

D

Е

F

Н

J

L

ΑV

0

# **CONTENTS**

BASE AUDIO	FRONT DOOR SPEAKER	
SYSTEM DESCRIPTION5	Description Diagnosis Procedure	30 30
COMPONENT PARTS5	FRONT TWEETER	
Component Parts Location5	Description	
Component Description5	Diagnosis Procedure	
SYSTEM7	REAR DOOR SPEAKER	34
System Diagram7	Description	
System Description7	Diagnosis Procedure	34
ECU DIAGNOSIS INFORMATION9	STEERING SWITCH	
AUDIO UNIT9	Diagnosis Procedure	36
Reference Value9	MICROPHONE SIGNAL CIRCUIT	38
	Diagnosis Procedure	38
BLUETOOTH® CONTROL UNIT12 Reference Value12	SYMPTOM DIAGNOSIS	40
WIRING DIAGRAM14	AUDIO SYSTEM	40
DACE AUDIO CVCTEM	Symptom Table	40
BASE AUDIO SYSTEM14           Wiring Diagram	NORMAL OPERATING CONDITION	42
	Description	
BASIC INSPECTION25	·	
DIAGNOSIS AND REPAIR WORKFLOW25	PRECAUTION	45
Work Flow25	PRECAUTIONS	45
WORK Flow25	Precaution for Supplemental Restraint System	45
DTC/CIRCUIT DIAGNOSIS27	(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-	
POWER SUPPLY AND GROUND CIRCUIT27	SIONER"	
	Precaution for Trouble Diagnosis	
AUDIO UNIT27	Precaution for Harness Repair  Precaution for Work	
AUDIO UNIT : Diagnosis Procedure27		
BLUETOOTH® CONTROL UNIT27	PREPARATION	47
BLUETOOTH® CONTROL UNIT : Diagnosis Pro-	PREPARATION	47
cedure27	Special Service Tool	
MICROPHONE28	Commercial Service Tools	
MICROPHONE : Diagnosis Procedure28	REMOVAL AND INSTALLATION	48

AUDIO UNIT		AUDIO UNIT : Diagnosis Procedure	86
Removal and Installation	48	BLUETOOTH® CONTROL UNIT	86
FRONT TWEETER	49	BLUETOOTH® CONTROL UNIT : Diagnosis Pro	
Removal and Installation	49	cedure	86
FRONT DOOR SPEAKER	50	MICROPHONE	87
Removal and Installation		MICROPHONE : Diagnosis Procedure	87
REAR DOOR SPEAKER	51	FRONT DOOR SPEAKER	
Removal and Installation	51	Diagnosis Procedure	89
STEERING SWITCH	52	FRONT TWEETER	
Removal and Installation	52	Diagnosis Procedure	91
BLUETOOTH CONTROL UNIT	53	REAR DOOR SPEAKER	
Removal and Installation	53	Diagnosis Procedure	93
MICROPHONE	55	STEERING SWITCH	
Removal and Installation	55	Diagnosis Procedure	95
AUDIO ANTENNA	56	MICROPHONE SIGNAL CIRCUIT	
Location of Antenna		Diagnosis Procedure	97
Removal and Installation	56	USB CONNECTOR	99
DISPLAY AUDIO		Diagnosis Procedure	99
SYSTEM DESCRIPTION	57	SYMPTOM DIAGNOSIS	100
COMPONENT PARTS	57	AUDIO SYSTEM	100
Component Parts Location	57	Symptom Table	
Component Description	57		
SYSTEM	59	NORMAL OPERATING CONDITION  Description	
System Diagram		·	
System Description	59	PRECAUTION	105
DIAGNOSIS SYSTEM (AUDIO UNIT)	61	PRECAUTIONS	105
Description		Precaution for Supplemental Restraint System	
On Board Diagnosis Function	61	(SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"	405
<b>ECU DIAGNOSIS INFORMATION</b>	66	SIONER" Precaution for Trouble Diagnosis	
ALIDIO LINIT		Precaution for Harness Repair	
AUDIO UNITReference Value		Precaution for Work	
		PREPARATION	. 107
BLUETOOTH® CONTROL UNIT			
		PREPARATION Special Service Tools	
WIRING DIAGRAM	71	Commercial Service Tools	
DISPLAY AUDIO SYSTEM		REMOVAL AND INSTALLATION	108
BASIC INSPECTION	84	AUDIO UNIT	
		Removal and Installation	. 108
DIAGNOSIS AND REPAIR WORKFLOW Work Flow		FRONT TWEETER	
		Removal and Installation	. 109
DTC/CIRCUIT DIAGNOSIS	86	FRONT DOOR SPEAKER	
POWER SUPPLY AND GROUND CIRCUIT	86	Removal and Installation	. 110
AUDIO UNIT	86	REAR DOOR SPEAKER	111
- 2 2		Removal and Installation	. 111

