is built into audio unit.
- Bluetooth™ audio can play music data in the portable audio by means of Bluetooth™ communications between the portable audio and the audio unit.
- When Bluetooth™ audio mode is selected, audio unit outputs sound signal to each speaker.

HANDS-FREE PHONE SYSTEM
- Hands-free communication can be operated by connecting using Bluetooth™ with cellular phone.
- Operation is performed by audio switch or steering switch.

When a call is originated
- Spoken voice sound output from the microphone (mic. signal) is input to audio unit. Audio unit outputs to cellular phone with Bluetooth™ communication as a TEL voice signal. Voice sound is then heard at the other side.

When receiving a call
- Voice sound is input to own cellular phone from the other side. TEL voice signal is output to front speaker, and the signal is input to audio unit by establishing Bluetooth™ communication from cellular phone.

ANTI-THEFT SYSTEM (ANTI-THEFT CODE INPUT)
- The audio unit is equipped with the anti-theft system.
- The audio unit operates after authenticating a fixed four-digit anti-theft code.
- After removing the battery of the audio unit, the authentication of the anti-theft code is required. The operating procedure: refer to AV-23, "Work Procedure".
- When the input anti-theft code was not authenticated, anti-theft code input can be done up to 8 attempts, counting the below operation as an attempt.

Number of attempts	Control
1–2	“INCORRECT PIN PLEASE RE-ENTER PIN” is indicated. Press the “OK” button to back to anti-theft code entry screen.
3	The operation is locked up (and the display indicates a countdown) and back to anti-theft code entry screen for 60 minutes.

CAUTION:
- **If the attempts exceed 8, “system secure please contact dealer” is displayed and anti-theft code input cannot be performed.**
- **The number of failed attempts is not reset and accumulated after any authentication.**

ANTI-THEFT SYSTEM (NATS AUDIO LINK)

Description

The link with the BCM implies that the audio unit can basically only be operated if connected to the matching BCM to which the audio unit was initially fitted on the production line.
Since radio operation is impossible after the link with the NATS is disrupted, theft of the audio unit is basically useless since special equipment is required to reset the audio unit.

Initialization Process for Audio Units That Are Linked to the BCM

New audio units will be delivered to the factories in the “NEW” state, i.e. ready to be linked with the BCM. When the audio unit in “NEW” state is first switched on at the factory, it will start up communication with the BCM and send a code (the “Audio Unit Code”) to the BCM. The BCM will then store this code, which is unique to each audio unit, in its (permanent) memory.
Upon receipt of the code by the BCM, the NATS will confirm correct receipt of the audio unit code to the audio unit. Hereafter, the audio unit will operate as normal.
During the initialization process, “NEW” is displayed on the audio unit display. Normally though, communication between audio unit and BCM takes such a short time (300 ms) that the audio unit seems to switch on directly without showing “NEW” on its display.

Normal Operation

Each time the audio unit is switched on afterwards, the audio unit code will be verified between the audio unit and the NATS before the audio unit becomes operational. During the code verification process, “WAIT” is shown on the audio unit display. Again, the communication takes such a short time (300 ms) that the audio unit seems to switch on directly without showing “WAIT” on its display.

When The Radio Is Locked

In case of the audio unit being linked with the vehicle's NATS (immobilizer system), disconnection of the link between the audio unit and the BCM will cause the audio unit to switch into the lock (“SECURE”) mode in which the audio unit is fully inoperative. Hence, repair of the audio unit is basically impossible, unless the audio unit is reset to the “NEW” state for which special decoding equipment is required.
Clarion has provided their authorized service representatives with so called “decoder boxes” which can bring the audio unit back to the “NEW” state, enabling the audio unit to be switched on after which repair can be performed. Subsequently, when the repaired audio unit is delivered to the final user again, it will be in the “NEW” state to enable re-linking the audio unit to the vehicle's immobilizer system. As a result of the above, repair of the audio unit can only be done by an authorized Clarion representative (when the owner of the vehicle requests repair and can show personal identification).

Service Procedure

Item	Service procedure	Description
Battery disconnection	No additional action required.	—
Radio needs repair	Repair needs to be done by authorized representative of radio manufacturer since radio cannot be operated unless it is reset to NEW state, using special decoding equipment.	—
Replacement of radio by new part	No additional action required.	Radio is delivered in “NEW” state.
Transferring radio to another vehicle/replacement of radio by an old part	Radio needs to be reset to NEW state by authorized representative of radio manufacturer.	—
Replacement of BCM	Radio needs to be reset to NEW state by authorized representative of Clarion.	After switching on the radio, it will display “SECURE” after 1 minute.
No communication from BCM to radio	1. Check NATS system if NATS is malfunctioning. 2. Reset radio to “NEW” state by authorized representative of Clarion after NATS is repaired.	The radio will display “SECURE” after 1 minute after switching on the radio. Further use of radio is impossible until communication is established again, or after radio is reset by authorized representative of Clarion.
When initialized between ECM and BCM.	Radio needs to be reset to “NEW” status by authorized representative of Clarion.	It will display “SECURE” after 1 minute after switching on the radio.

DIAGNOSIS SYSTEM (AUDIO UNIT)
MODELS WITH USB CONNECTION FUNCTION
MODELS WITH USB CONNECTION FUNCTION : On Board Diagnosis Function

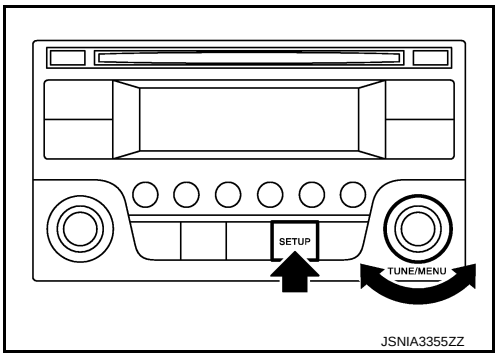
INFOID:0000000006418485

Self-diagnosis mode can check the following items.

Diagnosis item		Description
REG-AF		ON/OFF setting of the following items can be performed. • AF • REG
Diagnostic	Unit Configuration	The current system status is displayed.
	Monitor	Comparison can be performed between actual vehicle signal and signal recognized by the audio system.
	Faults	Audio system malfunction detected by audio unit can be checked.
	Self Check	• Audio unit internal condition (Bluetooth module, CD mechanism, power IC and audio unit front panel buttons) can be diagnosed. • Connection status between audio unit and audio system components (radio antenna, door speakers and microphone) can be diagnosed.
Region Setting		Reception frequency band (the reception area) setting of the radio can be set.
Radio Monitor		The reception state of the radio signal can be checked.
LCD Contrast		The contrast setting of the display can be adjusted.

METHOD OF STARTING

1. Start the engine.
2. Turn OFF audio.
3. While pressing the “SET UP” switch, turn the MENU dial counterclockwise 3 clicks or more first, then clockwise and counterclockwise 3 clicks or more, respectively. (After the diagnosis mode starts, the initial screen of the diagnosis mode appears.)



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

REG-AF

ON/OFF setting of the following items can be performed.
• AF
• REG

Diagnostic

Unit Configuration
The current system status is displayed.

Check item list

items	Display	Description
EQ Setting	X12C	Status of EQ profile selection signal. “X12C” is displayed for this vehicle.
SSV	2 Pulse/8 Pulse	Input value setting of vehicle speed signal can be checked.
Antenna	Passive/Active	Input signal setting of radio antenna can be checked.
Clock	OFF/ON	The ON/OFF setting of the clock on the display can be checked.

items	Display	Description
Tuner Region	• Europe • Pacific • South America • Japan • North America	Reception frequency band (the reception area) setting of the radio can be checked.
Steering Wheel Type	X12C	Status of steering wheel (steering switch) type selection signal. “X12C” is displayed for this vehicle.

Monitor

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

Check item list

Items	Description
Battery Voltage	Input value of battery voltage can be checked.
Vehicle Speed	Input value of vehicle speed signal can be checked.
USB connected	USB device connection to the audio system can be checked.
CD PICK UP TEMP	The temperature of the CD pickup inside audio unit can be checked.
FACIA BUTTON STATUS	The button operation status of the audio unit front panel can be checked.
Illumination	Illumination signal input status to the audio unit can be checked.

Faults

Audio system malfunction detected by audio unit can be checked.

Error item list

Error item	Description	Possible malfunction factor/Action to take
R-R-OPEN	Sound signal circuits between audio unit and rear door speaker RH are malfunctioning.	Sound signal circuits between audio unit and rear door speaker RH.
R-R-SHORT-G		
R-R-SHORT-B		
R-R-SHORT-L		
F-R-OPEN	When either one of the following items is detected: • sound signal circuits between audio unit and front door speaker RH are malfunctioning. • sound signal circuits between audio unit and tweeter RH are malfunctioning.	• Sound signal circuits between audio unit and front door speaker RH. • Sound signal circuits between audio unit and tweeter RH.
F-R-SHORT-G		
F-R-SHORT-B		
F-R-SHORT-L		
R-L-OPEN	Sound signal circuits between audio unit and rear door speaker LH are malfunctioning.	Sound signal circuits between audio unit and rear door speaker LH.
R-L-SHORT-G		
R-L-SHORT-B		
R-L-SHORT-L		
F-L-OPEN	When either one of the following items is detected: • sound signal circuits between audio unit and front door speaker LH are malfunctioning. • sound signal circuits between audio unit and tweeter LH are malfunctioning.	• Sound signal circuits between audio unit and front door speaker LH. • Sound signal circuits between audio unit and tweeter LH.
F-L-SHORT-G		
F-L-SHORT-B		
F-L-SHORT-L		
ANT-SHORT-G	Antenna feeder between audio unit and antenna base is malfunctioning.	Antenna feeder between audio and antenna base.
ANT-OPEN		
FASCIA-SHORT-G	Button of the audio unit front panel is malfunctioning.	Replace audio unit. Refer to AV-38, "Removal and Installation".
BT-OK	Bluetooth module protocol operation is normal.	—

Error item	Description	Possible malfunction factor/Action to take
BT-NOK	Bluetooth module protocol operation is not normal.	Replace audio unit if the malfunction occurs constantly. Refer to AV-38, "Removal and Installation".
CD-TEMP-Active	Indicates operation condition of the CD pick up (inside audio unit) protecting function from high/low temperature.	When the temperature recovers from protection operating condition, normal mode can be recovered.
CD-TEMP-Inactive		
BT-TEMP-Active	Indicates operation condition of the power amplifier (inside audio unit) protecting function from high/low temperature.	
BT-TEMP-Inactive		
MIC-SHORT-G	Microphone circuits between audio unit and microphone are malfunctioning.	Microphone circuits between audio unit and microphone.
MIC-OPEN		
CD-OK	CD operation is normal.	—
CD-NOK	CD operation is not normal.	Replace audio unit if the malfunction occurs constantly. Refer to AV-38, "Removal and Installation".

NOTE:
- OPEN: Open road
- SHORT-G: Short to ground
- SHORT-B: Short to battery
- SHORT-L: Short between the wiring

Self-Check
- Audio unit internal condition (Bluetooth module, CD mechanism, power IC and audio unit front panel buttons) can be diagnosed.
- Connection status between audio unit and audio system components (radio antenna, door speakers and microphone) can be diagnosed.

REGION SETTING
Reception frequency band (the reception area) setting of the radio can be set.

RADIO MONITOR
The reception state of the radio signal can be checked.

LCD CONTRAST
The contrast setting of the display can be adjusted.

MODELS WITHOUT USB CONNECTION FUNCTION

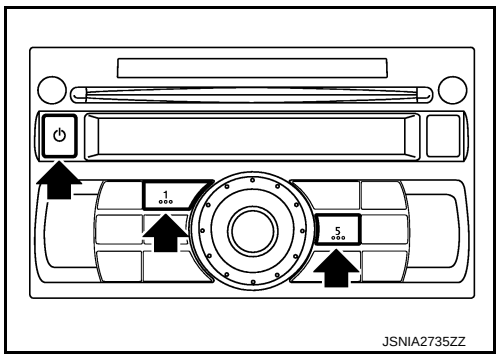
MODELS WITHOUT USB CONNECTION FUNCTION : Diagnosis Description

INFOID:0000000006577688

Self-diagnosis mode can check the following items.
- Display all icons and segments
- Display LCD
- Audio unit hardware/software/E2P versions
- Serial No.
- Model code

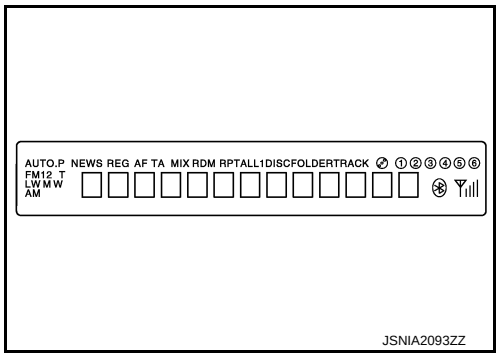
METHOD OF STARTING
1. Turn ignition switch to the ON position.
2. Turn the audio unit OFF.

3. With both “1” button and “5” button pressed, turn ON the audio system.
4. Audio unit display shows “SERVICE MODE”.



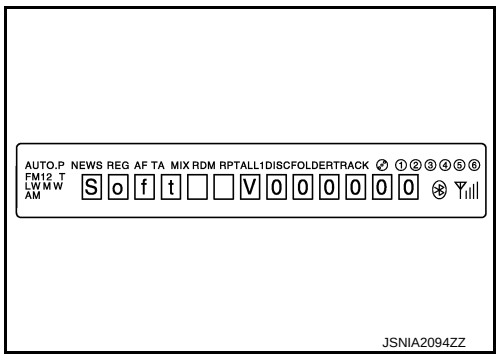
Icons, Segments and LCD Check

1. All display icons and segments will be illuminated for 2 seconds.
2. Press the “ENTER” switch to display LCD check segments pattern.

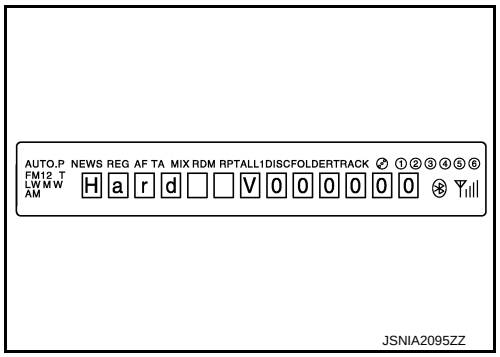


Version Check

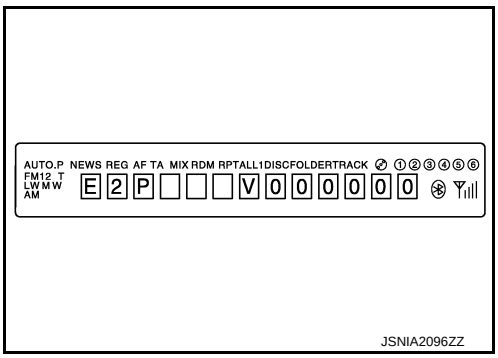
1. Press the “ENTER” switch to enter version diagnostics. “Soft” (audio software version) is displayed.



2. Press the “ENTER” switch again to display the “Hard” (audio hardware version).

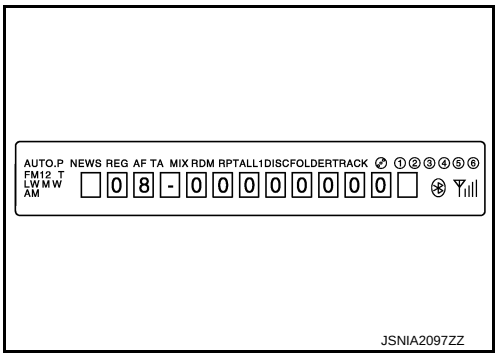


3. Press the “ENTER” switch again to display the “E2P” (audio unit EEPROM version).



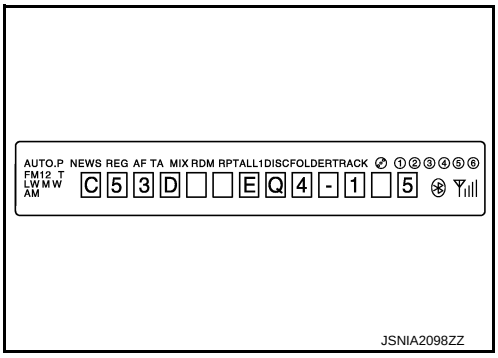
Serial No. Check

1. Press the “ENTER” switch again to display the audio unit serial No.



Model Code Check

1. Press the “ENTER” switch again to display the audio unit model code (vehicle EQ profile selection).



Finishing Self-diagnosis Mode

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

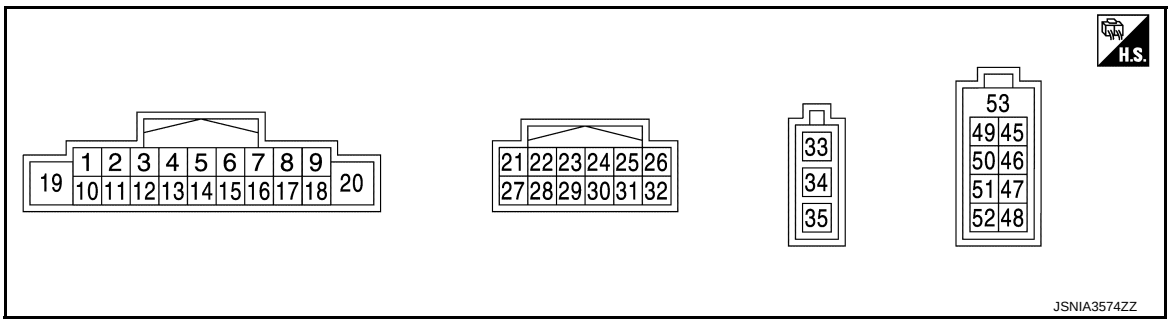
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

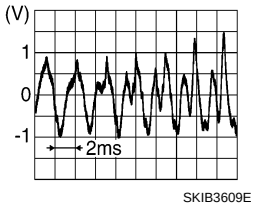
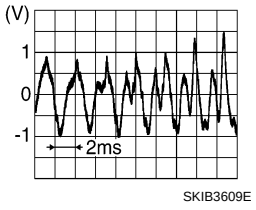
Reference Value

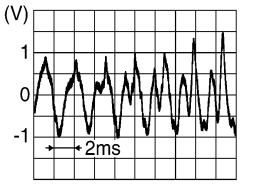
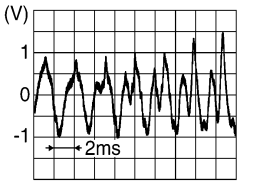
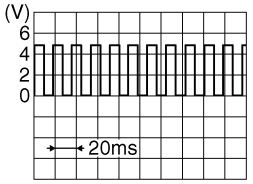
INFOID:0000000006414376

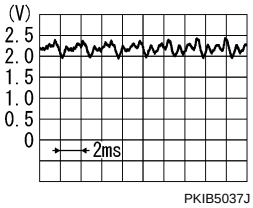
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (W)	3 (GR)	Sound signal front speaker LH	Output	Ignition switch ON	Sound output	 SKIB3609E
4 (LG)	5 (W)	Sound signal rear speaker LH	Output	Ignition switch ON	Sound output	 SKIB3609E
6 (G)	15 (V)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch	0 V
					Keep pressing SEEK UP switch	0.8 V
					Keep pressing SEEK DOWN switch	1.6 V
					Keep pressing switch	2.2 V
					Except for above	3.3 V
7 (L)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
9 (V)	Ground	Illumination signal	Input	Ignition switch ON	Lighting switch is 1st or 2nd	12.0 V
					Lighting switch is OFF	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
11 (G)	12 (R)	Sound signal front speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
13 (BR)	14 (Y)	Sound signal rear speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
16 (R)	15 (V)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch	0 V
					Keep pressing VOL UP switch	0.8 V
					Keep pressing switch	1.6 V
					Except for above	3.3 V
17 (SB)	—	Dongle link	Input/ Output	—	—	—
18 (Y)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  SKIA6649J
19 (BR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
21*1 (B)	Ground	EQ1	—	Ignition switch ON	—	0 V
26*2 (B)	Ground	EQ3	—	Ignition switch ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
27 (G)	28	Microphone signal	Input	Ignition switch ON	Give a voice.	 PKIB5037J
29 (V)	28	Microphone VCC	Output	Ignition switch ON	—	5.0 V
33	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	12.0 V
34	—	Antenna signal	Input	—	—	—
45 (B)	—	USB ground	—	—	—	—
46 (W)	—	USB D− signal	Input/ Output	—	—	—
47 (G)	—	USB D+ signal	Input/ Output	—	—	—
48 (R)	—	V BUS signal	Output	—	—	—
49 (Y)	51 (L)	AUX sound signal LH	Input	—	—	—
50 (BR)	51 (L)	AUX sound signal RH	Input	—	—	—
52	—	Shield	—	—	—	—
53	—	Shield	—	—	—	—

- *1: Models with USB connection function
- *2: Models without USB connection function

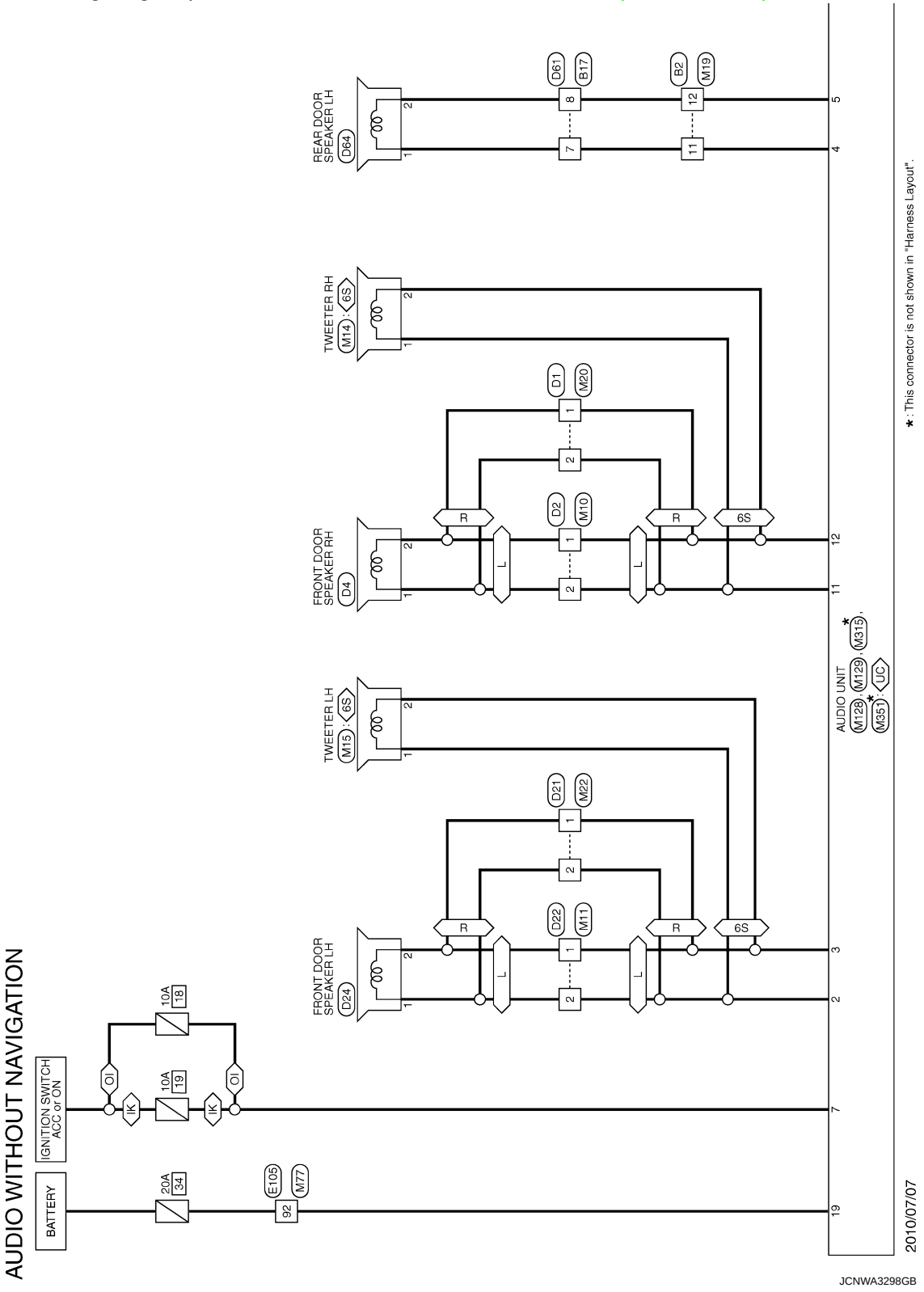
WIRING DIAGRAM

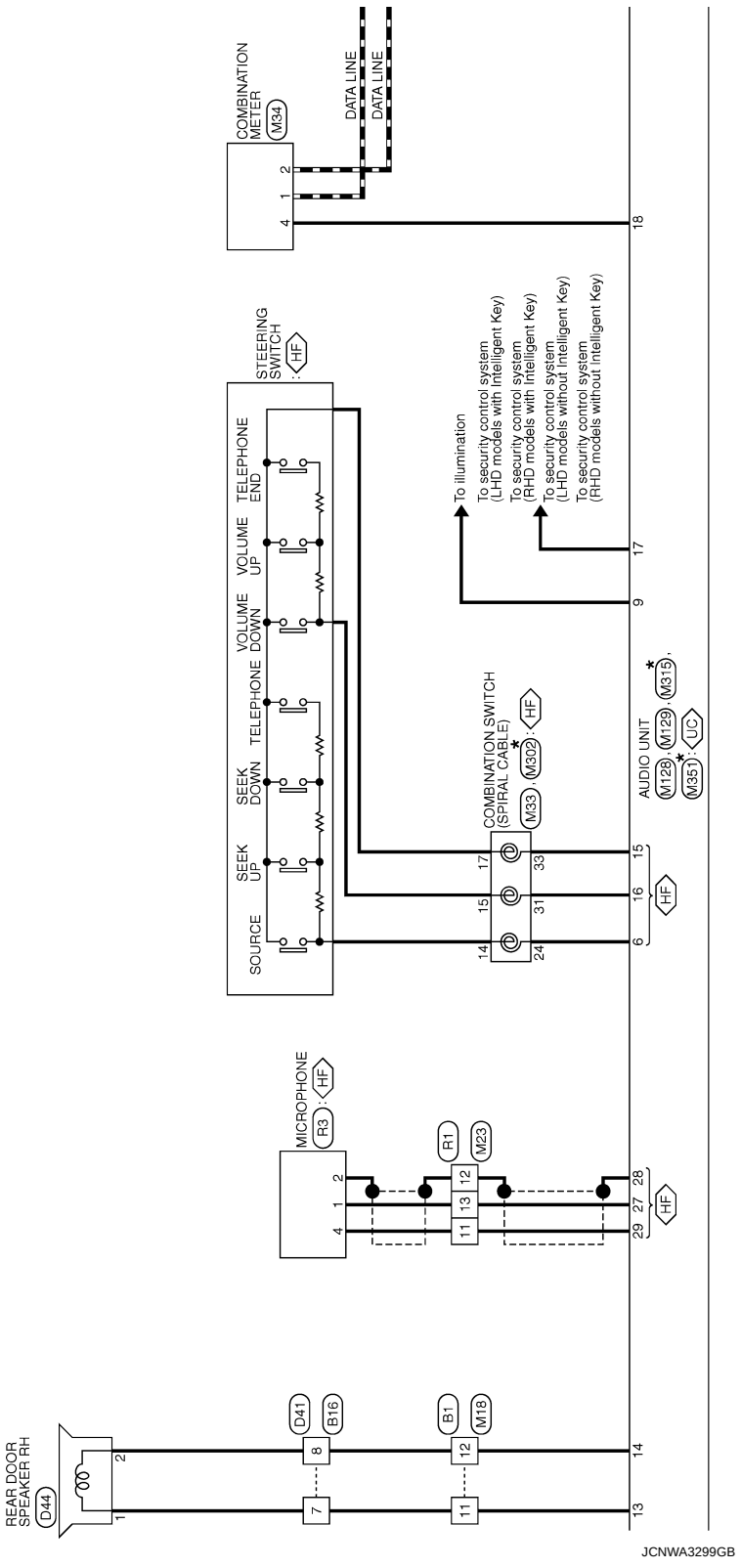
AUDIO WITHOUT NAVIGATION

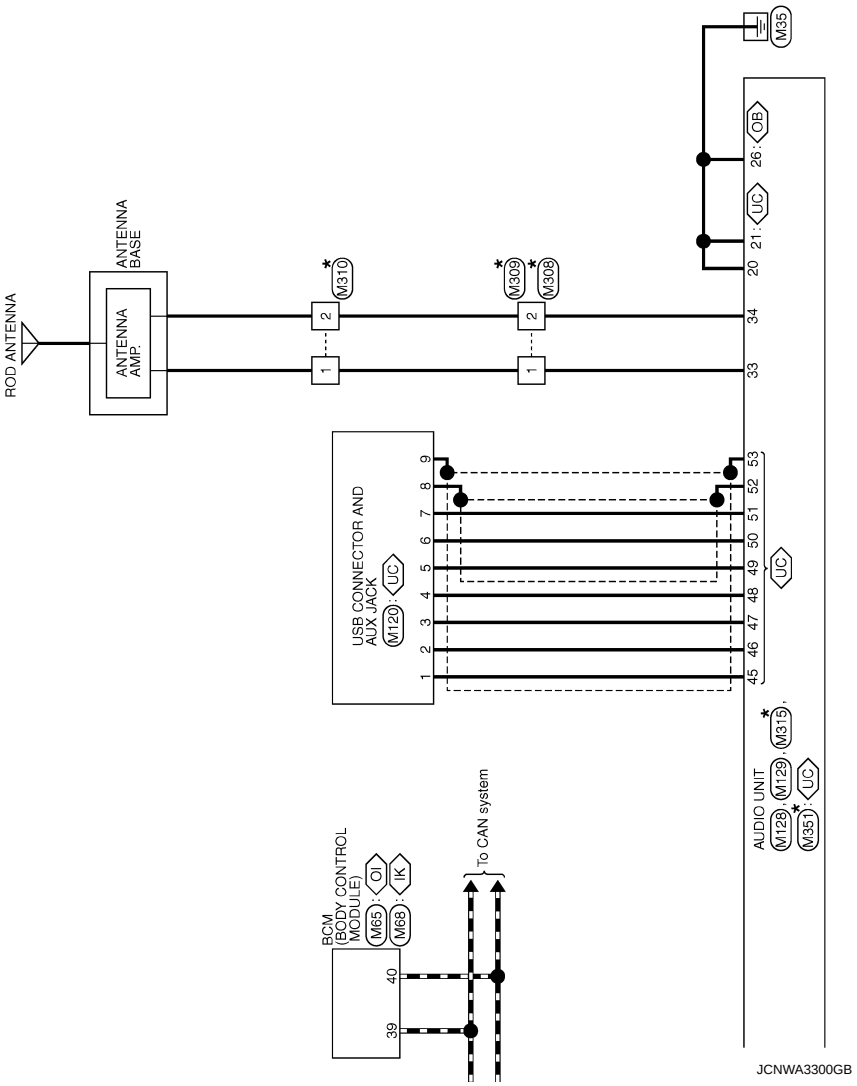
Wiring Diagram

INFOID:0000000006414377

For connector terminal arrangements, harness layouts, and alphabets in a ⬡ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information/Explanation of Option Abbreviation".




COMBINATION METER
M34
DATA LINE
DATA LINE
STEERING SWITCH
: HF
TELEPHONE END
VOLUME UP
VOLUME DOWN
SEEK DOWN
TELEPHONE
SEEK UP
SOURCE
To illumination
To security control system (LHD models with Intelligent Key)
To security control system (RHD models with Intelligent Key)
To security control system (LHD models without Intelligent Key)
To security control system (RHD models without Intelligent Key)
COMBINATION SWITCH (SPIRAL CABLE)
M33
M302
: HF
AUDIO UNIT
M128
M129
M315
M351
: UC
MICROPHONE
R3
: HF
R1
M23
REAR DOOR SPEAKER RH
D44
D41
B16
B1
M18
HF
JCNWA3299GB


ROD ANTENNA
ANTENNA BASE
ANTENNA AMP.
*M310
*M309
*M308
USB CONNECTOR AND AUX JACK
M120 : UC
BCM (BODY CONTROL MODULE)
M65 : OI
M68 : IK
To CAN system
AUDIO UNIT
M129 , M129 , *M315 ,
*M351 : UC
M35
OB
UC
JCNWA3300GB

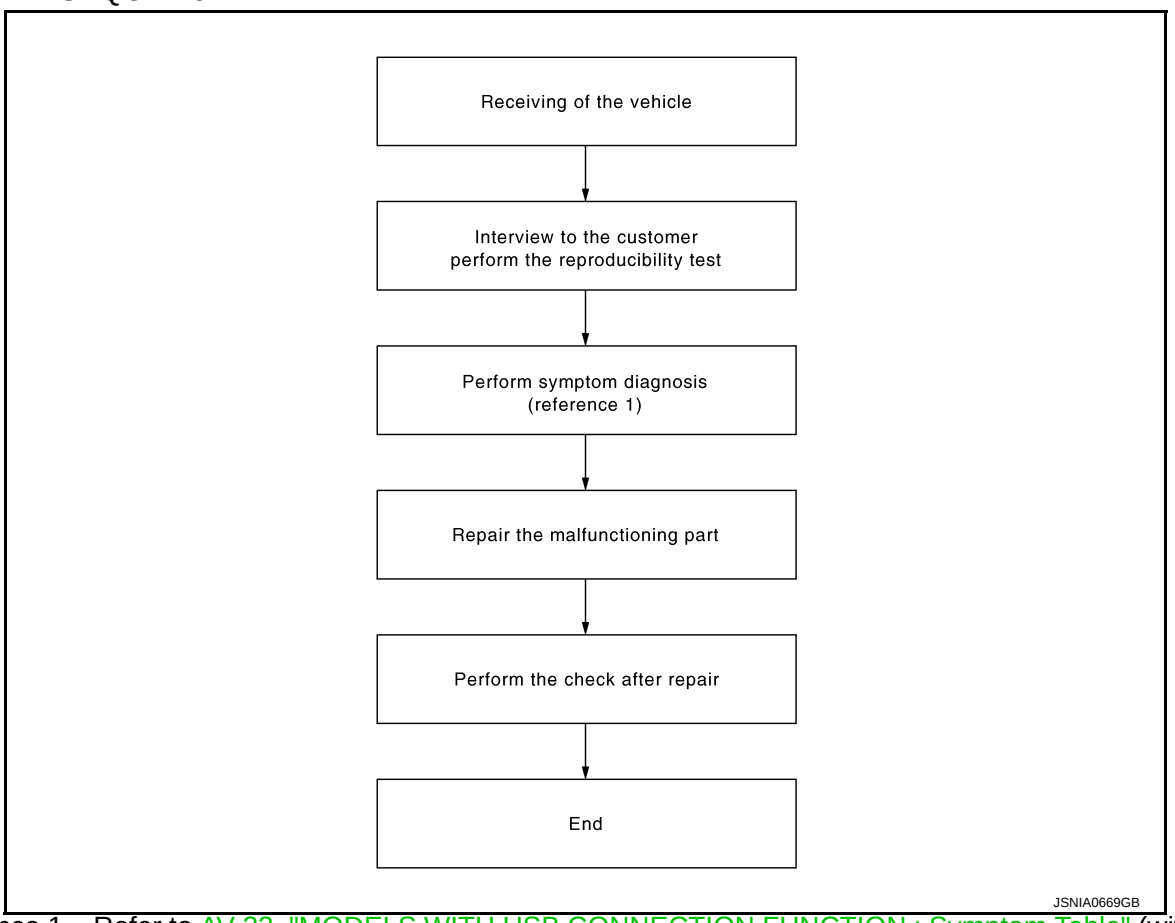
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000006414378

OVERALL SEQUENCE



Reference 1··· Refer to AV-33, "MODELS WITH USB CONNECTION FUNCTION : Symptom Table" (with USB connection function) or AV-35, "MODELS WITHOUT USB CONNECTION FUNCTION : Symptom Table" (without USB connection function).

DETAILED FLOW

1.CHECK SYMPTOM

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.

>> GO TO 2.

2.PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-33, "MODELS WITH USB CONNECTION FUNCTION : Symptom Table" (with USB connection function) or AV-35, "MODELS WITHOUT USB CONNECTION FUNCTION : Symptom Table" (without USB connection function).

>> GO TO 3.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

>> GO TO 4.

4. FINAL CHECK

Perform the operation to check that the malfunction symptom is solved or any other symptoms are present.

Is there any symptom?

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

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

Description

INFOID:0000000006414379

- The audio unit is equipped with the anti-theft system.
- The audio unit operates after authenticating a fixed four-digit anti-theft code.
- After removing the battery of the audio unit, the authentication of the anti-theft code is required.

Work Procedure

INFOID:0000000006414380

1.POWER SWITCH ON

1. Turn ignition switch ON.
2. Turn ON the power switch of audio unit. (“CODE IN” is indicated on the display.)

>> GO TO 2.

2.ANTI-THEFT CODE INPUT (FOUR-DIGIT CODE)

1. Press the preset switch (using 1 to 4) to enter the code number.

Digit on the far-left : Preset switch 1
Digit on the second from left : Preset switch 2
Digit on the second from right : Preset switch 3
Digit on the far-right : Preset switch 4

2. The anti-theft code is authenticated by pressing preset switch “6”.

Is the anti-theft code authenticated ?

YES >> END
NO >> GO TO 3.

3.REENTER ANTI-THEFT CODE INPUT (FOUR-DIGIT CODE)

1. When the input anti-theft code was not authenticated, anti-theft code input can be done up to 8 attempts, counting the below operation as an attempt.

Number of attempts	Control
1–2	“INCORRECT PIN PLEASE RE-ENTER PIN” is indicated. Press the “OK” button to back to anti-theft code entry screen.
3	The operation is locked up (and the display indicates a countdown) and back to anti-theft code entry screen for 60 minutes.

CAUTION:
- **If the attempts exceed 8, “system secure Please contact dealer” is displayed and anti-theft code input cannot be performed.**
- **The number of failed attempts is not reset and accumulated after any authentication.**

2. Wait until anti-theft code entry screen is displayed.

>> GO TO 2.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000006414381

1.CHECK FUSE

Check for blown fuses.

Power source		Fuse No.
Battery		34
Ignition switch ACC or ON	Models without Intelligent Key	18
	Models with Intelligent Key	19

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 audio unit harness connector and ground.

Signal name	Audio unit	Probe		Condition	Reference value
		Terminal			
	Connector	(+)	(–)	Ignition switch	
Battery power supply	M128	19	Ground	OFF	Battery voltage
ACC power supply		7		ACC	

Is inspection result OK?

YES >> INSPECTION END
NO >> Check harness between audio unit and fuse.

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000006659762

Power is supplied from audio unit to microphone. The microphone transmits the sound voice to the audio unit.

Diagnosis Procedure

INFOID:0000000006659763

1.CHECK CONTINUITY BETWEEN AUDIO UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector and microphone connector.
3. Check continuity between audio unit harness connector and microphone harness connector.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M129	27	R3	1	Existed
	28		2	
	29		4	

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

Audio unit		Ground	Continuity
Connector	Terminal		
M129	27		Not existed
	29		

Is inspection result OK?

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

2.CHECK VOLTAGE MICROPHONE VCC

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

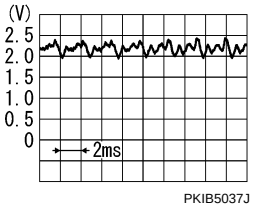
Probe				Reference value (Approx.)
(+)		(–)		
Audio unit				
Connector	Terminal	Connector	Terminal	
M129	29	M129	28	5.0 V

Is inspection result OK?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-38, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Turn ignition switch OFF.
2. Connect microphone connector.
3. Turn ignition switch ON.
4. Check signal between audio unit harness connector.

Probe				Condition	Reference value
(+)		(-)			
Audio unit					
Connec-tor	Terminal	Connec-tor	Terminal		
M129	27	M129	28	Give a voice.	 PKIB5037J

Is inspection result OK?

YES >> Replace audio unit. Refer to AV-38, "Removal and Installation".
NO >> Replace microphone. Refer to AV-43, "Removal and Installation".

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000006659764

Transmits the steering switch signal to audio unit.

Diagnosis Procedure

INFOID:0000000006659765

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

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

Audio unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M128	6	M33	24	Existed

3. Check continuity between audio unit harness connector and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M128	6		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-16, "Exploded View".

3.CHECK AUDIO UNIT VOLTAGE

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

Probe				Reference value (Approx.)
(+)		(–)		
AV C/U				
Connector	Terminal	Connector	Terminal	
M128	6	M128	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-38, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-28, "Component Inspection".

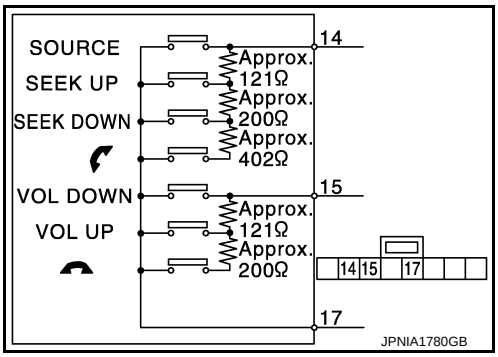
Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-44, "Exploded View".

Component Inspection

INFOID:0000000006659778

Measure the resistance between the steering switch connector.



Standard

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
14	17	switch ON	709 – 737
		SEEK DOWN switch ON	315 – 327
		SEEK UP switch ON	119 – 123
		SOURCE switch ON	0
15		switch ON	315 – 327
		VOL UP switch ON	119 – 123
		VOL DOWN switch ON	0

STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000006659776

Transmits the steering switch signal to audio unit.

Diagnosis Procedure

INFOID:0000000006659768

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

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

Audio unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M128	16	M33	31	Existed

3. Check continuity between audio unit harness connector and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M128	16		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-16, "Exploded View".

3.CHECK AUDIO UNIT VOLTAGE

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

Probe				Reference value (Approx.)
(+)		(–)		
Audio unit				
Connector	Terminal	Connector	Terminal	
M128	16	M128	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-38, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-30, "Component Inspection".

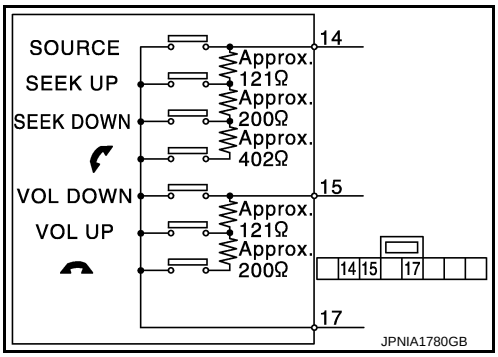
Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-44, "Exploded View".

Component Inspection

INFOID:0000000006659779

Measure the resistance between the steering switch connector.



Standard

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
14	17	switch ON	709 – 737
		SEEK DOWN switch ON	315 – 327
		SEEK UP switch ON	119 – 123
		SOURCE switch ON	0
15		switch ON	315 – 327
		VOL UP switch ON	119 – 123
		VOL DOWN switch ON	0

STEERING SWITCH GROUND CIRCUIT

Description

INFOID:0000000006659777

Transmits the steering switch signal to audio unit.

Diagnosis Procedure

INFOID:0000000006659771

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

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

Audio unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M128	15	M33	33	Existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-16, "Exploded View".

3.CHECK GROUND CIRCUIT

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

Audio unit		Ground	Continuity
Connector	Terminal		
M128	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-38, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-31, "Component Inspection".

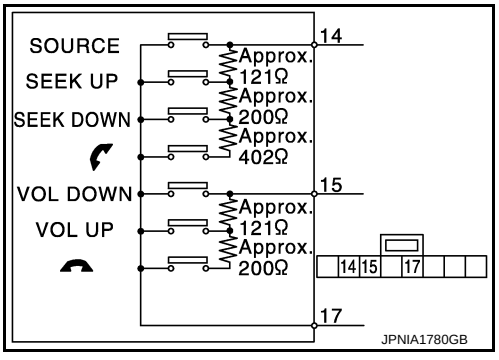
Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-44, "Exploded View".

Component Inspection

INFOID:0000000006659780

Measure the resistance between the steering switch connector.



Standard

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
14	17	switch ON	709 – 737
		SEEK DOWN switch ON	315 – 327
		SEEK UP switch ON	119 – 123
		SOURCE switch ON	0
15		switch ON	315 – 327
		VOL UP switch ON	119 – 123
		VOL DOWN switch ON	0

SYMPTOM DIAGNOSIS

AUDIO SYSTEM SYMPTOMS

MODELS WITH USB CONNECTION FUNCTION

MODELS WITH USB CONNECTION FUNCTION : Symptom Table

INFOID:0000000006414393

AUDIO SYSTEM

Symptoms	Check items		Probable malfunction location / Action to take
The audio system does not turn ON.	–		Audio unit power supply and ground circuit. Refer to AV-24, "AUDIO UNIT : Diagnosis Procedure"
Audio sound is not heard.	No sound from all speakers.		Replace audio unit. Refer to AV-38, "Removal and Installation".
	Sound is heard only from specific places.		Sound signal circuit of suspect system. Perform audio unit diagnosis function. Refer to AV-10, "MODELS WITH USB CONNECTION FUNCTION : On Board Diagnosis Function".
Only specified switch cannot be operated.	–		Replace audio unit. Refer to AV-38, "Removal and Installation".
Display does not dim.	Check “Illumination” in diagnosis function of audio unit. Refer to AV-10, "MODELS WITH USB CONNECTION FUNCTION : On Board Diagnosis Function".	“ON” is displayed for “Illumination”.	Replace audio unit. Refer to AV-38, "Removal and Installation".
		“ON” is not displayed for “Illumination”.	Illumination signal circuit
Speed sensitive volume system does not work.	Check “Vehicle speed” in diagnosis function of audio unit. Refer to AV-10, "MODELS WITH USB CONNECTION FUNCTION : On Board Diagnosis Function".	A value of “Vehicle Speed” changes according to vehicle speeds.	Replace audio unit. Refer to AV-38, "Removal and Installation".
		A value of “Vehicle Speed” does not change according to vehicle speeds.	Vehicle speed signal circuit
• AM/FM radio is not received. • Traffic information (RDS) is not received.	• Other audio sound is normal. • Check “Self check” in diagnosis function of audio unit. Refer to AV-10, "MODELS WITH USB CONNECTION FUNCTION : On Board Diagnosis Function".	The malfunction related to radio antenna is not detected.	Replace audio unit. Refer to AV-38, "Removal and Installation".
		The malfunction related to radio antenna is detected.	• Antenna amp. ON signal circuit. • Antenna base • Antenna feeder

RELATED TO HANDS-FREE PHONE

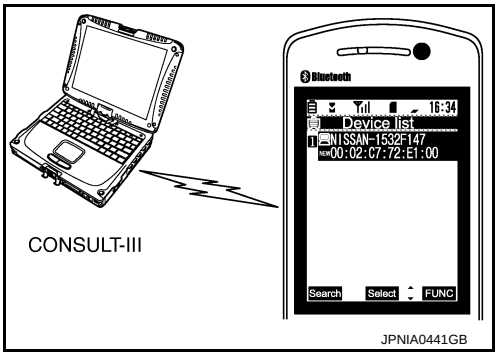
- Check that the cellular phone is the corresponding type (Bluetooth™ enabled) and Bluetooth™ turns ON.
- Malfunction may occur due to the version change of the phone type, etc. even though it is the corresponding type. The cell phone must support at least hands-free profile V1.0 and object push V1.0. Refer to cell phone instruction manual.

- When customers contact concerning Bluetooth™ compatible cell phone malfunction for the first time, always suggest customers to update cellular phone software if possible.
- Check that customer cellular phone is compatible on the published list. The dealer should contact its RBU/ NSC for the list.
- Take note of any exceptions that the list may detail, i.e. no ringing tone or no phonebook transfer etc. If the customer phone is not listed then its full function cannot be guaranteed. NISSAN should not replace the audio unit if the cell phone does not appear on the list or the cell phone is operating as described on the list e.g. no ringing tone, no phonebook transfer etc.
- Take note of any exceptions to other phones made by the same manufacturer as the customers. Any exceptions on one model by a specific manufacturer may be common to all models made by that manufacturer.

Simple Check for Bluetooth™ Communication

If cellular phone and audio unit cannot be connected with Bluetooth™ communication, following procedure allows the technician to judge which device has malfunction.

1. Turn on a cellular phone, not connecting Bluetooth™ communication.
2. Start CONSULT-III, then start Windows®.
3. Set CONSULT-III near a cellular phone.
4. When operated Bluetooth™ registration by cellular phone, check if CONSULT-III* would be displayed on the device name.
   (If other Bluetooth™device is located near cellular phone, a name of the device would be displayed also.)
   NOTE:
   *:Displayed device name is “NISSAN-********”.



- If no device name is displayed, cellular phone is malfunction. 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.

*: There is no 100% guarantee that cellular phone operates all functions on audio unit. Different phone manufacturers implement Bluetooth™ in different ways. Phones on Supported Phone List are tested and any minor exceptions are listed.

Trouble Diagnosis Chart by Symptom

Symptoms	Check items	Possible malfunction location / Action to take
Does not recognize cellular phone connection.	Repeat the registration of cellular phone.	Audio unit malfunction. Replace audio unit. Refer to AV-38, "Removal and Installation".
Hands-free phone cannot be activated.	• 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.	
Originating sound is not heard by the other party with hands-free phone communication.	Voice operation is work.	
	Voice operation does not work.	Microphone signal circuit malfunction. Refer to AV-25, "Diagnosis Procedure".
The other party's voice cannot be heard by hands-free phone.	—	TEL voice sound signal circuits malfunction.

RELATED TO USB

NOTE:

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

Symptoms	Check items		Probable malfunction location / Action to take
iPod® or USB memory can not be recognized.	With iPod or USB memory Connected, check “USB connected” in diagnosis function of audio unit.	“ON” is displayed for “USB connected”.	• USB and AUX harness • USB connector and AUX jack • Audio unit
		“ON” is not displayed for “USB connected”.	• USB and AUX harness • USB connector and AUX jack

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

RELATED TO AUXILIARY INPUT

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

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.	• USB and AUX harness • USB connector and AUX jack

RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit. Refer to AV-31, "Diagnosis Procedure".
Only specified switch cannot be operated.	Steering switch.
“”, “SEEK UP”, “SEEK DOWN” and “SOURCE” switches are not operated.	Steering switch signal A circuit. Refer to AV-27, "Diagnosis Procedure".
“”, “VOL UP” and “VOL DOWN” switches are not operated.	Steering switch signal B circuit Refer to AV-29, "Diagnosis Procedure".
The steering switch operates improperly. (The above phenomena excluded.)	EQ1 circuit

MODELS WITHOUT USB CONNECTION FUNCTION

MODELS WITHOUT USB CONNECTION FUNCTION : Symptom Table

INFOID:0000000006577791

Symptoms	Check items	Possible malfunction location / Action to take
Audio sound is not heard.	No sound from all speakers.	Audio unit power supply and ground circuit. Refer to AV-24, "AUDIO UNIT : Diagnosis Procedure".
	Sound is heard only from specific places.	Sound signal circuit of suspect system.

NORMAL OPERATING CONDITION

Description

INFOID:0000000006414394

RELATED TO AUDIO

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

Symptoms	Cause and counter measure
Cannot play	Check that the CD was inserted correctly.
	Check that the CD is scratched or dirty.
	Check that there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	The player will play correctly after it returns to the normal temperature if there is a temperature increase error.
	Only the music CD files (CD-DA data) will be played if there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD.
	Files with extensions other than ".MP3", ".WMA", ".mp3", or ".wma" cannot be played.
	Check that the finalization process, such as session close and disc close, is done for the disc.
	Check that the CD is protected by copyright.
Poor sound quality	Check that 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.
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 TELEPHONE

Symptoms	Cause and counter measure
Intermittent voice turbulence occurs between buildings.	Surrounded by buildings, cell phones may have a poor reception due to radio waves irregular reflection or interception.
Noise interference occurs under the railroad overpass or near high-tension wires, traffic lights, or neon signs.	Noise waves from these may be mixed into radio waves.
Booming noises are mixed into audio.	Radio waves from the cell phone may be mixed into audio.
No sound can be heard: • Voice from the party on the other end of the line cannot be heard. • No ring tone.	• Check that the key switch is not set to ON or ACC. • Check that sound volume (VOL) is not set to minimum. • Check that the connection of Bluetooth™ is normal. • Adjust cell phone ring tone and volume. Volume levels of ring tone and voice on the phone depend on the volume setting of the cell phone, according to the model.

Symptoms	Cause and counter measure
Voice cannot be transmitted to the party on the other end of the line.	Check that the connection of Bluetooth™ is normal.
Telephone call does not get through.	• Check that the cell phone is not locked. • Check that the connection of Bluetooth™ is normal. • Check that the telephone call is made in the area within the telecommunications carrier service area. • Check that the area is not a blind area.
The party on the other end of the line hears noises while talking on a hand-held cell phone.	The party on the other end of the line may hear noises depending on where the cell phone is placed.
Bluetooth™ has a slow connection after ignition switch ON.	Some models take time for standby.
Sound level of voice is different from that of ringing sounds or ring tone.	This model allows separate settings for sound levels of ringing sounds, ring tone, and voice.
The number of electric field reception bars of the audio unit is different from that of the cell phone. Or telephone call does not get through even when transmitting with the reception bar displayed.	Specifications regarding the number of electric field reception bars differ from cell phone to cell phone. (Reception bar of the audio unit is the guideline.)
The party on the other end of the line hears muffled sounds while talking on the phone.	Ambient sounds through the microphone make muffled sounds after conversion peculiar to digital devices.

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000006578268

REMOVAL

1. Remove cluster lid C. Refer to IP-12, "Exploded View".
2. Remove audio unit screws.
3. Disconnect audio unit connectors to remove audio unit and brackets as a single unit.
4. Remove brackets screws to remove audio unit.

INSTALLATION

1. Install in the reverse order of removal.
2. Enter the anti-theft code (with USB connection function models). Refer to AV-23, "Work Procedure".

FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000006578269

REMOVAL

1. Remove front door finisher. Refer to INT-13, "Exploded View".
2. Remove front door speaker screws, then disconnect front door speaker connector and remove front door speaker.

INSTALLATION

Install in the reverse order of removal.

TWEETER

Removal and Installation

INFOID:0000000006578270

REMOVAL

1. Remove front pillar garnish. Refer to INT-18, "Exploded View".
2. Remove tweeter clip, then disconnect tweeter connector and remove tweeter.

INSTALLATION

Install in the reverse order of removal.

REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000006578271

REMOVAL

1. Remove rear door finisher. Refer to INT-16, "Exploded View".
2. Remove rear door speaker screws, then disconnect rear door speaker connector and remove rear door speaker.

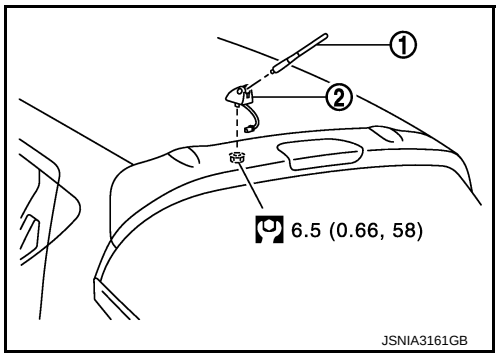
INSTALLATION

Install in the reverse order of removal.

ANTENNA BASE

Exploded View

INFOID:0000000006578272



1. Antenna rod
2. Antenna base

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000006578273

REMOVAL

1. Remove headlining. Refer to INT-26, "Exploded View".
2. Disconnect antenna feeder connector.
3. Remove nut to remove antenna base.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

If the antenna base mounting nut is tightened looser than the specified torque, then this will lower the sensitivity of the antenna. On the other hand, if the nut is tightened tighter than the specified torque, then this will deform the roof panel.

MICROPHONE

Removal and Installation

INFOID:0000000006578274

REMOVAL

1. Remove headlining. Refer to INT-26, "Exploded View".
2. Remove microphone connector and pawl to remove microphone.

INSTALLATION

Install in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000006578275

Refer to SR-13, "Exploded View".

Removal and Installation

INFOID:0000000006578276

REMOVAL

Refer to SR-13, "Removal and Installation".

INSTALLATION

Install in the reverse order of removal.

USB CONNECTOR AND AUX JACK

Removal and Installation

INFOID:0000000006578277

REMOVAL

1. Remove cluster tray. Refer to IP-12, "Exploded View".
2. Push the pawl from the back of cluster tray to remove USB connector and AUX jack.

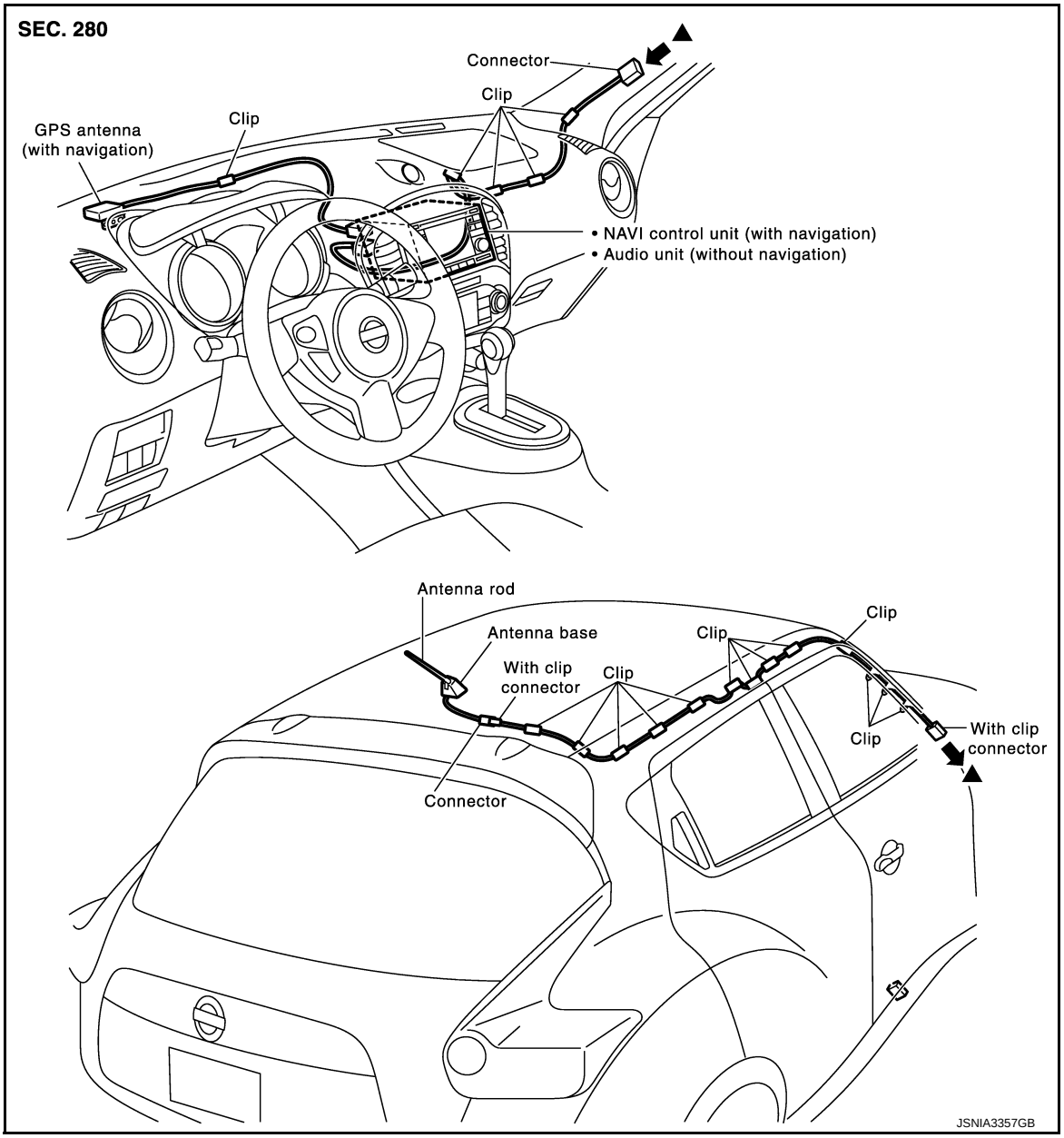
INSTALLATION

Install in the reverse order of removal.

ANTENNA FEEDER

Feeder Layout

INFOID:0000000006578278



PRECAUTION

PRECAUTIONS

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

INFOID:0000000006573347

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. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

The vehicle may be equipped with a passenger air bag deactivation switch. Because no rear seat exists where a rear-facing child restraint can be placed, the switch is designed to turn off the passenger air bag so that a rear-facing child restraint can be used in the front passenger seat. The switch is located in the center of the instrument panel, near the ashtray. When the switch is turned to the ON position, the passenger air bag is enabled and could inflate for certain types of collision. When the switch is turned to the OFF position, the passenger air bag is disabled and will not inflate. A passenger air bag OFF indicator on the instrument panel lights up when the passenger air bag is switched OFF. The driver air bag always remains enabled and is not affected by the passenger air bag deactivation switch.

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.**
- **The vehicle may be equipped with a passenger air bag deactivation switch which can be operated by the customer. When the passenger air bag is switched OFF, the passenger air bag is disabled and will not inflate. When the passenger air bag is switched ON, the passenger air bag is enabled and could inflate for certain types of collision. After SRS maintenance or repair, make sure the passenger air bag deactivation switch is in the same position (ON or OFF) as when the vehicle arrived for service.**

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

WARNING:

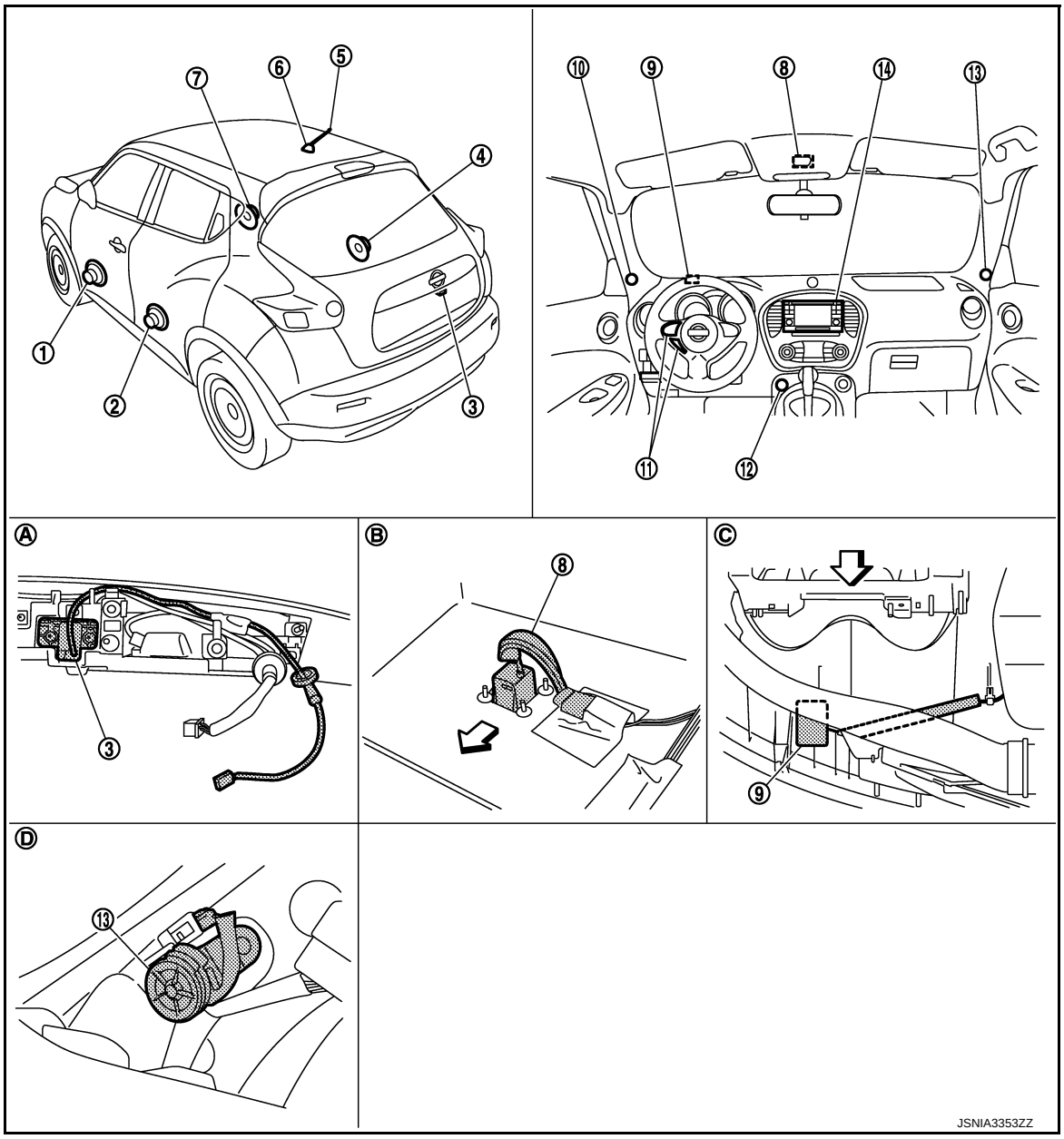
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious 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.**

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000006414404



1. Front door speaker LH
2. Rear door speaker LH
3. Rear view camera
4. Rear door speaker RH
5. Antenna rod
6. Antenna base (antenna amp.)
7. Front door speaker RH
8. Microphone
9. GPS antenna
10. Tweeter LH
11. Steering switch
12. USB connector and AUX jack
13. Tweeter RH
14. NAVI control unit

A. Back of back door finisher
B. Back of headlining
C. Instrument panel rear side
D. Front pillar finisher removed condition

⇦: Vehicle front

Component Description

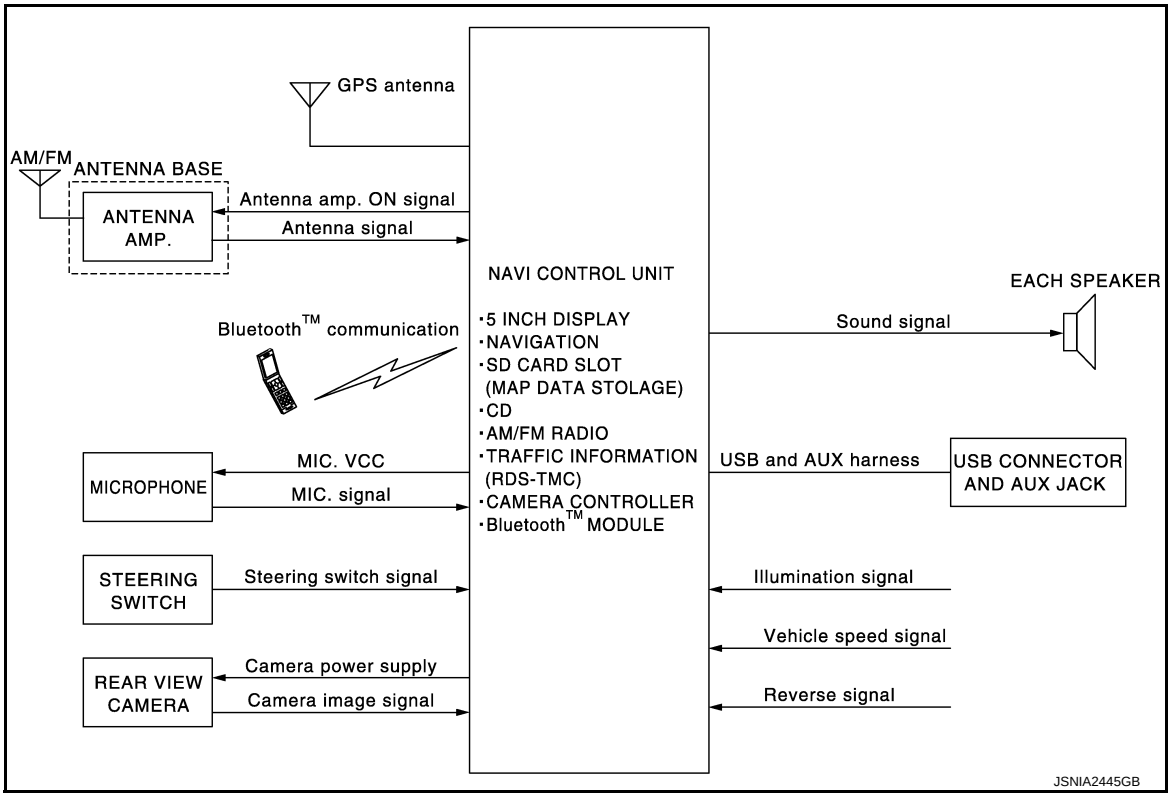
INFOID:0000000006414405

Part name	Description
NAVI control unit	• Operational switch of navigation system and audio system are integrated. • Includes the audio, hands-free phone, navigation, rear view monitor, USB connection and AUX connection functions. • Map data can be loaded from the SD-card inserted in the built-in SD-card slot. • Sound signals are output to each speaker. • 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). • Touch panel function can be operated for each system by touching a display directly. • It supplies power to rear view camera. • Camera image signal is input from rear view camera.
Map SD-card	A collection of Map data.
Front door speaker	• Inputs sound signal from NAVI control unit. • Outputs mid and low range sounds.
Tweeter	• Outputs sound signal from NAVI control unit. • Outputs high range sounds.
Rear door speaker	• Inputs sound signal from NAVI control unit. • Outputs high, mid and low range sounds.
Steering switch	• Operations for audio and hands-free phone are possible. • Steering switch signal (operation signal) is output to NAVI control unit.
Microphone	• Used for hands-free phone operation. • Microphone signal is transmitted to NAVI control unit. • Power (Mic. VCC) is supplied from NAVI control unit.
GPS antenna	GPS signal is received and transmitted to NAVI control unit.
Antenna base	• An antenna base integrated with antenna amp. • Radio signal received by rod antenna is amplified and transmitted to NAVI control unit. • Power (antenna amp. ON signal) is supplied from NAVI control unit.
Rear view camera	• Camera power supply is input from NAVI control unit. • The image of vehicle rear view is transmitted to NAVI control unit.
USB connector and AUX jack	• Sound signal of auxiliary input is transmitted to NAVI control unit. • Sound signal of USB input is transmitted to NAVI control unit.

SYSTEM

System Diagram

INFOID:0000000006414406



System Description

INFOID:0000000006414407

Refer to Owner's Manual for navigation and audio system operating instructions.
Audio function and display are built into NAVI control unit.
This navigation has the following functions.

- All of European Map including UK postcode on SD-card.
- Full support for playback of music from iPod® and USB device.
- High resolution color 5 inch display with touch panel function.
- FM/AM twin digital tuner.
- USB mass storage connection.
- Bluetooth™ audio streaming.
- RDS-TMC.
- Hands-free phone system.
- Anti-theft system.

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

NAVIGATION SYSTEM FUNCTION

Description

- The navigation system can be operated by control panel of the NAVI control unit and display (touch panel) of the NAVI control unit.
- Guide sound during the operation of the navigation system is output from NAVI control unit to front speaker.
- NAVI control unit calculates the vehicle location based on the signals from GYRO (angle speed sensor), vehicle sensor, and GPS satellite, as well as the map data from map SD-card. It is displayed on display of the NAVI control unit.

POSITION DETECTION PRINCIPLE

The navigation system periodically calculates the vehicle's current position according to the following three signals:

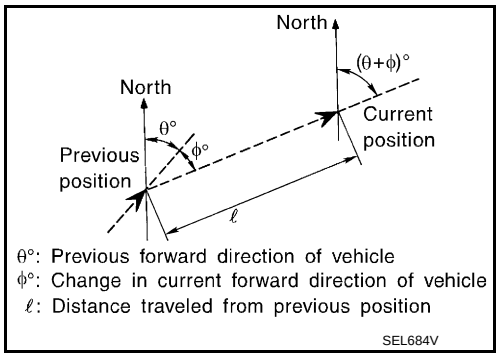
- Travel distance of the vehicle as determined by the vehicle speed sensor
- Turning angle of the vehicle as determined by the gyroscope (angular velocity sensor)

• Direction of vehicle travel as 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 read from the map SD-card (map-matching), and indicated on the screen as a vehicle mark. More accurate data is judged and used by comparing vehicle position detection results found by the GPS with the result by map-matching.

The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.

- Travel distance
  Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance correction function has been adopted.
- Travel direction
  Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). They have both advantages and disadvantages.



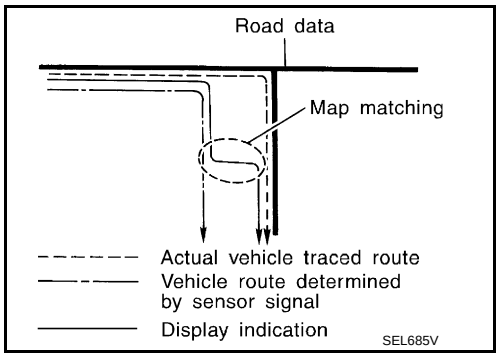
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).	Correct direction cannot be detected when vehicle speed is low.

More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

MAP-MATCHING

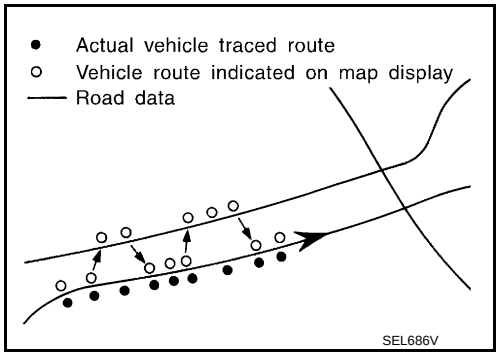
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from map SD-card.

NOTE:
The road map data is based on data stored in the map SD-card.

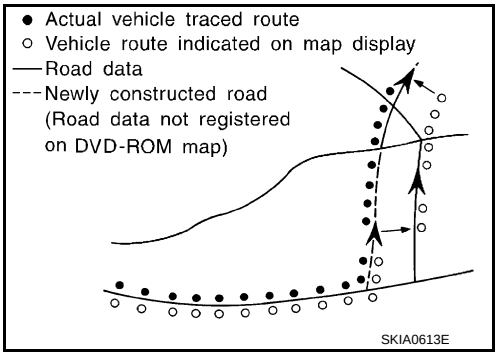


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned.
  Alternative routes will be shown in different order of priority, and the incorrect road can be avoided if there is an error in distance and/or direction.
  They are of the same priority if two roads are running in parallel. Therefore, the vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.



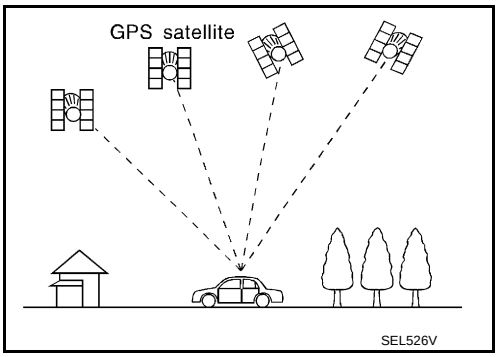
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  The map-matching function may find another road and position the vehicle mark on it when driving on a road not present in the map. Then, the vehicle mark may change to it when 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 read from the map SD-card is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (Global Positioning System)

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).

The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.
- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

NOTE:

- The detection result has an error of approximately 10 m (32.81 ft) even with a high-precision three dimensional positioning.
- There may be cases when the accuracy is lowered and radio waves are stopped intentionally because the GPS satellite signal is controlled by the US trace control center.

TRAFFIC INFORMATION (RDS-TMC) FUNCTION

The traffic information broadcast can avoid delays due to traffic incidents.

Traffic jams, roadwork, closed roads around current location, etc. are represented graphically on the map by icons depicting the nature of the event. Incidents on the route are automatically noticed when they are approached.

The traffic information feature gives the driver the opportunity to forecast traffic incidents, determine how serious they are and, via the guidance mode, allows to detour around traffic problems.

The navigation system receives traffic information from best available sources and enables the RDS-TMC (Radio Data System-Traffic Message Channel) to inform and guide the driver.

- Traffic information function is built into NAVI control unit.
- Traffic information is received by radio antenna, next it is amplified by antenna amp., and finally it is input to NAVI control unit. (Antenna amp. is built into antenna base.)

AUXILIARY INPUT FUNCTION

- Sound can be output from an external device by connecting a device with USB connector and AUX jack.
- AUX sound signals are transmitted to each speaker through NAVI control unit.

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

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

- The rear view camera transmits camera images to the NAVI control unit when power is supplied from the NAVI control unit.
- The NAVI control unit combines a warning message and fixed guide lines with an image received from the rear view camera to display a rear view camera image on the screen.

USB CONNECTION FUNCTION

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

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

NOTE:

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

SPEED SENSITIVE VOLUME SYSTEM

- Volume level of this system gone up and down automatically in proportion to the vehicle speed.
- The control level can be selected by the customer.

HANDS-FREE PHONE SYSTEM

- Hands-free communication can be operated by connecting using Bluetooth™ communication with cellular phone.
- Operation is performed by steering switch.
- Guide sound that is heard during operation is output from NAVI control unit to front speaker.

ANTI-THEFT SYSTEM

- The NAVI control unit is equipped with the anti-theft system.
- The NAVI control unit operates after authenticating a fixed four-digit anti-theft code.
- After removing the battery of the NAVI control unit, the authentication of the anti-theft code is required.
- If the anti-theft code cannot be authenticated, the NAVI control unit performs control as follows:

Number of attempts	Control
1–3	After a message is shown on the display screen, the screen returns to the code entry screen.
3–23	Operations are locked for 60 minutes and in the meantime, the display screen indicates a countdown. After a lapse of 60 minutes, the screen returns to the code entry screen.

CAUTION:

- **24 or more: Operations are locked and a message is shown on the display. Code numbers cannot be input.**
- **The number of failed attempts is not reset and accumulated after any authentication.**

- The operating procedure: refer to AV-65, "Work Procedure".

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

Diagnosis Description

INFOID:0000000006414408

On-Board Diagnosis Item

- On-board diagnosis is performed in service test mode.
- On-board diagnosis checks if the system operates normally.

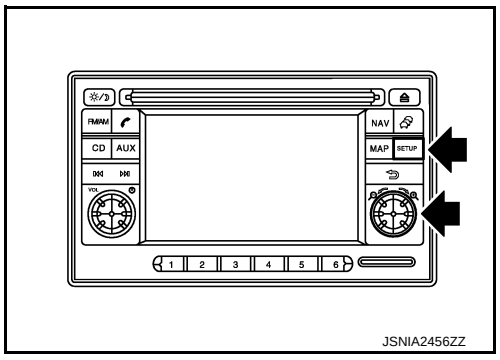
Service test mode

Mode		Item	Content
Service version		—	The version data of the parts is shown displayed.
Service radio	FM monitor	—	The Change Mediator monitors the dynamic values of the current tuner. If the band is switched within the radio monitor context, the active monitor is switched as well.
	AM monitor	—	
Service configuration	Destination input while driving	—	Destination input while driving can be disabled. **CAUTION:** **Once the setting is changed, the original setting cannot be restored.**
	Touch Display Calibration	—	The function allows connection of the position detection accuracy of the touch panel.
Service system status	Running system status	• SD card slot Access • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • Microphone Current • Radio Antenna • USB Device • iPod® firmware version • Steering wheel key	The current system status is displayed.
	System history	• Bluetooth™ Module - Sub-Unit Connection Malfunction • SD-card Slot - Sub-Unit Connection Malfunction • Programming Error • Radio-Antenna Circuit Malfunction • FM-Antenna 1 Connection Malfunction • GPS Antenna Circuit Malfunction • CD-Drive Mechanical Malfunction • CD Read Malfunction • Power Supply voltage: Lower Limit Exceeded • Power Supply voltage: Upper Limit Exceeded • Reduced system Functionality due to over temperature • Display switched OFF due to over temperature • SD card removed without being demounted • Codeplug missing	The history of the system status is reported in the report memory, displayed.

Mode		Item	Content
Service system configuration		• 2/4 pulse speed • Clock ON/OFF • Camera guidelines • Equalizing settings • RF tuning • Antenna type • Sound system • Security code/immobilizer • Steering wheel	The device is configured by a connected hardware circuit. The parameter is influenced.
Test function	System self test	• Bluetooth™ module Access Malfunction • SD-card Access Malfunction • Radio-Antenna Circuit Malfunction • GPS Antenna Circuit Malfunction • Microphone Circuit Malfunction	A system self test is executed: the result is stored into the error memory which is shown afterwards as a list of codes of the detected malfunctions.
	Speaker test	—	This activates a sequence of test tone outputs to the four speaker lines one after the other for 1 second. The frequency can be chosen by user selection before (100Hz and 4000Hz).
	Display test	—	This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other. The respective color is shown for an indicated period of time (parameter). After the display test, the design of the display previously available is stored. While the screen shows a plain colored display, a pixel malfunction may be detected.

METHOD OF STARTING

1. Start the engine.
2. Turn OFF audio.
3. While pressing the “SET UP” switch, turn the MENU dial counterclockwise 3 clicks or more first, then clockwise and counterclockwise 3 clicks or more, respectively. (After the diagnosis mode starts, the initial screen of the diagnosis mode appears.)



JSNIA2456ZZ

END ON-BOARD DIAGNOSIS

Turn OFF ignition switch.

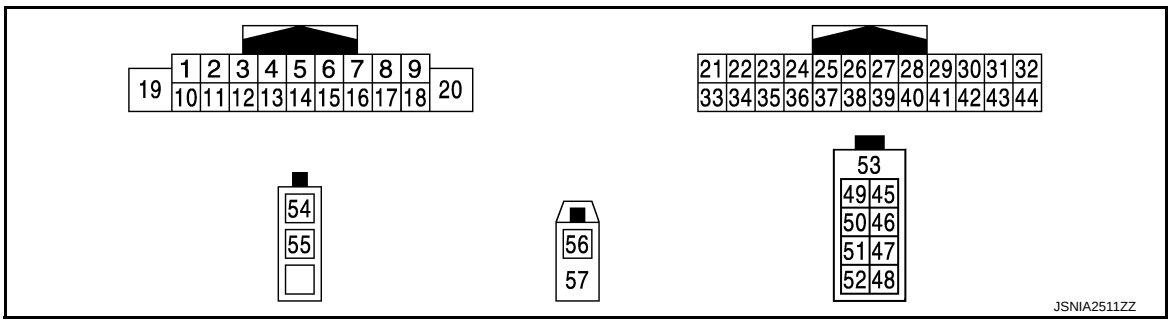
ECU DIAGNOSIS INFORMATION

NAVI CONTROL UNIT

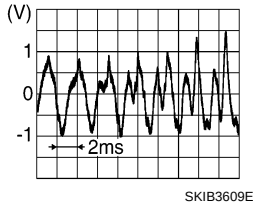
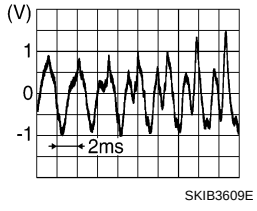
Reference Value

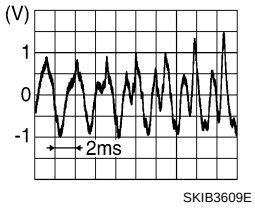
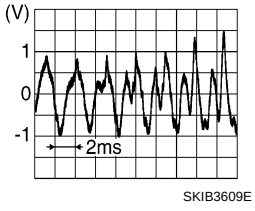
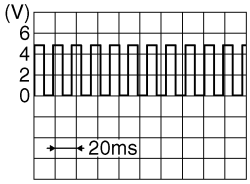
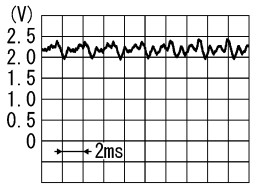
INFOID:0000000006414409

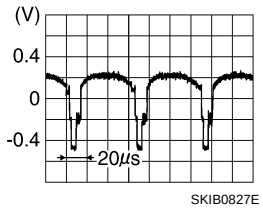
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (W)	3 (GR)	Sound signal front speaker LH	Output	Ignition switch ON	Sound output.	 SKIB3609E
4 (LG)	5 (W)	Sound signal rear speaker LH	Output	Ignition switch ON	Sound output.	 SKIB3609E
6 (G)	15	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing SEEK UP switch.	1.4 V
					Keep pressing SEEK DOWN switch.	2.5 V
					Keep pressing switch.	3.5 V
					Except for above.	5.0 V
7 (L)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
9 (V)	Ground	Illumination signal	Input	Ignition switch ON	Lighting switch is 1st or 2nd.	12.0 V
					Lighting switch is OFF.	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
11 (G)	12 (R)	Sound signal front speaker RH	Output	Ignition switch ON	Sound output.	 SKIB3609E
13 (BR)	14 (Y)	Sound signal rear speaker RH	Output	Ignition switch ON	Sound output.	 SKIB3609E
16 (R)	15	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	1.4 V
					Keep pressing switch.	2.5 V
					Except for above.	5.0 V
18 (Y)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  SKIA6649J
19 (BR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
24 (B)	Ground	EQ4	—	Ignition switch ON	—	0 V
25 (G)	Ground	Reverse signal	Input	Ignition switch ON	Shift position is in R.	12.0 V
					Shift position is in other than R.	0 V
34 (G)	36	Microphone signal	Input	Ignition switch ON	Give a voice.	 PKIB5037J

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
35 (R)	36	Microphone VCC	Output	Ignition switch ON	—	5.0 V
41 (V)	Ground	Camera image signal	Input	Ignition switch ON	At rear view camera image is displayed.	 SKIB0827E
42	—	Shield	—	—	—	—
43 (LG)	Ground	Camera power supply	Output	Ignition switch ON	Shift position is in “R”.	6.0 V
44 (L)	—	Camera ground	—	Ignition switch ON	—	0 V
45 (B)	—	USB ground	—	—	—	—
46 (W)	—	USB D– signal	Input/ Output	—	—	—
47 (G)	—	USB D+ signal	Input/ Output	—	—	—
48 (R)	—	V BUS signal	Output	—	—	—
49 (Y)	51 (L)	AUX sound signal LH	Input	—	—	—
50 (BR)	51 (L)	AUX sound signal RH	Input	—	—	—
52	—	Shield	—	—	—	—
53	—	Shield	—	—	—	—
54	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	12.0 V
55	—	Antenna signal	Input	—	—	—
56	Ground	GPS antenna signal	Input	Ignition switch ON	Not connected to GPS antenna connector.	5.0 V
57	—	Shield	—	—	—	—

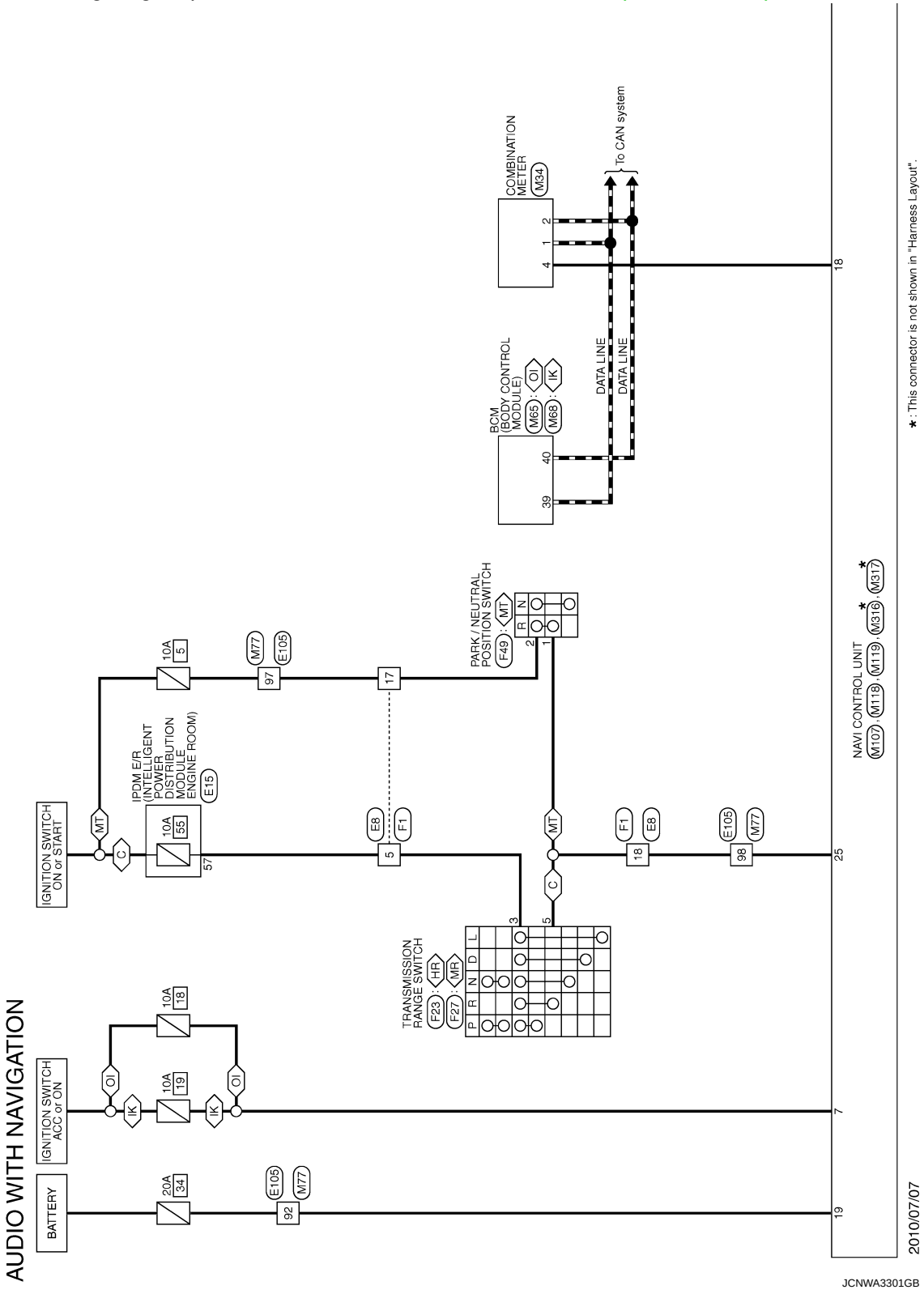
WIRING DIAGRAM

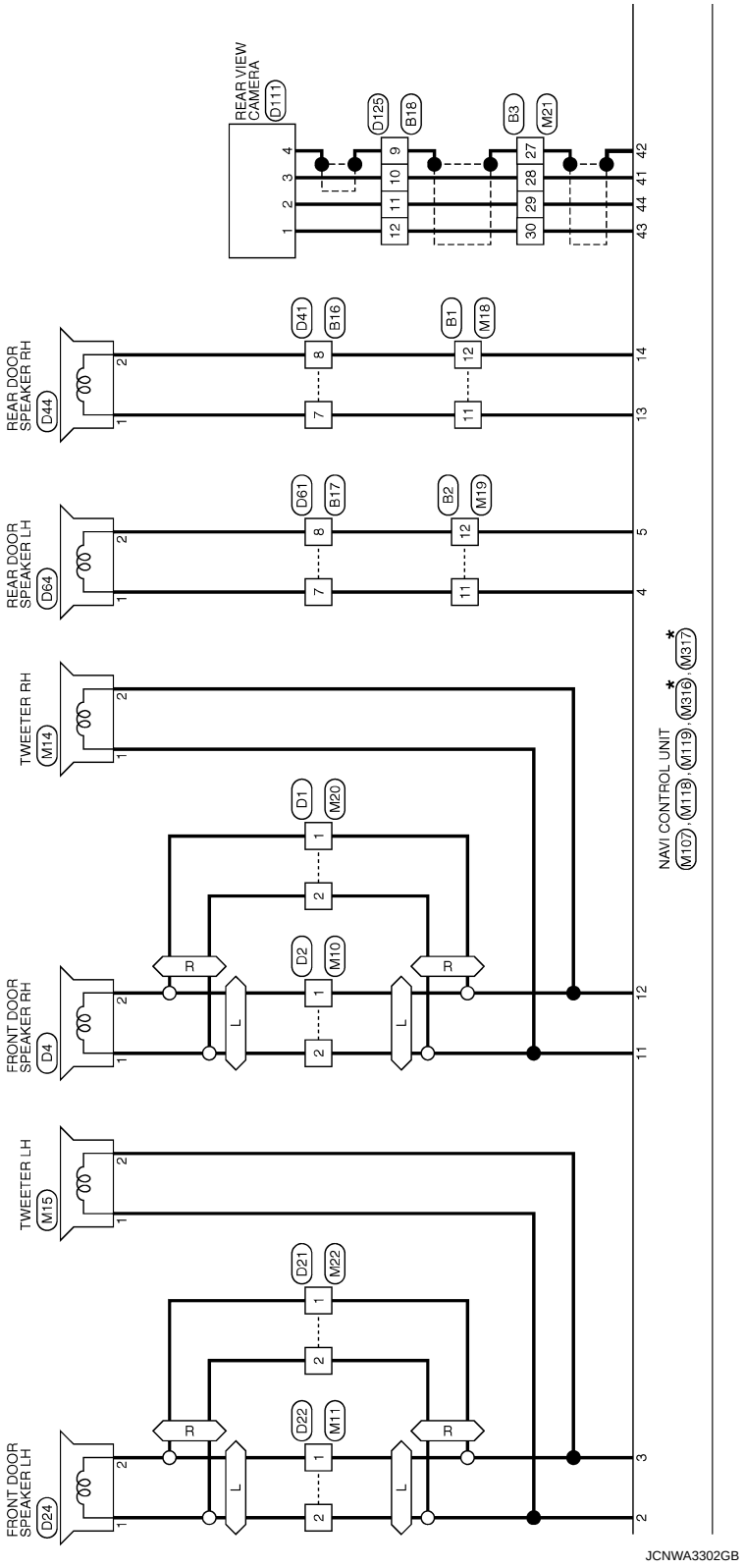
AUDIO WITH NAVIGATION

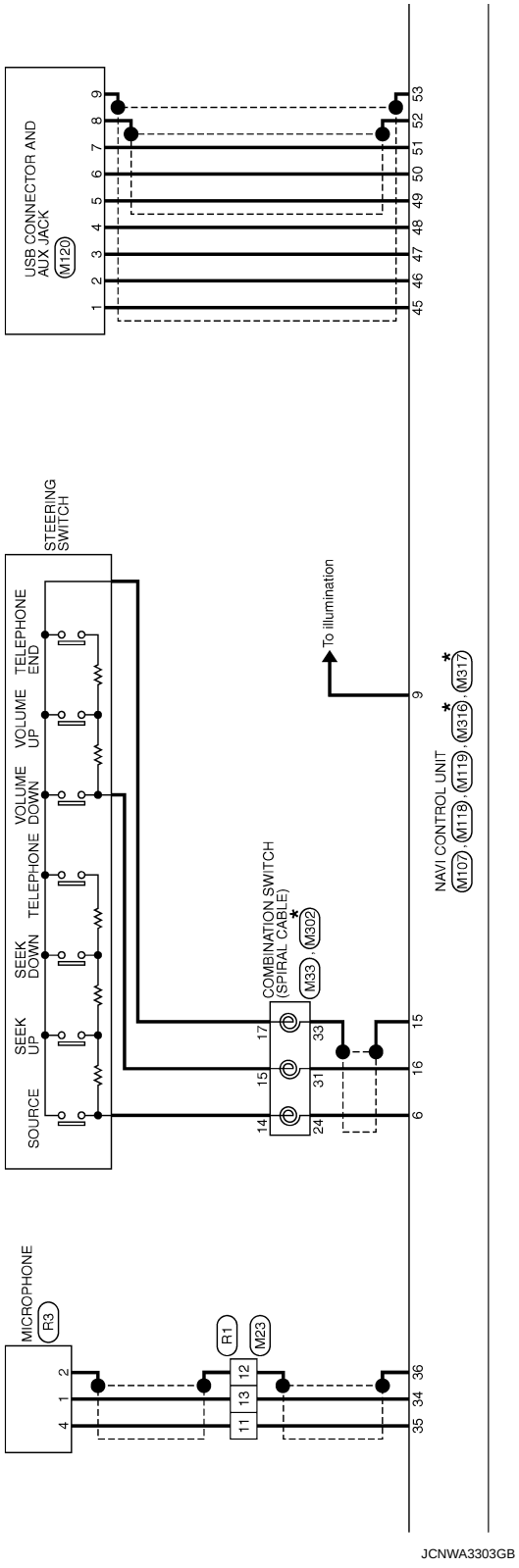
Wiring Diagram

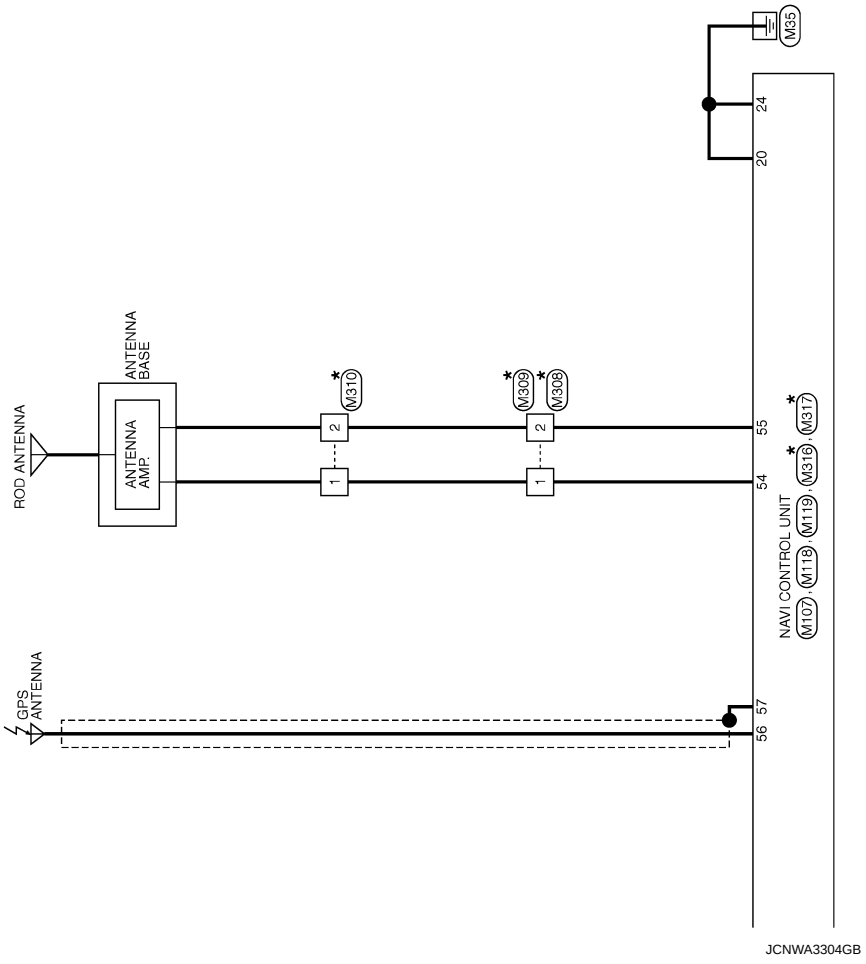
INFOID:0000000006414410

For connector terminal arrangements, harness layouts, and alphabets in a ⬡ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information/Explanation of Option Abbreviation".




REAR VIEW CAMERA
D111
D125
B18
B3
M21
REAR DOOR SPEAKER RH
D44
D41
B16
B1
M18
REAR DOOR SPEAKER LH
D64
D61
B17
B2
M19
TWEETER RH
M14
TWEETER LH
M15
FRONT DOOR SPEAKER RH
D4
FRONT DOOR SPEAKER LH
D24
D1
M20
D2
M10
D21
M22
D22
M11
R
L
NAVI CONTROL UNIT
M107
M118
M119
M316 *
M317 *
JCNWA3302GB


USB CONNECTOR AND AUX JACK
M120
STEERING SWITCH
TELEPHONE END
VOLUME UP
VOLUME DOWN
TELEPHONE
SEEK DOWN
SEEK UP
SOURCE
COMBINATION SWITCH (SPIRAL CABLE)
M33
M302
NAVI CONTROL UNIT
M107
M118
M119
M316
M317
To illumination
MICROPHONE
R3
R1
M23
JCNWA3303GB


M35
24
20
ANTENNA BASE
ROD ANTENNA
ANTENNA AMP.
*M310
2
1
*M309
*M308
2
1
55
54
*M317
*M316
M119
M118
M107
NAVI CONTROL UNIT
GPS ANTENNA
57
56
JCNWA3304GB

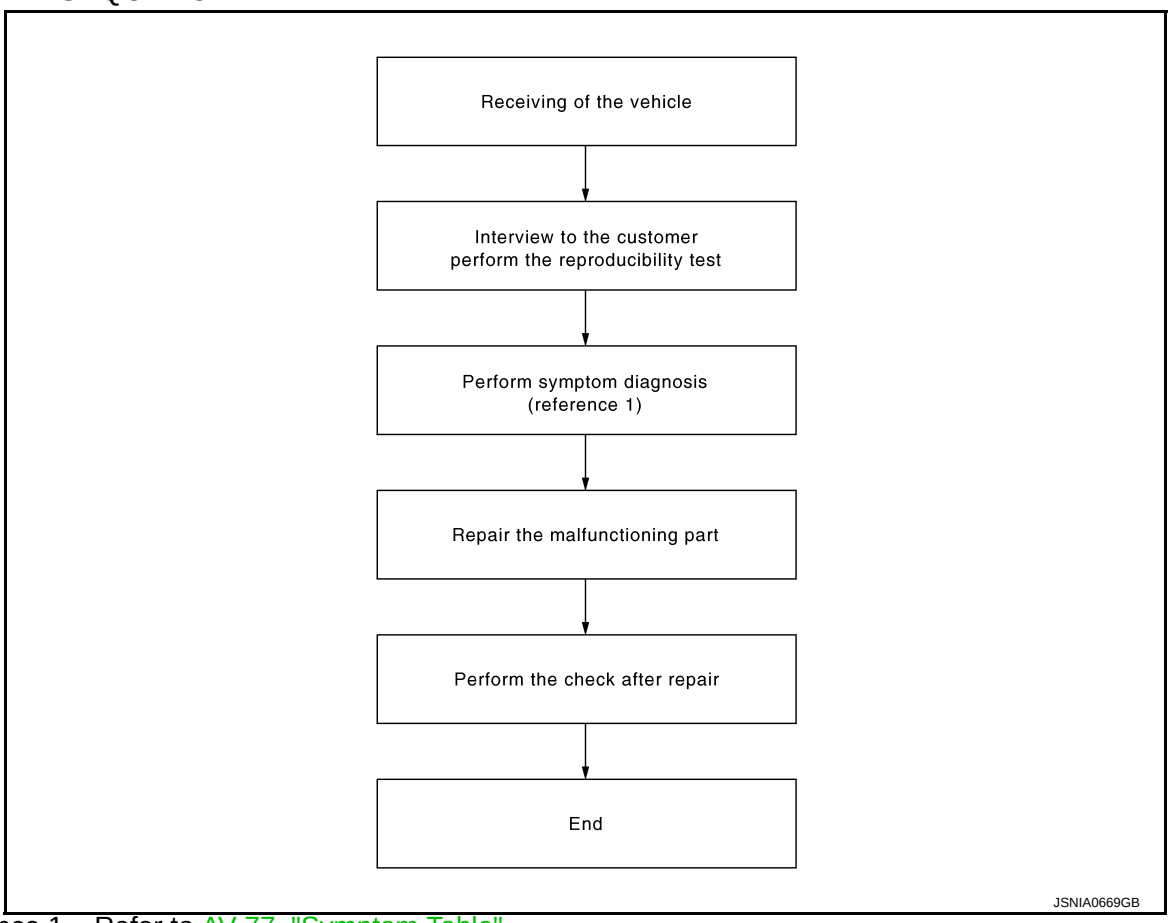
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000006414411

OVERALL SEQUENCE



Reference 1··· Refer to AV-77, "Symptom Table".

DETAILED FLOW

1.CHECK SYMPTOM

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.

>> GO TO 2.

2.PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-77, "Symptom Table".

>> GO TO 3.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

>> GO TO 4.

4.FINAL CHECK

Perform the operation to check that the malfunction symptom is solved or any other symptoms are present.

Is there any symptom?

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

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

Description

INFOID:0000000006414412

- The NAVI control unit is equipped with the anti-theft system.
- The NAVI control unit operates after authenticating a fixed four-digit anti-theft code.
- After removing the battery of the NAVI control unit, the authentication of the anti-theft code is required.

Work Procedure

INFOID:0000000006414413

1.POWER SWITCH ON

1. Turn ignition switch ON.
2. Turn ON the power switch of the NAVI control unit. (“CODE IN” is indicated on the display.)

>> GO TO 2.

2.ANTI-THEFT CODE INPUT (FOUR DIGIT CODE)

1. Touch the button shown on the display to enter code numbers.
2. Touch OK button.

Is “CODE OK” displayed?

YES >> END
NO >> GO TO 3.

3.RETRY ANTI-THEFT CODE INPUT (FOUR DIGIT CODE)

1. If the anti-theft code cannot be authenticated, the NAVI control unit performs control as follows:

Number of attempts	Control
1–2	After a message is shown on the display screen, the screen returns to the code entry screen.
3–23	Operations are locked for 60 minutes and in the meantime, the display screen indicates a countdown. After a lapse of 60 minutes, the screen returns to the code entry screen.

CAUTION:

- **24 or more: Operations are locked and a message is shown on the display. Code numbers cannot be input.**
- **The number of failed attempts is not reset and accumulated after any authentication.**

2. Wait until “CODE IN” is displayed.

>> GO TO 2.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

NAVI CONTROL UNIT

NAVI CONTROL UNIT : Diagnosis Procedure

INFOID:0000000006414414

1.CHECK FUSE

Check for blown fuses.

Power source		Fuse No.
Battery		34
Ignition switch ACC or ON	Models without Intelligent Key	18
	Models with Intelligent Key	19

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 NAVI control unit harness connector and ground.

Signal name	Audio unit	Probe		Condition	Reference value
		Terminal			
	Connector	(+)	(–)	Ignition switch	
Battery power supply	M107	19	Ground	OFF	Battery voltage
ACC power supply		7		ACC	

Is inspection result OK?

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

3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M107	20	OFF	Existed

Is inspection result OK?

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

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000006414415

Power is supplied from NAVI control unit to microphone. The microphone transmits the sound voice to the NAVI control unit.

Diagnosis Procedure

INFOID:0000000006414416

1.CHECK CONTINUITY BETWEEN NAVI CONTROL UNIT AND MICROPHONE CIRCUIT

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

NAVI control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M118	34	R3	1	Existed
	36		2	
	35		4	

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

NAVI control unit		Ground	Continuity
Connector	Terminal		
M118	34		Not existed
	35		

Is inspection result OK?

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

2.CHECK VOLTAGE MICROPHONE VCC

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

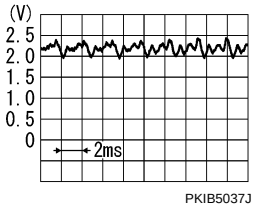
Probe				Reference value (Approx.)
(+)		(–)		
NAVI control unit				
Connector	Terminal	Connector	Terminal	
M118	35	M118	36	5.0 V

Is inspection result OK?

YES >> GO TO 3.
NO >> Replace NAVI control unit. Refer to AV-84, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Turn ignition switch OFF.
2. Connect microphone connector.
3. Turn ignition switch ON.
4. Check signal between NAVI control unit harness connector.

Probe				Condition	Reference value
(+)		(–)			
NAVI control unit					
Connec-tor	Terminal	Connec-tor	Terminal		
M118	34	M118	36	Give a voice.	

PKIB5037J

Is inspection result OK?

YES >> Replace NAVI control unit. Refer to AV-84, "Removal and Installation".
NO >> Replace microphone. Refer to AV-90, "Removal and Installation".

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000006414417

- The NAVI control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the NAVI control unit when power is supplied from the NAVI control unit.

Diagnosis Procedure

INFOID:0000000006414418

1.CHECK CONTINUITY CAMERA POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit connector and rear view camera connector.
3. Check continuity between NAVI control unit harness connector and rear view camera harness connector.

NAVI control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M118	43	D111	1	Existed

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

NAVI control unit		Ground	Continuity
Connector	Terminal		
M118	43		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE CAMERA POWER SUPPLY

1. Connect NAVI control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R” position.
4. Check voltage between NAVI control unit harness connector and ground.

Probe			Condition	Reference value (Approx.)
(+)		(–)		
NAVI control unit		Ground		
Connector	Terminal			
M118	43		Shift position is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace NAVI control unit. Refer to AV-84, "Removal and Installation".

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit connector and rear view camera connector.
3. Check continuity between NAVI control unit harness connector and rear view camera harness connector.

NAVI control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M118	41	D111	3	Existed

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

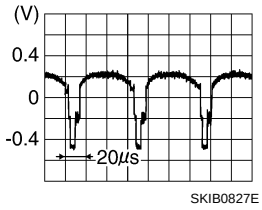
NAVI control unit		Ground	Continuity
Connector	Terminal		
M118	41		Not existed

Is inspection result normal?

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

4. CHECK CAMERA IMAGE SIGNAL

1. Connect NAVI control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R” position.
4. Check signal between NAVI control unit harness connector and ground.

Probe			Condition	Reference value
(+)		(–)		
NAVI control unit				
Connector	Terminal			
M118	41	Ground	At rear view camera image is displayed.	

SKIB0827E

Is inspection result normal?

YES >> Replace NAVI control unit. Refer to AV-84, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-92, "Removal and Installation".

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000006414419

Transmits the steering switch signal to NAVI control unit.

Diagnosis Procedure

INFOID:0000000006414420

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

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

NAVI control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M107	6	M33	24	Existed

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

NAVI control unit		Ground	Continuity
Connector	Terminal		
M107	6		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-16, "Exploded View".

3.CHECK NAVI CONTROL UNIT VOLTAGE

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

Probe				Reference value (Approx.)
(+)		(–)		
NAVI control unit				
Connector	Terminal	Connector	Terminal	
M107	6	M107	15	5.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace NAVI control unit. Refer to AV-84, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-72, "Component Inspection".

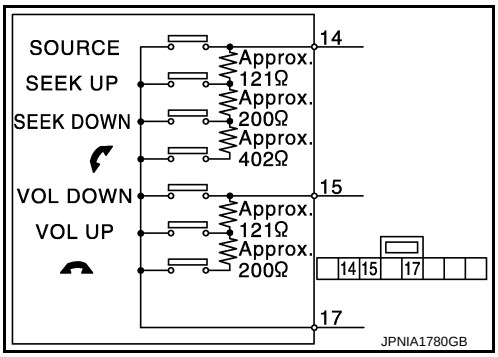
Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-91, "Exploded View".

Component Inspection

INFOID:0000000006414421

Measure the resistance between the steering switch connector.



Standard

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
14	17	switch ON	709 – 737
		SEEK DOWN switch ON	315 – 327
		SEEK UP switch ON	119 – 123
		SOURCE switch ON	0
15		switch ON	315 – 327
		VOL UP switch ON	119 – 123
		VOL DOWN switch ON	0

STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000006414422

Transmits the steering switch signal to NAVI control unit.

Diagnosis Procedure

INFOID:0000000006414423

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

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

NAVI control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M107	16	M33	31	Existed

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

NAVI control unit		Ground	Continuity
Connector	Terminal		
M107	16		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-16, "Exploded View".

3.CHECK NAVI CONTROL UNIT VOLTAGE

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

Probe				Reference value (Approx.)
(+)		(–)		
NAVI control unit				
Connector	Terminal	Connector	Terminal	
M107	16	M107	15	5.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace NAVI control unit. Refer to AV-84, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-74, "Component Inspection".

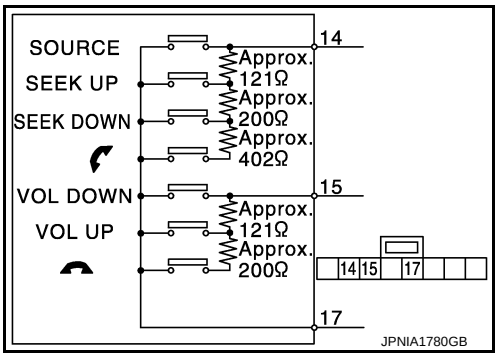
Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-91, "Exploded View".

Component Inspection

INFOID:0000000006414424

Measure the resistance between the steering switch connector.



Standard

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
14	17	switch ON	709 – 737
		SEEK DOWN switch ON	315 – 327
		SEEK UP switch ON	119 – 123
		SOURCE switch ON	0
15		switch ON	315 – 327
		VOL UP switch ON	119 – 123
		VOL DOWN switch ON	0

STEERING SWITCH GROUND CIRCUIT

Description

INFOID:0000000006414425

Transmits the steering switch signal to NAVI control unit.

Diagnosis Procedure

INFOID:0000000006414426

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

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

NAVI control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M107	15	M33	33	Existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-16, "Exploded View".

3.CHECK GROUND CIRCUIT

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

NAVI control unit		Ground	Continuity
Connector	Terminal		
M107	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace NAVI control unit. Refer to AV-84, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-75, "Component Inspection".

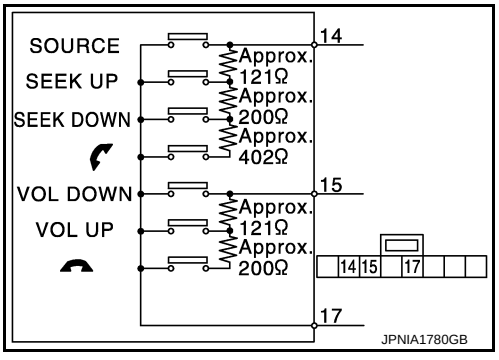
Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-91, "Exploded View".

Component Inspection

INFOID:0000000006414427

Measure the resistance between the steering switch connector.



Standard

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
14	17	switch ON	709 – 737
		SEEK DOWN switch ON	315 – 327
		SEEK UP switch ON	119 – 123
		SOURCE switch ON	0
15		switch ON	315 – 327
		VOL UP switch ON	119 – 123
		VOL DOWN switch ON	0

SYMPTOM DIAGNOSIS

NAVIGATION SYSTEM

Symptom Table

INFOID:0000000006414428

RELATED TO NAVIGATION

NOTE:

Combined part of AV switch and NAVI control unit.

Symptoms	Check items		Probable malfunction location / Action to take
Display does not turn ON.	All switches cannot be operated.		NAVI control unit power supply and ground circuit. Refer to AV-66, "NAVI CONTROL UNIT : Diagnosis Procedure".
	All switches can be operated.		NAVI control unit
All switches cannot be operated.	Display does not turn ON.		NAVI control unit power supply and ground circuit. Refer to AV-66, "NAVI CONTROL UNIT : Diagnosis Procedure".
	Display turn ON.		NAVI control unit
Only specified switch cannot be operated.	–		NAVI control unit
Map screen is not displayed. (RGB image other than map is normal.)	• Check that the map SD-card is in the SD-card slot. • Check “SD Card Access” in “SERVICE SYSTEM SELF TEST”, “SERVICE MENU”.	“OK” is displayed for “SD Card Access”.	Map SD-card
		“OK” is not displayed for “SD Card Access”.	• NAVI control unit • Map SD-card
Voice guidance is not heard.	Audio sound is normal.		NAVI control unit
Display does not dim.	Check “Illumination Signal” in “SERVICE SYSTEM STATUS”, “SERVICE MENU”.	“Illumination Signal” reaches 100% when the lighting switch is ON.	NAVI control unit
		“Illumination Signal” does not reach 100% when the lighting switch is ON.	Illumination signal circuit
Vehicle icon does not move.	Check “Speed Signal” in “SERVICE SYSTEM STATUS”, “SERVICE MENU”.	A value of “Speed Signal” changes according to vehicle speeds.	NAVI control unit
		A value of “Speed Signal” does not change according to vehicle speeds.	Vehicle speed signal circuit
Map matching is not complete GPS icon is not displayed	Check “GPS Antenna” in “SERVICE SYSTEM SELF TEST”, “SERVICE MENU”.	“Connected” is displayed for “GPS Antenna”.	NAVI control unit
		“Connected” is not displayed for “GPS Antenna”.	GPS antenna
Traffic information (RDS-TMC) is not received.	Radio broadcasts are received.		NAVI control unit
	Radio broadcasts are not received.		• Radio antenna • Antenna feeder

RELATED TO HANDS-FREE PHONE

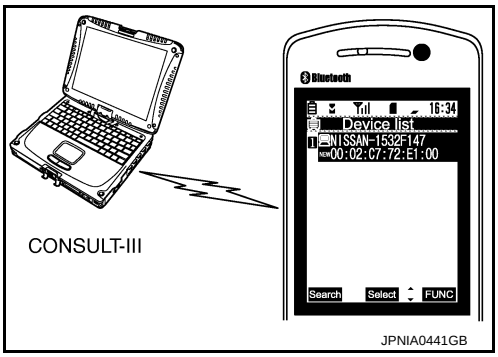
- Check that the cellular phone is the corresponding type (Bluetooth™ enabled) and Bluetooth™ turns ON.

- Malfunction may occur due to the version change of the phone type, etc. even though it is the corresponding type. The cell phone must support at least hands-free profile V1.0 and object push V1.0. Refer to cell phone instruction manual.
- When customers contact concerning Bluetooth™ compatible cell phone malfunction for the first time, always suggest customers to update cellular phone software if possible.
- Check that customer cellular phone is compatible on the published list. The dealer should contact its RBU/ NSC for the list.
- Take note of any exceptions that the list may detail, i.e. no ringing tone or no phonebook transfer etc. If the customer phone is not listed then its full function cannot be guaranteed. NISSAN should not replace the NAVI control unit if the cell phone does not appear on the list or the cell phone is operating as described on the list e.g. no ringing tone, no phonebook transfer etc.
- Take note of any exceptions to other phones made by the same manufacturer as the customers. Any exceptions on one model by a specific manufacturer may be common to all models made by that manufacturer.

Simple Check for Bluetooth™ Communication

If cellular phone and NAVI control unit cannot be connected with Bluetooth™ communication, following procedure allows the technician to judge which device has malfunction.

1. Turn on a cellular phone, not connecting Bluetooth™ communication.
2. Start CONSULT-III, then start Windows®.
3. Set CONSULT-III near a cellular phone.
4. When operated Bluetooth™ registration by cellular phone, check if CONSULT-III* would be displayed on the device name.
   (If other Bluetooth™device is located near cellular phone, a name of the device would be displayed also.)
   NOTE:
   *:Displayed device name is “NISSAN-********”.



- If no device name is displayed, cellular phone is malfunction. 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.

*: There is no 100% guarantee that cellular phone operates all functions on NAVI control unit. Different phone manufacturers implement Bluetooth™ in different ways. Phones on Supported Phone List are tested and any minor exceptions are listed.

Trouble Diagnosis Chart by Symptom

Symptoms	Check items	Possible malfunction location / Action to take
Does not recognize cellular phone connection.	Repeat the registration of cellular phone.	NAVI control unit malfunction. Replace NAVI control unit. Refer to AV-66, "NAVI CONTROL UNIT : Diagnosis Procedure".
Hands-free phone cannot be activated.	• 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.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation is work.	
	Sound operation does not work.	Microphone signal circuit malfunction. Refer to AV-67, "Diagnosis Procedure".
The other party's voice cannot be heard by hands-free phone.	—	TEL voice sound signal circuits malfunction.

RELATED TO AUDIO

Symptoms	Check items		Probable malfunction location / Action to take
Audio sound is not heard.	No sound from all speakers.		NAVI control unit power supply and ground circuit. Refer to AV-66, "NAVI CONTROL UNIT : Diagnosis Procedure".
	Sound is heard only from specific places.		Sound signal circuit of suspect system.
AM/FM radio is not received.	• Other audio sounds are normal. • Check “Radio Antenna” in “SERVICE SYSTEM SELF TEST”, “SERVICE MENU”.	“OK” is displayed for “Radio Antenna”.	NAVI control unit
		“OK” is not displayed for “Radio Antenna”.	• Antenna amp. ON signal circuit. • Antenna base • Antenna feeder
Speed sensitive volume system does not work.	Check “Speed Signal” in “SERVICE SYSTEM STATUS”, “SERVICE MENU”.	A value of “Speed Signal” changes according to vehicle speeds.	NAVI control unit
		A value of “Speed Signal” does not change according to vehicle speeds.	Vehicle speed signal circuit

RELATED TO USB

NOTE:

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

Symptoms	Check items		Probable malfunction location / Action to take
iPod® or USB memory can not be recognized.	With iPod or USB memory Connected, check “USB Device” in “SERVICE STATUS”, “SERVICE MENU”.	iPod or USB memory name is displayed for “USB Device”.	• USB and AUX harness • USB connector and AUX jack • NAVI control unit
		“Removed” is displayed for “USB Device”.	• USB and AUX harness • USB connector and AUX jack

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

RELATED TO AUXILIARY INPUT

NOTE:

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

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.	• USB and AUX harness • USB connector and AUX jack

RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit. Refer to AV-75, "Diagnosis Procedure".
Only specified switch cannot be operated.	Steering switch
“ ”, “SEEK UP”, “SEEK DOWN” and “SOURCE” switches are not operated.	Steering switch signal A circuit. Refer to AV-71, "Diagnosis Procedure".
“ ”, “VOL UP” and “VOL DOWN” switches are not operated.	Steering switch signal B circuit. Refer to AV-73, "Diagnosis Procedure".
The steering switch operates improperly. (The above phenomena excluded.)	• EQ1 circuit • EQ2 circuit • EQ3 circuit

RELATED TO CAMERA

Symptoms	Check items		Probable malfunction location / Action to take
Camera image is not shown.	The guide line display is normal.		• Rear view camera image signal circuit • Rear view camera power supply and ground circuits Refer to AV-69, "Diagnosis Procedure".
The screen is not switched to camera image.	Check “Direction Signal” in “SERVICE SYSTEM STATUS”, “SERVICE MENU”.	“Reverse” is displayed for “Direction Signal” when the shift lever is in R.	NAVI control unit
		“Reverse” is not displayed for “Direction Signal” when the shift lever is in R.	Reverse signal circuit
The guide line display is malfunctioning.	—		EQ4 circuit

NORMAL OPERATING CONDITION

Description

INFOID:0000000006414429

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

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The display is turned off.	Press "☀/☽" to turn on the display.
No voice guidance is available or the volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the voice guidance volume level.
No map is displayed on the screen.	The map SD-card is not inserted.	Insert the map SD-card correctly.
	A screen other than map screen is displayed.	Press "MAP".
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

NOTE:
Locations stored in the Address Book and other memory functions may be lost if the vehicle's battery is disconnected or becomes discharged. If this occurs, service the vehicle's battery as necessary and re-enter the information in the Address Book.

RELATED TO AUDIO

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

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

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than ".MP3", ".WMA", ".mp3", or ".wma" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the CD.
	Check if the CD is protected by copyright.

Symptom	Cause and Counter measure
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.

MAP SD-CARD

Symptom	Possible cause	Possible solution
The message "Error" appears.	The SD-card is not recognized by the system.	Check the map SD-card data. Files can be lost.
		If you see any damage, replace the map SD-card.

RELATED TO ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	You are not driving on the suggested route.	Drive on the suggested route.
	Route guidance is cancelled.	Turn on the route guidance.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculations took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide your trip by selecting one or two intermediate destinations, and perform a global route calculation based on multiple route calculations.
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 point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets.	Reset the destination to a main or ordinary road, and recalculate the route.

Symptom	Possible cause	Possible solution
The landmark information does not correspond to the actual information.	This may be caused by insufficient or incorrect data on the map SD-card.	Updated information will be included in the next version of the map SD-card.
The suggested route does not exactly connect to the starting point, waypoints, or destination.	There is no data for route calculation closes to these locations.	Set the starting point, waypoints and destination on a main road, and perform route calculation.

RELATED TO VEHICLE ICON

Symptom	Possible cause	Possible solution
Names of roads and locations differ between 2D and 3D view.	This is because the quantity of the displayed information is reduced so that the screen does not become difficult to read. There is also a chance that the names of roads or locations may be displayed several times, and that the names appearing on the screen may be different because of a processing procedure.	This is not a malfunction.
The vehicle icon is not displayed in the correct position.	The vehicle was transported after the ignition switch was pressed off, for example, by a ferry or car transporter.	Drive the vehicle for a while on a road where GPS signals can be received.
	The position and direction of the vehicle icon may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.
When the vehicle is travelling on a new road, the vehicle icon is located on another nearby road.	The system automatically places the vehicle icon on the nearest available road, because the new road is not stored in the map data.	Updated road information will be included in the next version of the map SD-card.
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using <Day/Night> when you turn on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Press “MAP”.
The vehicle icon is not displayed.	The current location map screen is not displayed.	Press “MAP”.
The location of the vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position.
	The map data has an error 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 SD-card.

RELATED TO VOICE GUIDANCE

Symptom	Possible cause	Possible solution
Voice guidance is not available	In some cases, voice guidance is not available even when the vehicle should make a turn.	This is not a malfunction.
	The vehicle has deviated from the suggested route.	Go back to the suggested route or request route calculation again
	Voice guide is set to off.	Turn voice guidance ON.
	Route guidance is set to off.	Route guidance is set to OFF.
The guidance contact does not correspond to the actual condition.	The contact of voice guidance may vary, depending on the types of intersections at which turn are made.	Follow all traffic rules and regulations.

REMOVAL AND INSTALLATION

NAVI CONTROL UNIT

Removal and Installation

INFOID:0000000006414430

REMOVAL

1. Remove cluster lid C. Refer to IP-12, "Exploded View".
2. Remove NAVI control unit screws.
3. Disconnect NAVI control unit connectors to remove NAVI control unit and brackets as a single unit.
4. Remove brackets screws to remove NAVI control unit.

INSTALLATION

1. Install in the reverse order of removal.
2. Enter the anti-theft code. Refer to AV-65, "Work Procedure".

FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000006414431

REMOVAL

1. Remove front door finisher. Refer to INT-13, "Exploded View".
2. Remove front door speaker screws, then disconnect front door speaker connector and remove front door speaker.

INSTALLATION

Install in the reverse order of removal.

TWEETER

Removal and Installation

INFOID:0000000006414432

REMOVAL

1. Remove front pillar garnish. Refer to INT-18, "Exploded View".
2. Remove tweeter clip, then disconnect tweeter connector and remove tweeter.

INSTALLATION

Install in the reverse order of removal.

REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000006414433

REMOVAL

1. Remove rear door finisher. Refer to INT-16, "Exploded View".
2. Remove rear door speaker screws, then disconnect rear door speaker connector and remove rear door speaker.

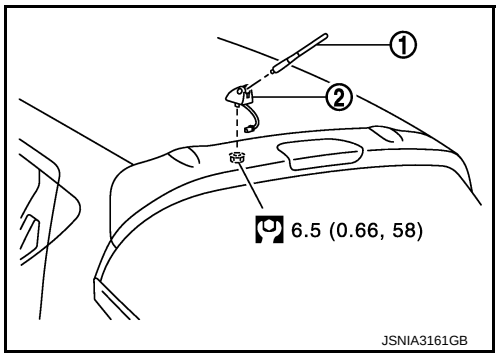
INSTALLATION

Install in the reverse order of removal.

ANTENNA BASE

Exploded View

INFOID:0000000006414434



1. Antenna rod
2. Antenna base

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000006414435

REMOVAL

1. Remove headlining. Refer to INT-26, "Exploded View".
2. Disconnect antenna feeder connector.
3. Remove nut to remove antenna base.

INSTALLATION

Install in the reverse order of removal.

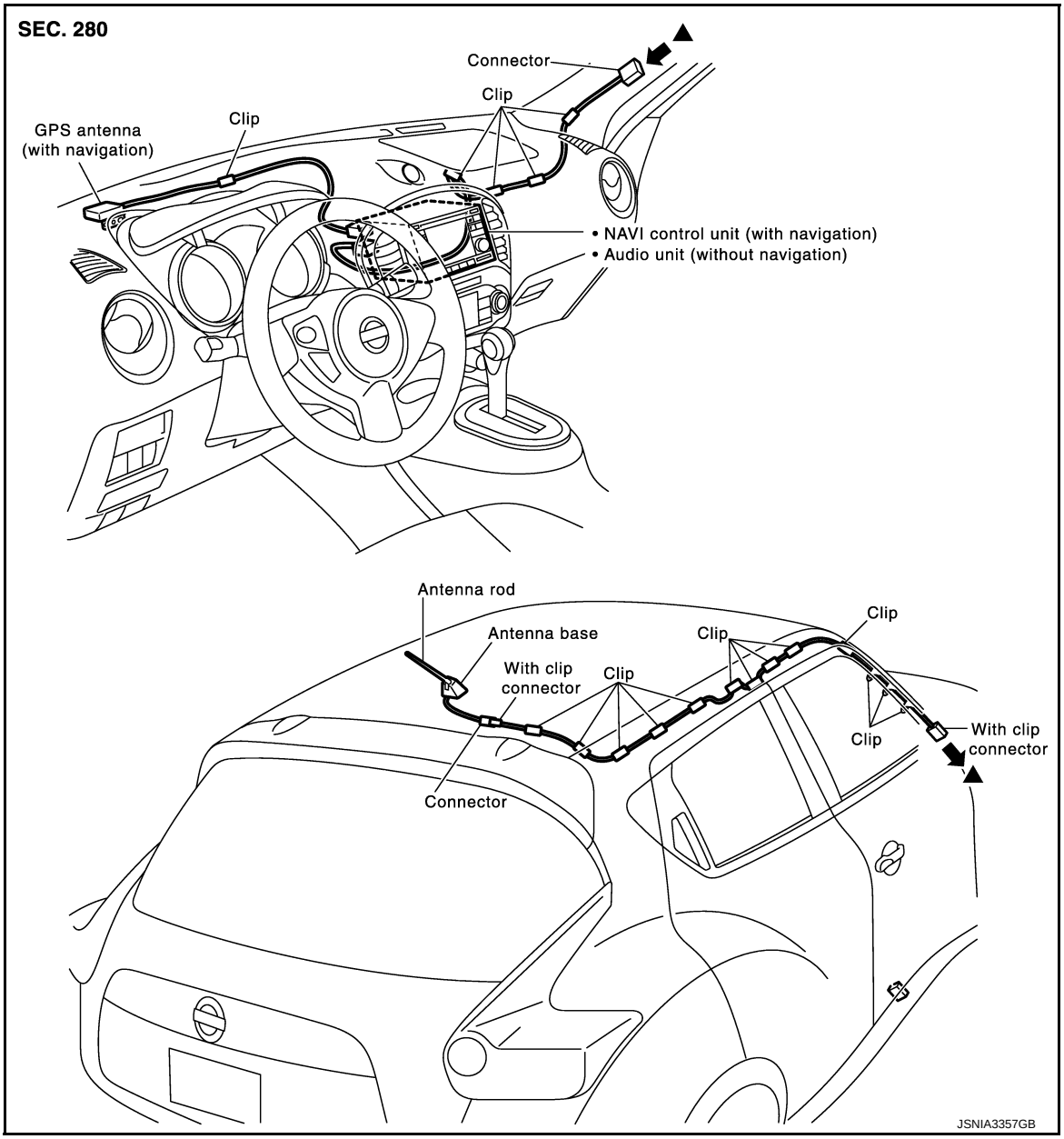
CAUTION:

If the antenna base mounting nut is tightened looser than the specified torque, then this will lower the sensitivity of the antenna. On the other hand, if the nut is tightened tighter than the specified torque, then this will deform the roof panel.

GPS ANTENNA

Feeder Layout

INFOID:0000000006414436



Removal and Installation

INFOID:0000000006414437

REMOVAL

1. Remove instrument panel. Refer to IP-12, "Exploded View".
2. Remove antenna feeder clip, then remove GPS antenna screw and remove GPS antenna.

INSTALLATION

Install in the reverse order of removal.

MICROPHONE

Removal and Installation

INFOID:0000000006414438

REMOVAL

1. Remove headlining. Refer to INT-26, "Exploded View".
2. Remove microphone connector and pawl to remove microphone.

INSTALLATION

Install in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000006578266

Refer to SR-13, "Exploded View".

Removal and Installation

INFOID:0000000006578267

REMOVAL

Refer to SR-13, "Removal and Installation".

INSTALLATION

Install in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000006414440

REMOVAL

1. Remove back door lower finisher. Refer to INT-34, "Exploded View".
2. Remove rear view camera screws to remove rear view camera.

INSTALLATION

Install in the reverse order of removal.

USB CONNECTOR AND AUX JACK

Removal and Installation

INFOID:0000000006414441

REMOVAL

1. Remove cluster tray. Refer to IP-12, "Exploded View".
2. Push the pawl from the back of cluster tray to remove USB connector and AUX jack.

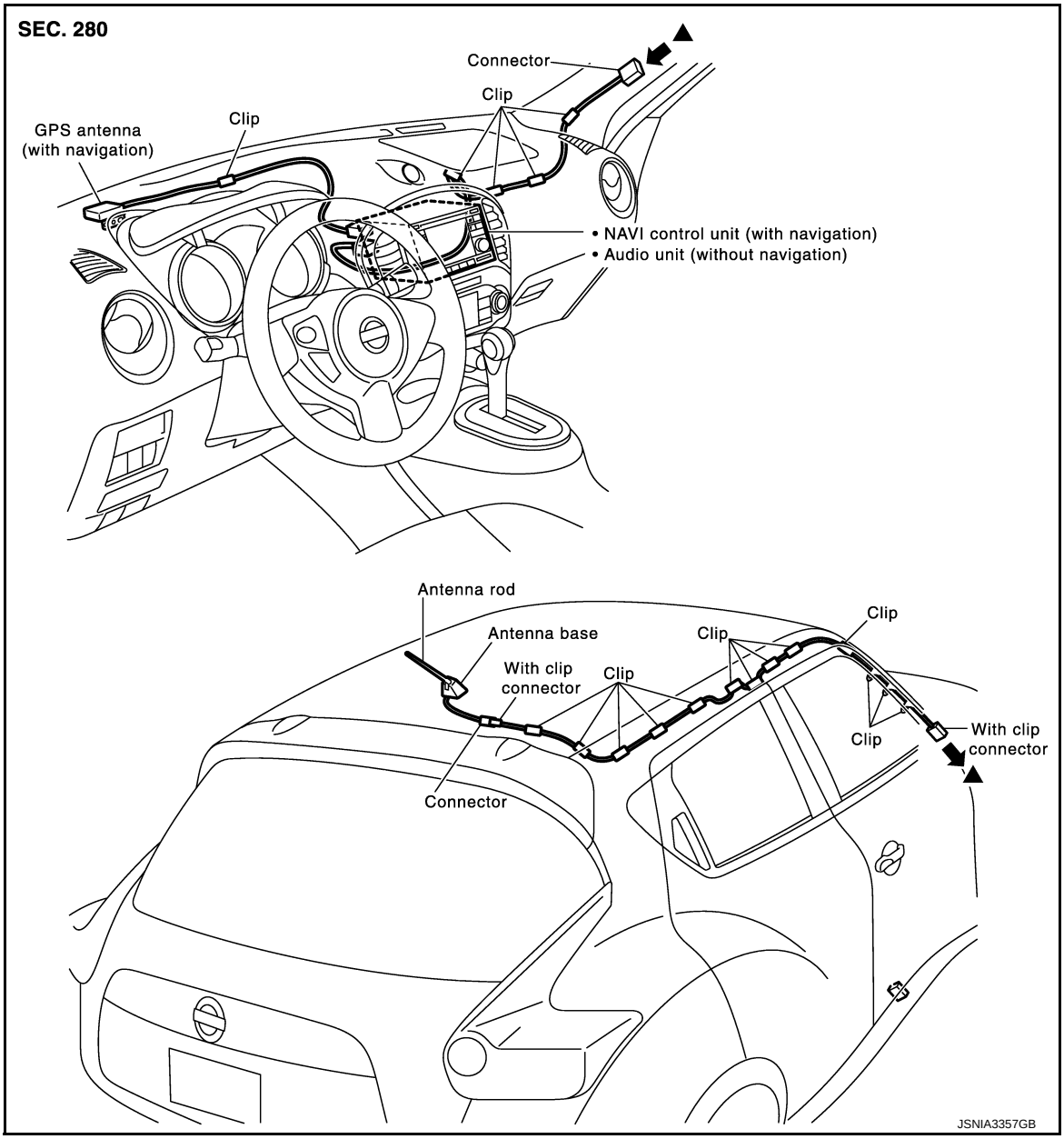
INSTALLATION

Install in the reverse order of removal.

ANTENNA FEEDER

Feeder Layout

INFOID:0000000006414442



PRECAUTION

PRECAUTIONS

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

INFOID:0000000006483317

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. Information necessary to service the system safely is included in the “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

The vehicle may be equipped with a passenger air bag deactivation switch. Because no rear seat exists where a rear-facing child restraint can be placed, the switch is designed to turn off the passenger air bag so that a rear-facing child restraint can be used in the front passenger seat. The switch is located in the center of the instrument panel, near the ashtray. When the switch is turned to the ON position, the passenger air bag is enabled and could inflate for certain types of collision. When the switch is turned to the OFF position, the passenger air bag is disabled and will not inflate. A passenger air bag OFF indicator on the instrument panel lights up when the passenger air bag is switched OFF. The driver air bag always remains enabled and is not affected by the passenger air bag deactivation switch.

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.**
- **The vehicle may be equipped with a passenger air bag deactivation switch which can be operated by the customer. When the passenger air bag is switched OFF, the passenger air bag is disabled and will not inflate. When the passenger air bag is switched ON, the passenger air bag is enabled and could inflate for certain types of collision. After SRS maintenance or repair, make sure the passenger air bag deactivation switch is in the same position (ON or OFF) as when the vehicle arrived for service.**

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

WARNING:

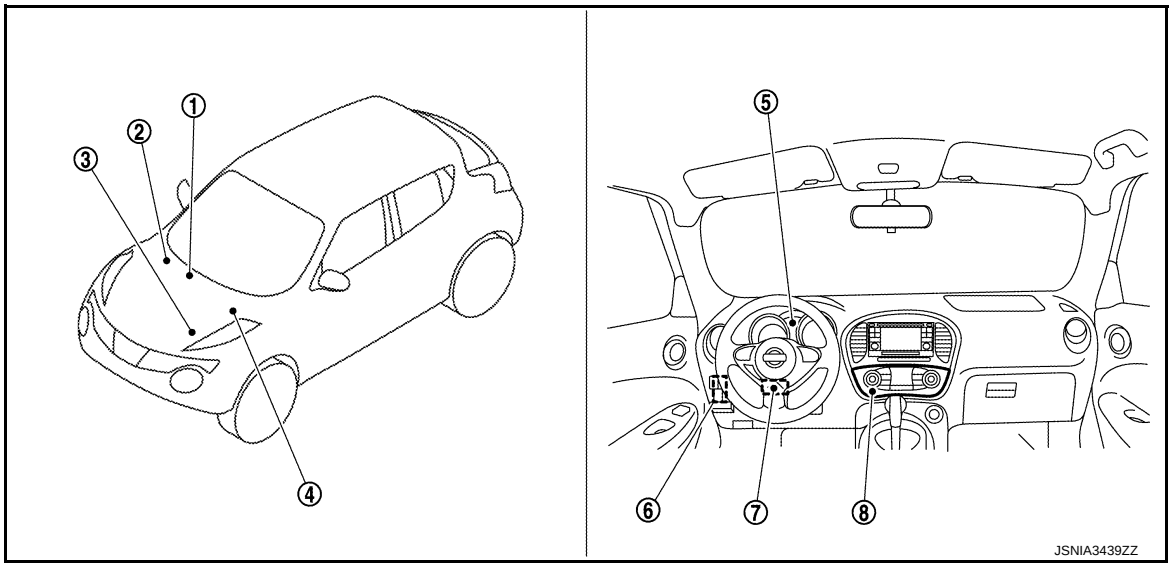
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious 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.**

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000006466790



1. A/C auto amp.
   Refer to HAC-12, "Component Parts Location".
2. ABS actuator and electric unit (control unit)
   Refer to BRC-9, "Component Parts Location" (without ESP) or BRC-97, "Component Parts Location" (with ESP).
3. ECM
   Refer to EC-25, "ENGINE CONTROL SYSTEM : Component Parts Location" (MR16DDT), EC-455, "ENGINE CONTROL SYSTEM : Component Parts Location" (HR16DE) or EC-813, "Component Parts Location" (K9K).
4. TCM
   Refer to TM-314, "CVT CONTROL SYSTEM : Component Parts Location" (CVT: RE0F11A) or TM-131, "CVT CONTROL SYSTEM : Component Parts Location" (CVT RE0F10A).
5. Combination meter
6. BCM
   Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" (with Intelligent Key system) or BCS-96, "BODY CONTROL SYSTEM : Component Parts Location" (without Intelligent Key system).
7. EPS control unit
   Refer to STC-5, "Component Parts Location".
8. Multi display unit

Component Description

INFOID:0000000006466791

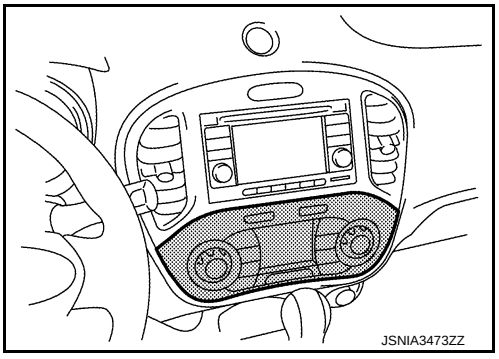
Unit	Description
Multi display unit	• A multi display unit integrating a color display and an operation panel is adopted. • The display indicates the air conditioner operation status, driving mode, information, and setting screen. • The unit transmits operation signals for air conditioner and drive mode to the respective units via CAN communication. • It receives the drive mode selection, information display/setting, and necessary information for controlling the air conditioner control functions from the respective units via CAN communication.
Combination meter	Transmits the following signals to the multi display unit via CAN communication. • Vehicle speed signal • Odometer signal

Unit	Description
ECM	• Transmits the following signals to the multi display unit via CAN communication. - Engine speed signal - Fuel consumption monitor signal - Engine status signal - Engine torque signal - Boost pressure signal (MR16DDT engine models) • Receives the following signals from TCM via CAN communication and changes over the throttle position characteristic (CVT models). - ECO mode signal - NORMAL mode signal - SPORT mode signal • Receives the following signals from the multi display unit via CAN communication and changes over the throttle position characteristic (M/T models except for K9K engine models). - ECO mode signal - NORMAL mode signal - SPORT mode signal
BCM	Transmits the position light request signal to the multi display unit via CAN communication.
TCM (CVT models)	• Receives the following signals from the multi display unit via CAN communication and changes over the gear shift line. - ECO mode signal - NORMAL mode signal - SPORT mode signal • Transmits the following signals to ECM via CAN communication. - Drive mode select signal
A/C auto amp.	• Transmits the A/C display signal to the multi display unit via CAN communication. • Receives the following signals from the multi display unit via CAN communication. - ECO mode signal - A/C ECO setting signal - A/C switch operation signal
EPS control unit	Receives the following signals from the multi display unit via CAN communication. • ECO mode signal • NORMAL mode signal • SPORT mode signal
ABS actuator and electric unit (control unit) (With ESP models)	Transmits the following signals to the multi display unit via CAN communication. • Side G sensor signal • Decel G sensor signal

Multi Display Unit

INFOID:0000000006466792

- A multi display unit integrating a color display and an operation panel is adopted.
- It is connected to other units via CAN communication and performs the drive mode control, air conditioner control, display of various information, and various settings.
- The display can show the drive mode (NORMAL, SPORT, ECO), drive information (travel time, mileage, average vehicle speed), ECO information (fuel consumption history), setting screen as well as engine power, providing information on the vehicle status according to the driver's operation.
- For the operation switch section, newly developed unique switches are adopted, which respectively have 2 types of symbols and functions.



UNIQUE SWITCH

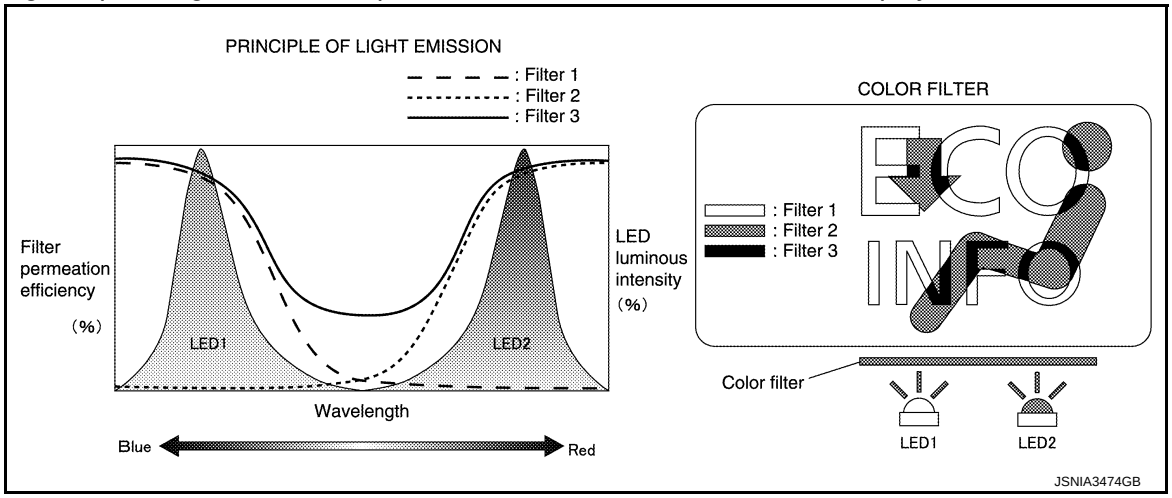
The switch integrates 2 types of LEDs*, filters that pass or absorb specified wavelengths (filter 1, filter 2), and filters adapted to both display colors (filter 3), enabling 2 different symbols to be displayed at a same position by LED changeover.

*: Abbreviation of light emitting diode. It is a semiconductor device that lights up when electric current is applied.

Operation description of unique switch

In drive mode
- LED1 lights up, the light from LED1 passes filter 1 and filter 3, and “ECO INFO” is displayed.

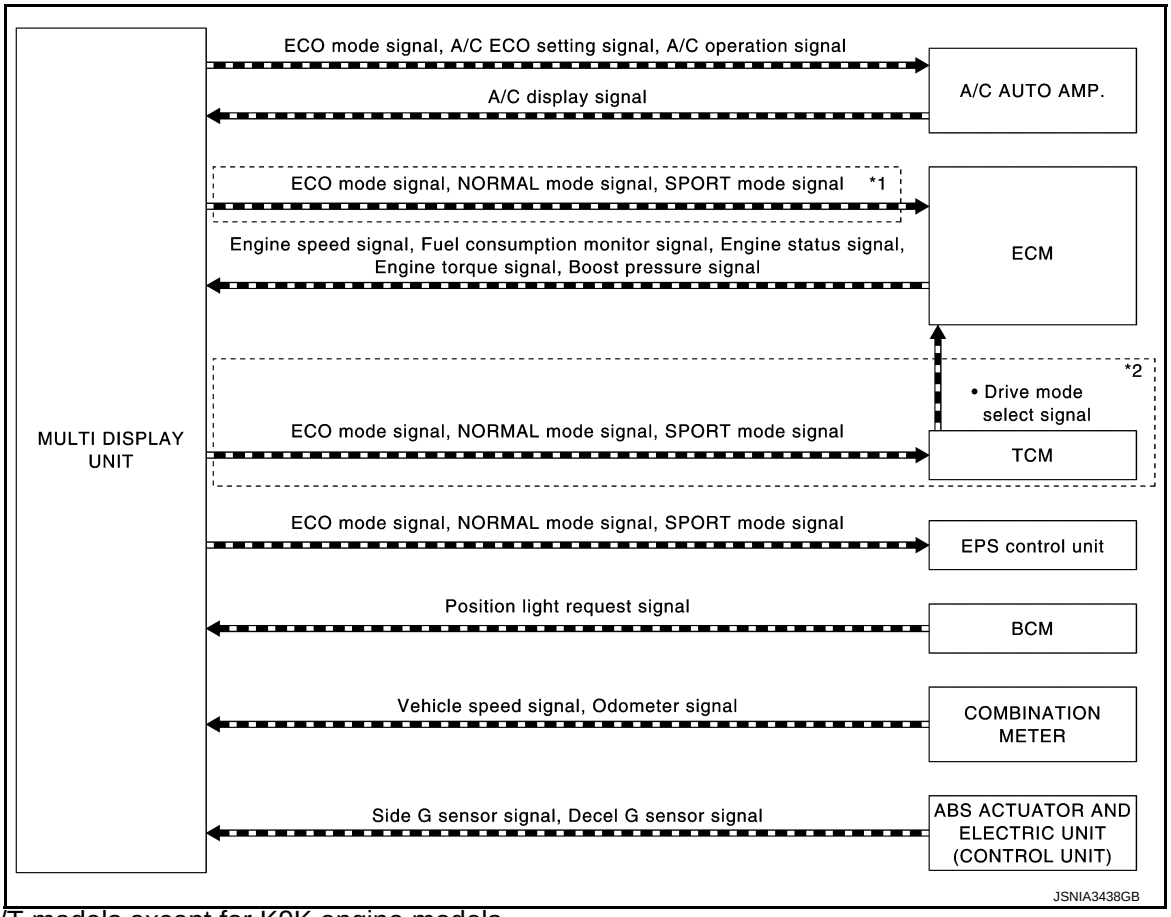
In air conditioner mode
- LED2 lights up, the light from LED2 passes filter 2 and filter 3, and “ ” is displayed.



SYSTEM
NISSAN DYNAMIC CONTROL SYSTEM
NISSAN DYNAMIC CONTROL SYSTEM : System Description

INFOID:0000000006466793

SYSTEM DIAGRAM



- *1: M/T models except for K9K engine models
- *2: CVT models

MULTI DISPLAY UNIT INPUT/OUTPUT SINGNAL

Output signal

Reception unit	Signal name	Description
A/C auto amp.	A/C operation signal	Transmits the air conditioner operation status to the A/C auto amp.
	ECO mode signal	Transmits the “D-MODE” ECO switch status of the multi display unit.
	A/C ECO setting signal	Transmits the “CLIMATE ECO” ON/OFF status on the SET UP screen of the multi display unit.
ECM (M/T models except for K9K engine models)	ECO mode signal	Transmits the “D-MODE” ECO switch status of the multi display unit.
	NORMAL mode signal	Transmits the “D-MODE” NORMAL switch status of the multi display unit.
	SPORT mode signal	Transmits the “D-MODE” SPORT switch status of the multi display unit.
TCM (CVT models)	ECO mode signal	Transmits the “D-MODE” ECO switch status of the multi display unit.
	NORMAL mode signal	Transmits the “D-MODE” NORMAL switch status of the multi display unit.
	SPORT mode signal	Transmits the “D-MODE” SPORT switch status of the multi display unit.

Reception unit	Signal name	Description
EPS control unit	ECO mode signal	Transmits the “D-MODE” ECO switch status of the multi display unit.
	NORMAL mode signal	Transmits the “D-MODE” NORMAL switch status of the multi display unit.
	SPORT mode signal	Transmits the “D-MODE” SPORT switch status of the multi display unit.

Input signal

Transmit unit	Signal name	Description
A/C auto amp.	A/C display signal	Receives a display signal according to the air conditioner status from the A/C auto amp.
ECM	Engine speed signal	Receives the engine speed signal.
	Engine torque signal	Receives the engine torque signal calculated by ECM.
	Fuel consumption monitor signal	Receives the consumption monitor signal calculated by ECM.
	Boost presure signal (MR16DDT engine models)	Receives the boost pressure signal calculated by ECM.
	Engine status signal	Receives the engine status signal.
BCM	Position light request signal	Receives a position light request signal according to the light switch status.
ABS actuator and electric unit (control unit) (with ESP models)	Decel G sensor signal	Receives the decel. G sensor signal calculated by the ABS actuator and electric unit (control unit).
	Side G sensor signal	Receives the side G sensor signal calculated by the ABS actuator and electric unit (control unit).
Combination meter	Vehicle speed signal	Receives the vehicle speed signal.
	Odometer signal	Receives the odometer signal.

SYSTEM DESCRIPTION

- The multi display unit receives necessary information for controlling the following functions from the respective units via CAN communication.
- D-MODE function
- Information display/setting
- Air conditioner adjustment function. Refer to HAC-17, "System Description" (4WD models) or HAC-109, "AUTOMATIC AIR CONDITIONING SYSTEM : System Description" (2WD models).
- The multi display unit transmits the status of user-selected D-MODE (NORMAL, SPORT, or ECO) to the TCM (CVT models), ECM (M/T models except for K9K engine models), EPS control unit and A/C auto amp. For the D-MODE functions, refer to DMS-6, "System Description".
- TCM transmits to ECM the D-MODE status (NORMAL, SPORT, or ECO) received from the multi display unit (CVT models).
- ECM (M/T models except for K9K engine models) and EPS control unit receives the D-MODE status (NORMAL, SPORT, or ECO) from the multi display unit.
- The A/C auto amp. receives the air conditioner switch operation signal, ECO mode signal, and ECO mode switch signal from the multi display unit.
- The multi display unit integrates a diagnosis function that allows a diagnosis by CONSULT-III.

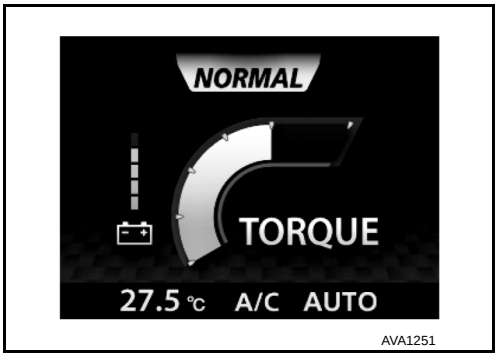
Nissan Dynamic Control System Display/Setting Functions

Category	Display function	Display content
CLIMATE	CLIMATE CONTROL	HAC-17, "System Description" (4WD models) or HAC-109, "AUTOMATIC AIR CONDITIONING SYSTEM : System Description" (2WD models).

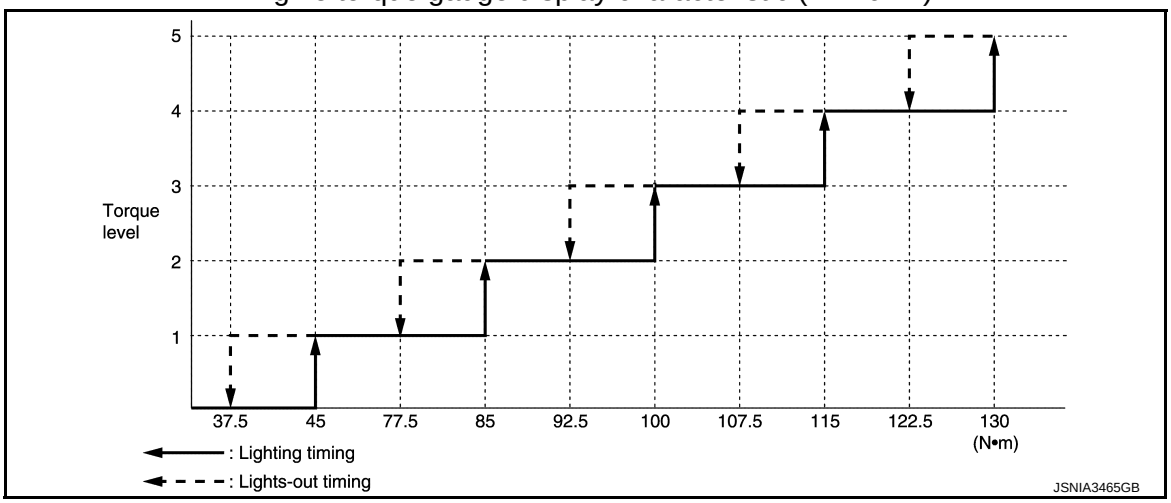
Category		Display function	Display content
DRIVE MODE	NORMAL	ENGINE TORQUE GAUGE	Displays the engine torque in 5 grades when NORMAL is selected with the D-MODE switch.
		VOLTMETER	Displays the voltage input to the multi display unit in 5 grades along with engine torque gauge when NORMAL is selected with the D-MODE switch.
	SPORT	ENGINE POWER GAUGE (except MR16DDT)	Displays the engine power in 5 grades when SPORT is selected with the D-MODE switch.
		BOOST GAUGE (MR16DDT)	Displays the boost gauge reading in 5 grades when SPORT is selected with the D-MODE switch.
	ECO	INSTANTANEOUS FUEL CONSUMPTION GAUGE	Displays the instantaneous fuel consumption in 5 grades when ECO is selected with the D-MODE switch.
Drive Information	G-FORCE		Displays the status of side G and decel. G.
	Drive Information	Travel time	• Displays the total time of key switch ON from a reset to a next reset. • If the total time exceeds 100 hours, the display is reset to "00:00:00" and the time calculation restarts.
		Average speed	Displays the average speed during key switch ON from a reset to a next reset.
		Travel distance	Displays the mileage during key switch ON from a reset to a next reset.
ECO Information		Fuel consumption history	Displays the fuel consumption history data on the basis of daily, weekly, drive interval and reset interval.

Engine Torque Gauge

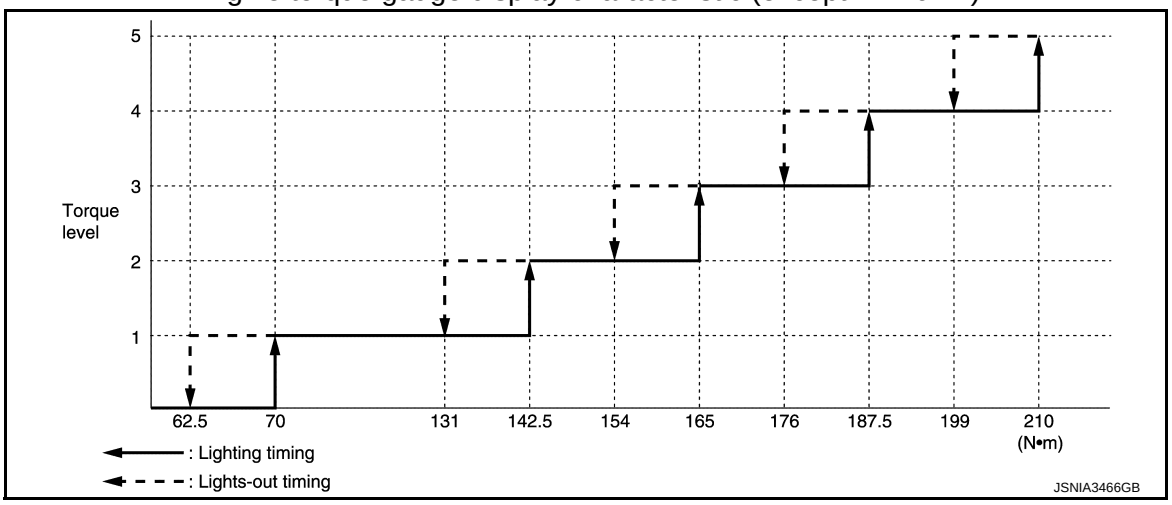
The engine torque gauge displays the engine torque level in 5 grades based on the engine torque signal received from ECM via CAN communication.



Engine torque gauge display characteristic (HR16DE)

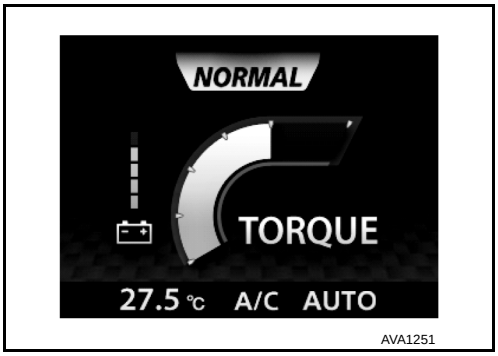


Engine torque gauge display characteristic (except HR16DE)

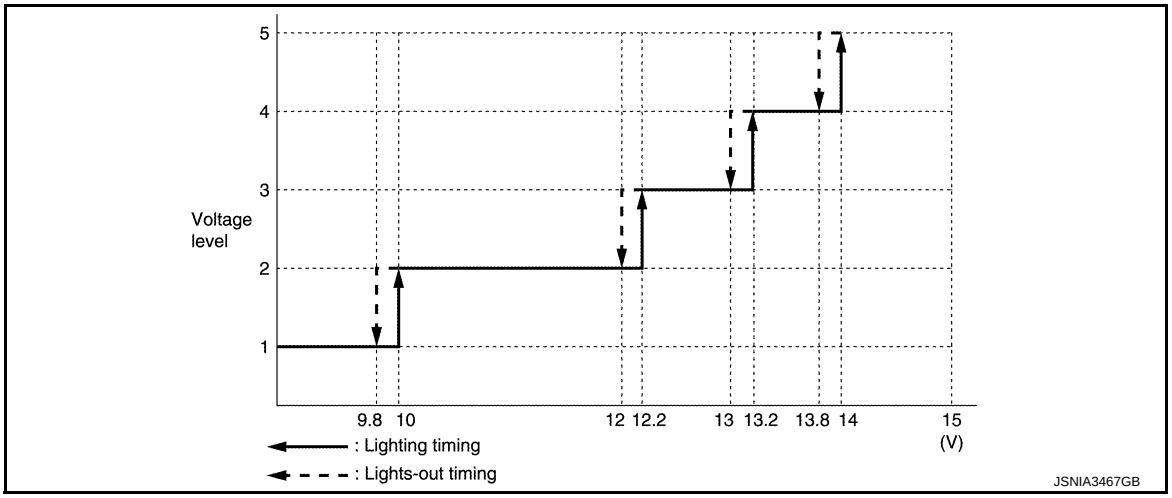


Voltmeter

The voltmeter reads the input voltage of the multi display unit and displays the voltage level in 5 grades according to the reading.

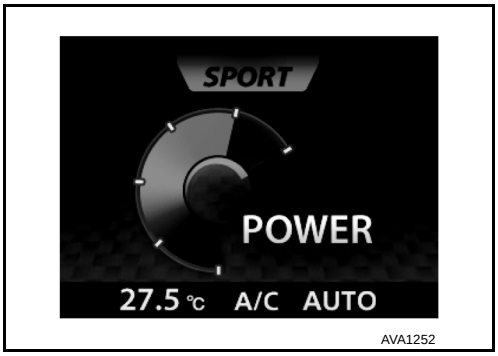


Voltmeter display characteristic

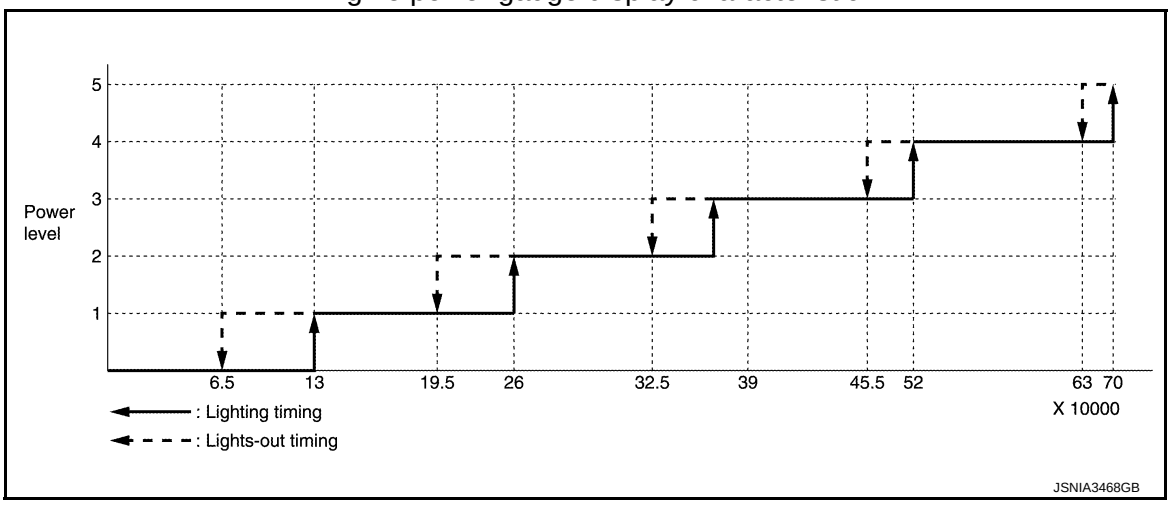


Engine power (except MR16DDT)

The engine power gauge displays the engine power level in 5 grades, which is calculated from the engine speed signal and engine torque signal received from ECM via CAN communication.

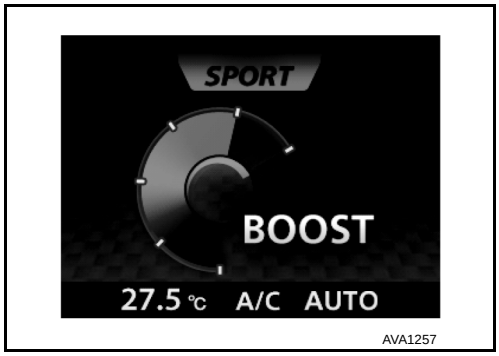


Engine power gauge display characteristic

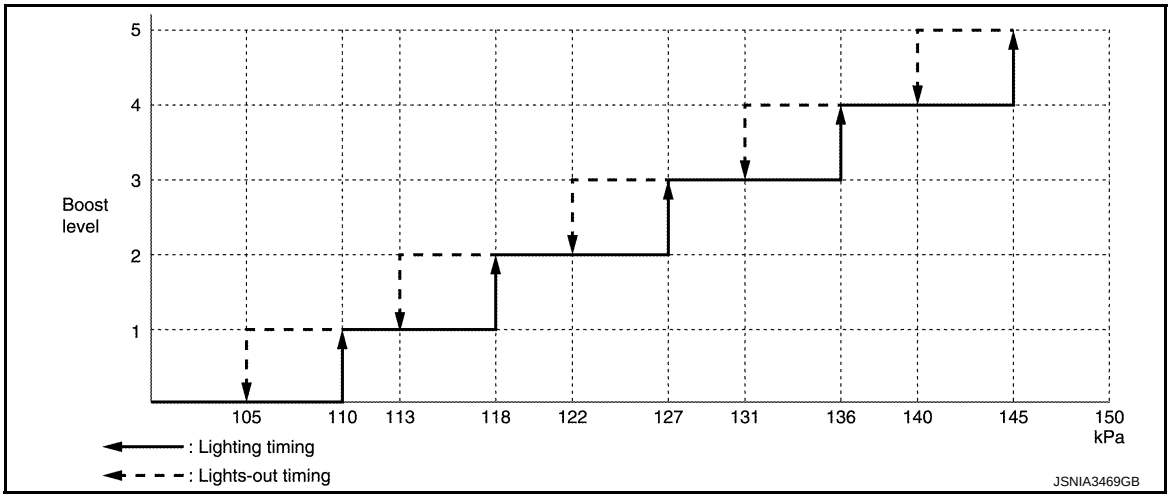


Boost Gauge (MR16DDT)

The boost gauge displays the boost level in 5 grades based on the boost pressure signal received from ECM via CAN communication.

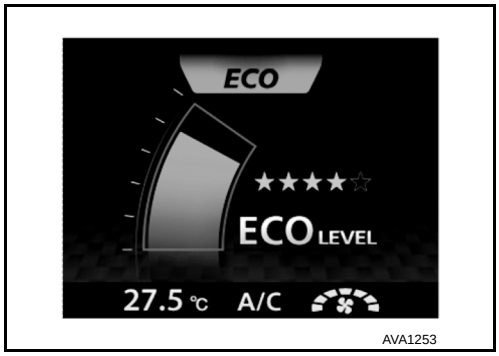


Boost gauge display characteristic

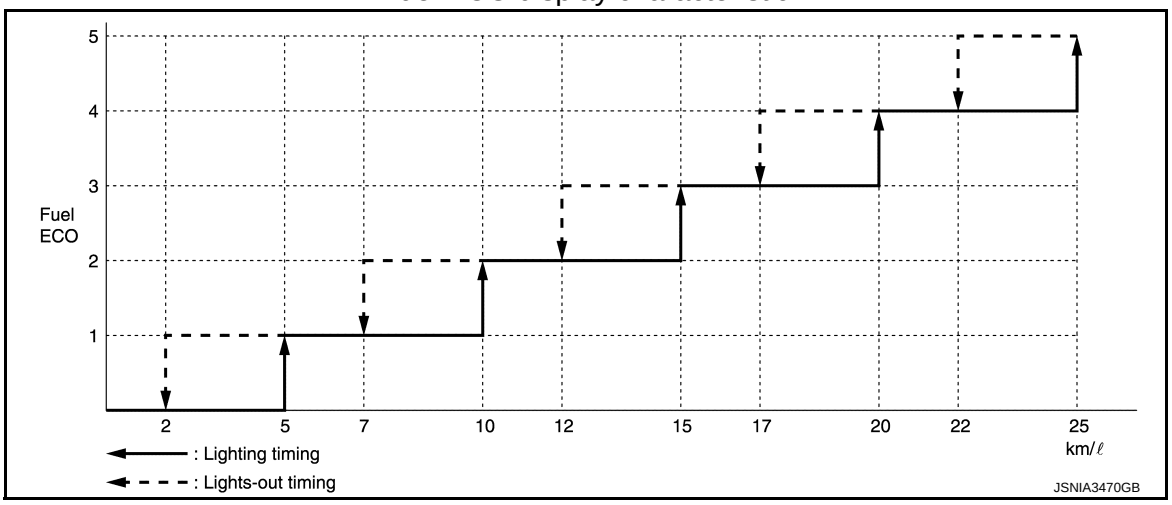


Instantaneous fuel consumption

The instantaneous fuel consumption gauge displays the instantaneous fuel consumption in 5 grades, which is calculated from the fuel consumption monitor signal received from ECM via CAN communication and the vehicle speed signal received from the combination meter via CAN communication.

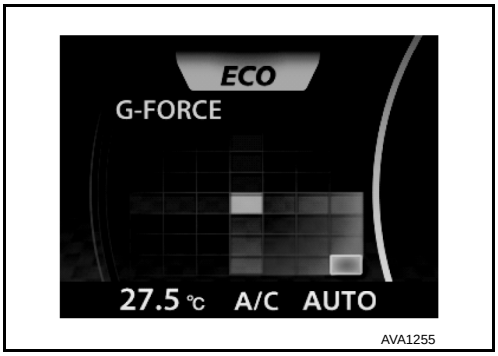


Fuel ECO display characteristic



G-Force (With ESP models)

The G-FORCE gauge displays the decel G level and side G level in 3 grades respectively, which are calculated based on the decel G sensor signal and side G sensor signal received from the ABS actuator and electric unit (control unit) via CAN communication.



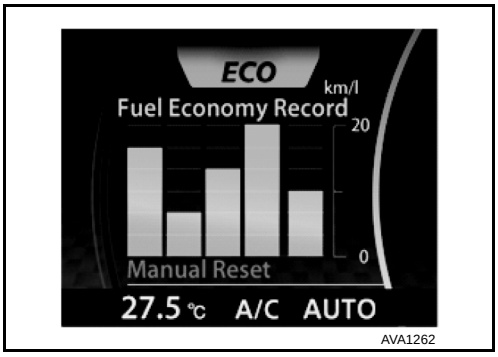
Drive Information

The travel time, average speed, and mileage are displayed as follows.

- Travel time: Displays the time calculated by the multi display unit.
- Average speed: Calculated from the odometer signal and vehicle speed signal received from the combination meter via CAN communication.
- Mileage: Calculated from the odometer signal and vehicle speed signal received from the combination meter via CAN communication.

ECO Information

The fuel economy record is calculated from the fuel consumption monitor signal received from ECM via CAN communication and the vehicle speed signal received from the combination meter via CAN communication.



Set Up

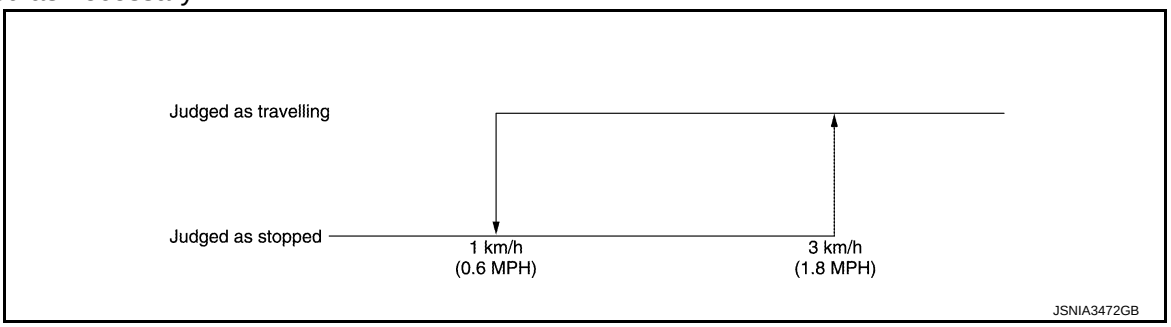
The following items can be set.
- Display Brightness
- Button Brightness
- Select Language
- Select Units
- Clock Time Setting
- CLIMATE ECO
- Auto Interior Illumination
- Selective Door Unlock
- Auto Headlight Sensitivity

AVA1263

Display/operation restrictions
- To secure safety, some functions are not allowed for user operation during driving.
- The functions subject to the display/operation restriction are as follows.

Function		Condition	Control content
ECO information (Fuel Economy Record)	Daily Reset, Weekly Reset, Reset at Start, and Manual Reset	Driving	Cannot be operated (Reset, page scroll)
	Daily Reset, and Weekly Reset	When no time is set	Fuel consumption history is not displayed (Warning message appears)
SET UP		Driving	• Item selection and setting are not available • No display

Driving status judgment criterion
- The driving status is judged from the vehicle speed signal received from the combination meter via CAN communication. The driving status is displayed on the multi display unit and operation restrictions are applied as necessary.



JSNIA3472GB

HANDLING PRECAUTION

Nissan Dynamic Control System

INFOID:0000000006466796

- The engine torque, engine power, boost, and instantaneous fuel consumption are provided for information purposes only. They are not intended to prompt the driver to adjust driving style. The readings may be slightly delayed relative to the actual vehicle behaviors. This is not a malfunction.
- The voltmeter reading cannot be used as an indicator for battery replacement because it indicates the input voltage to the multi display unit, not the battery voltage.
- The SET UP screen are viewable and operable only while the vehicle is stopped.
- The ECO information screen is operable only while the vehicle is stopped.
- If no time setting is performed, the daily and weekly fuel consumption history data are not displayed.
- The readings may differ from the actual values depending on driving conditions.

DIAGNOSIS SYSTEM (MULTI DISPLAY UNIT)

CONSULT-III Function

INFOID:0000000006466797

APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with multi display unit.

Diagnosis mode	Description
Self Diagnostic Results	Displays malfunctioning systems stored in the multi display unit.
Data Monitor	Displays the multi display unit input/output data in real time.
Active Test	The multi display unit sends a drive signal to electronic components to check their operation.
CAN Diag Support Monitor	Displays CAN communication status.

SELF DIAGNOSTIC RESULT

Refer to AV-111, "DTC Index".

DATA MONITOR

Monitor item	Unit	Description
ECO SW	On / Off	Displays the ECO switch signal status sent via CAN communication.
NORMAL SW	On / Off	Displays the NORMAL switch signal status sent via CAN communication.
SPORTS SW	On / Off	Displays the SPORTS switch signal status sent via CAN communication.
BOOST PRESSURE*1	kPa	Displays the boost pressure signal value received from ECM via CAN communication.
ENGINE SPEED	Tr/min	Displays the engine speed signal value received from ECM via CAN communication.
ENGINE TORQUE	Nm	Displays the engine torque signal value received from ECM via CAN communication.
BATTERY VOLTAGE	V	Displays the input voltage value.
FUEL CONSUMPTION	mm^3	Displays the fuel consumption signal value received from ECM via CAN communication.
VEHICLE SPEED	km/h	Displays the vehicle speed signal value received from the combination meter via CAN communication.
LONG ACC	G	Displays the decel G signal received from ABS actuator and electric unit (control unit) via CAN communication.
TRANCE ACC	G	Displays the side G signal received from ABS actuator and electric unit (control unit) via CAN communication.
DIST TOTAL	km	Displays the mileage signal value received from the combination meter via CAN communication.
POSI LIGHT REQ	On / Off	Displays the parking lamp signal value received from BCM via CAN communication.
CLUSTER ILL REQ	On / Off	Displays the dimming signal value received from BCM via CAN communication.
ENGINE STATUS	STOP / STALL / RUN / CRA	Displays the engine status signal value received from ECM via CAN communication.
A/C SW*2	On / Off	Displays the A/C switch signal status sent via CAN communication.
AUTO SW*2	On / Off	Displays the AUTO switch signal status sent via CAN communication.
RR DEF SW*2	On / Off	Displays the RR DEF switch signal status sent via CAN communication.
FR DEF SW*2	On / Off	Displays the FR DEF switch signal status sent via CAN communication.
VENT SW1*2	On / Off	Displays the air outlet switch signal status sent via CAN communication.
VENT SW2*2	VENT / B/L / FOOT / D/F	Displays the air outlet switch signal status sent via CAN communication.

Monitor item	Unit	Description
INTAKE SW*2	On / Off	Displays the air intake switch signal status sent via CAN communication.
INTAKE SW LONG PUSH*2	On / Off	Displays the air intake switch hold signal status sent via CAN communication.
OFF SW*2	On / Off	Displays the OFF switch signal status sent via CAN communication.
TEMP SW1*2	On / Off	Displays the temperature control dial signal status sent via CAN communication.
FAN SW1*2	On / Off	Displays the fan control dial signal status sent via CAN communication.
A/C SW IND	On / Off	Displays the A/C switch indicator signal value received from the A/C auto amp. via CAN communication.
A/C INDICATOR	On / Off	Displays the A/C display signal value received from the A/C auto amp. via CAN communication.
OFF INDICATOR	On / Off	Displays the OFF display signal value received from the A/C auto amp. via CAN communication.
AIR VENT IND	Non-display / VENT / B/L / FOOT / D/F / DEF	Displays the air outlet indicator signal value received from the A/C auto amp. via CAN communication.
FR DEF SW IND	On / Off	Displays the RF DEF indicator signal value received from the A/C auto amp. via CAN communication.
FRE SW IND	On / Off	Displays the FRE indicator signal value received from the A/C auto amp. via CAN communication.
REC SW IND	On / Off	Displays the REC indicator signal value received from the A/C auto amp. via CAN communication.
RR DEF SW IND	On / Off	Displays the RR DEF indicator signal value received from the IPDM E/R via CAN communication.
AUTO IND	Off / Auto	Displays the AUTO indicator signal value received from the A/C auto amp. via CAN communication.
TEMP IND	°C	Displays the temperature setting unit signal value received from the A/C auto amp. via CAN communication.
FAN IND	Off / speed	Displays the fan setting signal value received from the A/C auto amp. via CAN communication.

- *1: MR16DDT
- *2: This is not used to determine ON/OFF of the indicator lamp.

ACTIVE TEST

Test Item	Description
INDICATOR	The test activates the switch illuminations, display illuminations, and switch LEDs in the AIR CON mode and D-MODES to see if they are functioning normally.

Indicator

Test Item	Function
INDICATOR	The sequence below is repeated. • All indicators remain ON for 5 seconds in AIR CON mode⇔All indicators remain ON for 5 seconds in D-MODE.

ECU DIAGNOSIS INFORMATION

MULTI DISPLAY UNIT

Reference Value

INFOID:0000000006466798

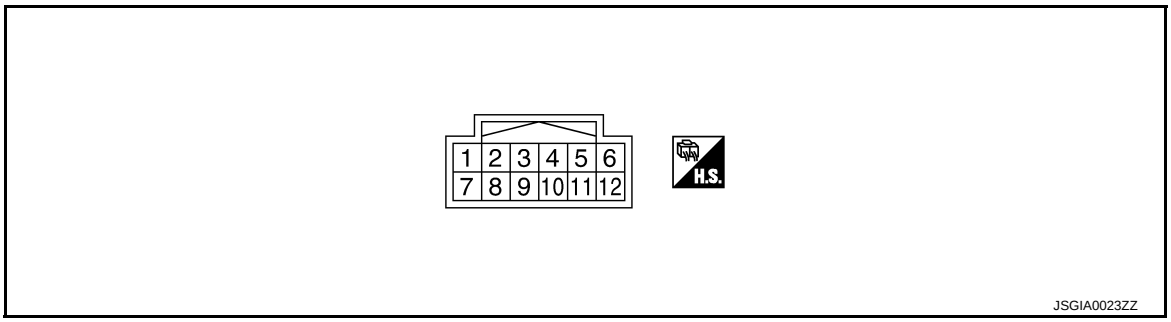
VALUES ON THE DIAGNOSIS TOOL

Monitor item	Test condition		Reference value/Status
ECO SW	Ignition switch ON	ECO mode	On
		Other than the above	Off
NORMAL SW	Ignition switch ON	NORMAL mode	On
		Other than the above	Off
SPORTS SW	Ignition switch ON	SPORT mode	On
		Other than the above	Off
BOOST PRESSURE*1	Ignition switch ON	Engine running	Values according to boost pressure
ENGINE SPEED [Tr/min]	Ignition switch ON	Engine running	Values according to engine speed
ENGINE TORQUE [Nm]	Ignition switch ON	Engine running	Values according to engine torque
BATTERY VOLTAGE [V]	Ignition switch ON	—	Values according to input voltage
FUEL CONSUMPTION [mm^3]	Ignition switch ON	Engine running	Values according to instantaneous fuel consumption
VEHICLE SPEED [km/h]	Ignition switch ON	Driving	Values according to vehicle speed
LONG ACC [G]	Ignition switch ON	Driving	Values according to decel. G
TRANCE ACC [G]	Ignition switch ON	Driving	Values according to side G
DIST TOTAL [km/h]	Ignition switch ON	—	Values according to mileage
POSI LIGHT REQ	Ignition switch ON	Light SW at 1st or 2nd position	On
		Light switch OFF	Off
CLUSTER ILL REQ	Ignition switch ON	Block the light beam from the auto light sensor when the light switch is in the 1st position, 2nd position or AUTO position.	On
		Expose the auto light sensor to light when the light switch is OFF or in the 1st position, 2nd position or AUTO position.	Off
ENGINE STATUS	Ignition switch ON	Engine stop	STOP
		Engine stall	STALL
		Engine running	RUN
		Engine cranking	CRA
A/C SW*2	Ignition switch ON	Cycles On/Off whenever the A/C switch is pressed.	On→Off→On
AUTO SW*2	Ignition switch ON	Cycles On/Off whenever the AUTO switch is pressed.	On→Off→On
RR DEF SW*2	Ignition switch ON	While the rear DEF switch is held down	On
	Ignition switch ON	Other than the above	Off

Monitor item	Test condition		Reference value/Status
FR DEF SW*2	Ignition switch ON	Cycles On/Off whenever the front DEF switch is pressed.	On→Off→On
VENT SW1*2	Ignition switch ON	Cycles On/Off whenever the VENT, B/L, FOOT, or D/F switch is pressed.	On→Off→On
VENT SW2*2	Ignition switch ON	Press the VENT switch.	VENT
		Press the B/L switch.	B/L
		Press the FOOT switch.	FOOT
		Press the D/F switch.	D/F
INTAKE SW*2	Ignition switch ON	Cycles On/Off whenever the intake switch is pressed.	On→Off→On
INT SW LONG PUSH*2	Ignition switch ON	Cycles On/Off whenever the intake switch is held down.	On→Off→On
Off SW*2	Ignition switch ON	Cycles On/Off whenever the OFF switch is held down.	On→Off→On
TEMP SW1*2	Ignition switch ON	Cycles On/Off whenever the temperature control dial is turned clockwise or counterclockwise.	On→Off→On
FAN SW1*2	Ignition switch ON	Cycles On/Off whenever the fan control dial is turned clockwise or counterclockwise.	On→Off→On
A/C SW IND	Ignition switch ON	A/C switch indicator ON	On
		A/C switch indicator OFF	Off
A/C INDICATOR	Ignition switch ON	A/C indicator ON	On
		A/C indicator OFF	Off
Off INDICATOR	Ignition switch ON	Air conditioner OFF	On
		Other than the above	Off
AIR VENT IND	Ignition switch ON	Air conditioner OFF	Nothing displayed.
		VENT mode	VENT
		B/L mode	B/L
		FOOT mode	FOOT
		D/F mode	D/F
		DEF mode	DEF
FR DEF SW IND	Ignition switch ON	Front DEF switch indicator ON	On
		Other than the above	Off
FRE SW IND	Ignition switch ON	FRE switch indicator ON	On
		Other than the above	Off
REC SW IND	Ignition switch ON	REC switch indicator ON	On
		Other than the above	Off
RR DEF SW IND	Ignition switch ON	Rear DEF switch indicator ON	On
		Other than the above	Off
AUTO IND	Ignition switch ON	MANUAL mode	Off
		AUTO mode	Auto
TEMP IND [°C]	Ignition switch ON	—	Displays the temperature set by the user.
FAN IND	Ignition switch ON	Air conditioner OFF	Off
		Displays a value according to the fan speed.	1 to 7 speed

- *1:MR16DDT
- *2: This is not used to determine ON/OFF of the indicator lamp.

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition	Standard	Reference value
+	–	Signal name	Input/ Output			
1 (Y)	10 (B) 11 (B)	Battery power supply	Input	Ignition switch OFF	9 V – 16 V	Battery power supply
5 (GR)	—	—	—	—	—	—
6 (L)	—	CAN -H	—	—	—	—
7 (LG)	10 (B) 11 (B)	Ignition power supply	Input	Ignition switch ON	9 V – 16 V	Battery power supply
12 (P)	—	CAN -L	—	—	—	—

DTC Inspection Priority Chart

INFOID:0000000006466799

When multiple DTCs are displayed simultaneously, check one by one according to the following priority list.

Priority	DTC inspection priority order item
1	• U1000 : CAN COMM CIRCUIT • U1010 : CONTROL UNIT (CAN)
2	• U1402 : ENGINE SPEED SIGNAL • U1405 : ENGINE TORQUE SIGNAL • U1406 : BOOST PRESSURE INPUT* • U1412 : LONG ACC INPUT • U1413 : TRANS ACC INPUT

*: MR16DDT

DTC Index

INFOID:0000000006466800

DTC	CONSULT-III display	Refer to
U1000	CAN COMM CIRCUIT	AV-116, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN)	AV-117, "Diagnosis Procedure"
U1402	ENGINE SPEED SIGNAL	AV-118, "Diagnosis Procedure"
U1405	ENGINE TORQUE SIGNAL	AV-119, "Diagnosis Procedure"
U1406*	BOOST PRESSURE INPUT	AV-120, "Diagnosis Procedure"

DTC	CONSULT-III display	Refer to
U1412	LONG ACC INPUT	AV-121, "Diagnosis Procedure"
U1413	TRANS ACC INPUT	AV-122, "Diagnosis Procedure"

*: MR16DDT

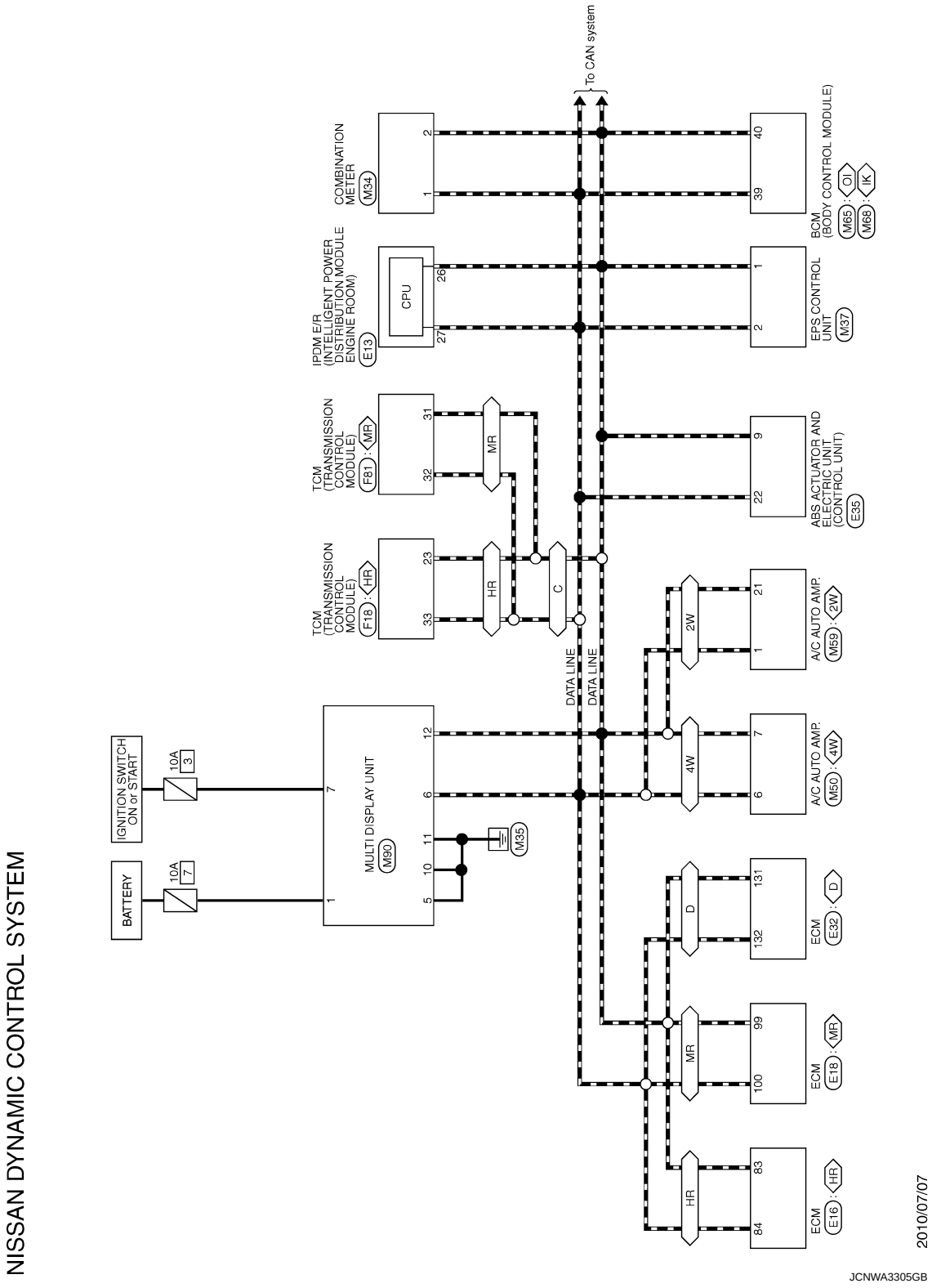
WIRING DIAGRAM

NISSAN DYNAMIC CONTROL SYSTEM

Wiring Diagram

INFOID:0000000006628811

For connector terminal arrangements, harness layouts, and alphabets in a ⬡ (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information/Explanation of Option Abbreviation".



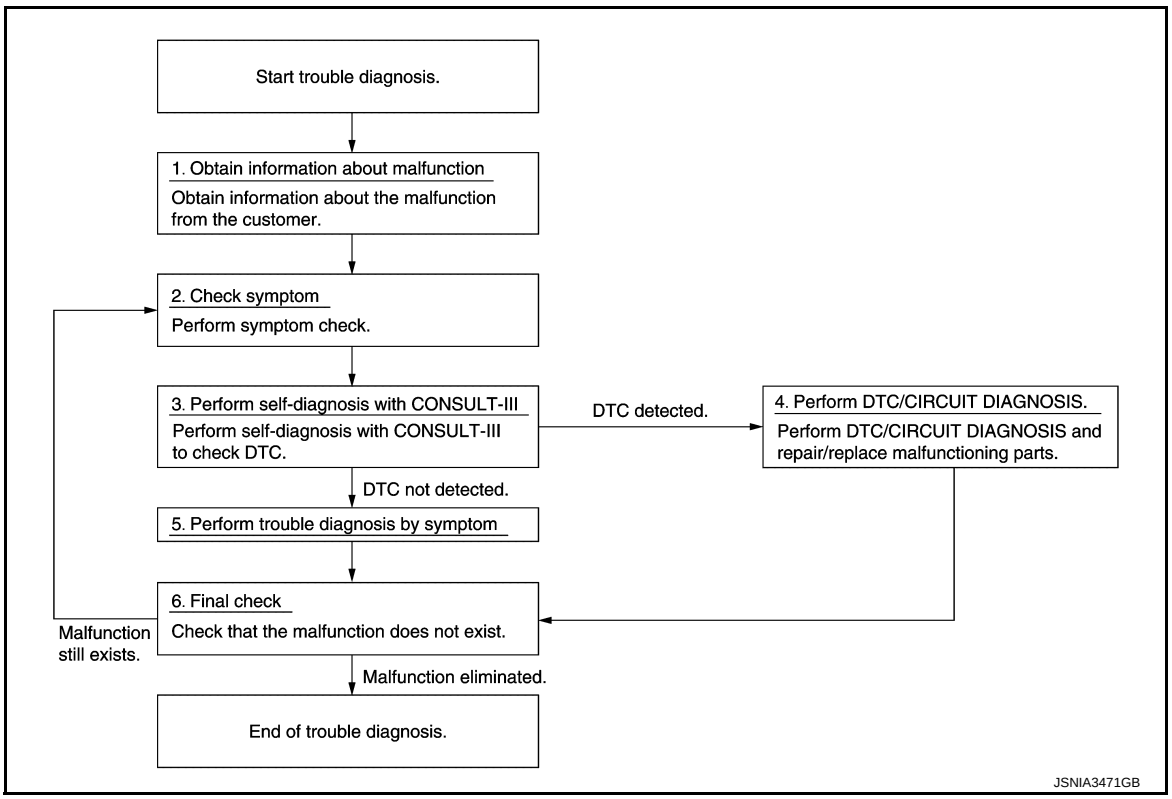
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000006466802

DESCRIPTION OF TROUBLE DIAGNOSIS FLOWCHART



DETAILS OF TROUBLE DIAGNOSIS FLOWCHART

1.OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurs.

>> GO TO 2.

2.CHECK SYMPTOM

- Check the symptom based on the information obtained from the customer.
- Check if any other malfunctions are present.

>> GO TO 3.

3.CONSULT-III SELF-DIAGNOSIS

Perform “MULTI DISPLAY” “self diagnosis” by connecting CONSULT-III.

NOTE:

If “CAN COM CIRC [U1000]” is displayed, start the diagnosis from the CAN communication system. AV-116, "Diagnosis Procedure".

Is any DTC No. displayed?

YES >> GO TO 4.
NO >> GO TO 5.

4.DTC/SYSTEM DIAGNOSIS

Perform a DTC/system diagnosis and repair or replace any malfunctioning part.

>> GO TO 6.

5. PERFORM DIAGNOSIS BY SYMPTOM

Perform a diagnosis by symptom and repair or replace any malfunctioning part.

>> GO TO 6.

6. FINAL CHECK

Check that the multi display unit functions normally.

Does it operate normally?

YES >> End of trouble diagnosis
NO >> GO TO 2.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000006466803

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-board multiplex communication line with high data communication speed and excellent error detection ability. A modern vehicle is equipped with many ECUs, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, 2 control units are connected with 2 communication lines (CAN-L-line and CAN-H-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
Refer to LAN-31, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart" for details of the communication signal.

DTC Logic

INFOID:0000000006466804

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Malfunction detection condition	Probable malfunction location
U1000	CAN COMM CIRCUIT	Multi display unit cannot transmit and receive any CAN communication signal for 2 seconds or more	CAN communication system

Diagnosis Procedure

INFOID:0000000006466805

1.PERFORM SELF-DIAGNOSIS

1. Turn the ignition switch ON and hold it for 2 seconds or more.
2. Using CONSULT-III, check the ”self diagnosis result“ of ”MULTI DISPLAY“.

Is CAN communication system displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000006466806

Initial diagnosis of multi display unit

DTC Logic

INFOID:0000000006466807

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Malfunction detection condition	Probable malfunction location
U1010	CONTROL UNIT (CAN)	Malfunction is detected during initial diagnosis of multi display unit CAN controller	Multi display unit

Diagnosis Procedure

INFOID:0000000006466808

1.REPLACE THE MULTI DISPLAY UNIT

If DTC U1010 is detected, replace the multi display unit. AV-125, "Removal and Installation".

>> INSPECTION END

U1402 ENGINE SPEED SIGNAL

DTC Logic

INFOID:0000000006466809

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Malfunction detection condition	Probable malfunction location
U1402	ENGINE SPEED SIGNAL	ECM continuously transmits abnormal engine speed signal for 2 seconds or more	ECM

Diagnosis Procedure

INFOID:0000000006466810

1.PERFORM ECM SELF DIAGNOSIS

Using CONSULT-III, check the “self diagnosis result” of “ENGINE” and repair or replace any malfunctioning parts.

>> • Refer to EC-108, "DTC Index". (MR16DDT)
• Refer to EC-522, "DTC Index". (HR16DE)
• Refer to EC-855, "DTC Index". (K9K)

U1405 ENGINE TORQUE SIGNAL

DTC Logic

INFOID:0000000006466811

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Malfunction detection condition	Probable malfunction location
U1405	ENGINE TORQUE SIGNAL	ECM continuously transmits abnormal engine torque signals for 2 seconds or more	ECM

Diagnosis Procedure

INFOID:0000000006466812

1.PERFORM ECM SELF-DIAGNOSIS

Using CONSULT-III, check the “self diagnosis result” of “ENGINE” and repair or replace any malfunctioning parts.

>> • Refer to EC-108, "DTC Index". (MR16DDT)
• Refer to EC-522, "DTC Index". (HR16DE)
• Refer to EC-855, "DTC Index". (K9K)

U1406 BOOST PRESSURE INPUT

DTC Logic

INFOID:0000000006466819

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Malfunction detection condition	Probable malfunction location
U1406	BOOST PRESSURE INPUT	ECM continuously transmits abnormal boost pressure signals for 2 seconds or more	ECM

Diagnosis Procedure

INFOID:0000000006466820

1.PERFORM ECM SELF-DIAGNOSIS

Using CONSULT-III, check the “self diagnosis result” of “ENGINE” and repair or replace any malfunctioning parts.

>> Refer to EC-108, "DTC Index".

U1412 LONG ACC INPUT

DTC Logic

INFOID:0000000006466821

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Malfunction detection condition	Probable malfunction location
U1412	LONG ACC INPUT	Abnormal decel G sensor signals are input from ABS actuator and electric unit (control unit) for 2 seconds or more	ABS actuator and electric unit (control unit)

Diagnosis Procedure

INFOID:0000000006466822

1.PERFORM ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS

Using CONSULT-III, check the “self diagnosis result” of “ABS” and repair or replace any malfunctioning parts.

>> Refer to BRC-142, "DTC Index".

U1413 TRANS ACC INPUT

DTC Logic

INFOID:0000000006466823

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Malfunction detection condition	Probable malfunction location
U1413	TRANS ACC INPUT	Abnormal side G sensor signals are input from ABS actuator and electric unit (control unit) for 2 seconds or more	ABS actuator and electric unit (control unit)

Diagnosis Procedure

INFOID:0000000006466824

1.PERFORM ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS

Using CONSULT-III, check the “self diagnosis result” of “ABS” and repair or replace any malfunctioning parts.

>> Refer to BRC-142, "DTC Index".

POWER SUPPLY AND GROUND CIRCUIT
MULTI DISPLAY UNIT

MULTI DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000006466813

1.CHECK FUSES

Check if any of the following fuses are blown:

Signal name	Fuse No.
Battery power supply	7
Ignition power	3

Is the check result normal?

YES >> GO TO 2.
NO >> Replace fuse with a new one after repairing the applicable circuit.

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between multi display unit harness connector and ground.

Multi display unit				Signal name	Ignition switch	Standard	Reference value
(+)		(–)					
Connector	Terminal	Connector	Terminal				
M90	1	M90	5 10 11	Battery power supply	OFF	9 V – 16 V	Battery voltage
	7			Ignition power	ON	9 V – 16 V	Battery voltage

Is the check result normal?

YES >> GO TO 3.
NO >> Repair harness between fuse and multi display unit.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Remove multi display unit connector.
3. Check for continuity between multi display unit harness connector and ground.

Multi display unit		Ground	Continuity
Connector	Terminal		
M90	10		Exists
	11		Exists

Is the check result normal?

YES >> INSPECTION END
NO >> Repair the harnesses or connectors.

SYMPTOM DIAGNOSIS

NISSAN DYNAMIC CONTROL SYSTEM

Symptom Table

INFOID:0000000006466814

Symptoms	Check items	Possible malfunction location/Action to take
Switches are inoperative	All switches do not work.	Perform self-diagnosis of CONSULT-III. Refer to AV-107, "CONSULT-III Function".
	Only (one) specified switch does not work.	Replace multi display unit. Refer to AV-125, "Removal and Installation".

REMOVAL AND INSTALLATION

MULTI DISPLAY UNIT

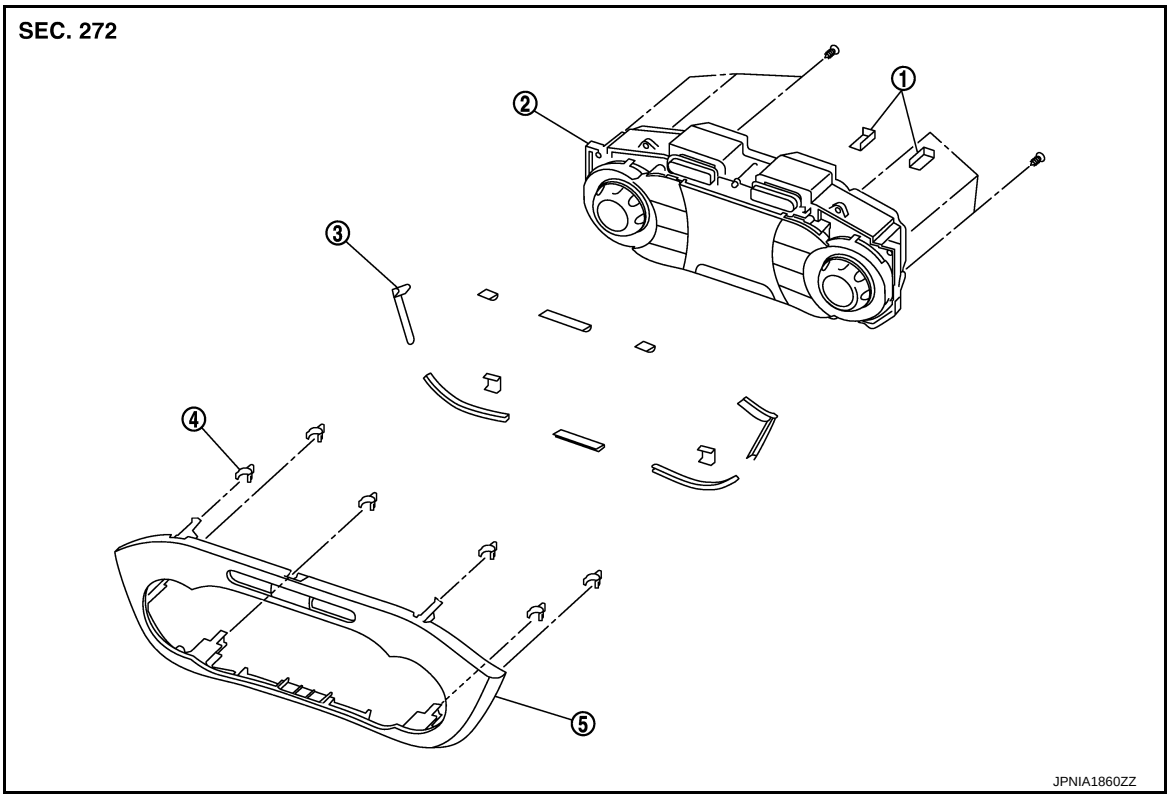
Exploded View

INFOID:0000000006628809

REMOVAL

Refer to IP-12, "Exploded View".

DISASSEMBLY



1. Silencer tape
2. Multi display unit
3. Silencer tape
4. Clip
5. Control finisher

Removal and Installation

INFOID:0000000006628810

REMOVAL

Refer to IP-12, "Exploded View".

CAUTION:

- **When performing the work, use a shop cloth to protect the parts from damage.**
- **Always fix the harness clamp in position.**

INSTALLATION

Install in the reverse order of removal.