STEERING SWITCH112	CONFIGURATION (AV CONTROL UNIT)154
Removal and Installation112	CONFIGURATION (AV CONTROL UNIT) : De-
DI HETOOTH CONTROL HNIT	scription155
BLUETOOTH CONTROL UNIT113 Removal and Installation113	CONFIGURATION (AV CONTROL UNIT) : Work
Removal and installation113	Procedure155 CONFIGURATION (AV CONTROL UNIT) : Con-
MICROPHONE115	figuration List156
Removal and Installation115	•
AUDIO ANTENNA116	DTC/CIRCUIT DIAGNOSIS157
Location of Antenna116	U1000 CAN COMM CIRCUIT157
Removal and Installation	DTC Logic157
CATELLITE DADIO ANTENNA	Diagnosis Procedure157
SATELLITE RADIO ANTENNA118	•
Removal and Installation118	U1010 CONTROL UNIT (CAN)
USB CONNECTOR119	DTC Logic158
Removal and Installation119	U1217 AV CONTROL UNIT159
NAVIGATION	DTC Logic
SYSTEM DESCRIPTION120	HADDO AV CONTROL HINET
3131EW DESCRIPTION120	U1229 AV CONTROL UNIT160
COMPONENT PARTS120	DTC Logic160
Component Parts Location120	U122F AV CONTROL UNIT161
Component Description121	DTC Logic161
SYSTEM122	U1244 GPS ANTENNA162
System Diagram	DTC Logic
System Description	Diagnosis Procedure162
•	
DIAGNOSIS SYSTEM (AV CONTROL UNIT) 126	U1258 SATELLITE RADIO ANTENNA 163
Description	DTC Logic
On Board Diagnosis Function	Diagnosis Procedure163
CONSULT Function	U1263 USB164
ECU DIAGNOSIS INFORMATION 128	DTC Logic164
	Diagnosis Procedure164
AV CONTROL UNIT128	HACCE AUDIO AMD
Reference Value	U1265 AUDIO AMP165
DTC Index130	DTC Logic
AUDIO AMP132	Diagnosis Procedure165
Reference Value132	U12AA CONFIGURATION ERROR 166
MUDING BLAGBAM	DTC Logic166
WIRING DIAGRAM135	Diagnosis Procedure166
NAVIGATION SYSTEM135	U12AB ANTENNA167
Wiring Diagram135	DTC Logic167
	Diagnosis Procedure167
BASIC INSPECTION152	
DIAGNOSIS AND REPAIR WORKFLOW 152	U12AC AV CONTROL UNIT168
Work Flow	DTC Logic168
	U12AD AV CONTROL UNIT169
INSPECTION AND ADJUSTMENT154	DTC Logic169
ADDITIONAL SERVICE WHEN REPLACING AV	U12AE AV CONTROL UNIT170
CONTROL UNIT154	DTC Logic170
ADDITIONAL SERVICE WHEN REPLACING AV	5 1 5 Logic170
CONTROL UNIT : Description154	U12AF AV CONTROL UNIT171
ADDITIONAL SERVICE WHEN REPLACING AV	DTC Logic171
CONTROL UNIT: Work Procedure154	U12B0 POWER SUPPLY VOLTAGE172
	OIZEO FONER OUFFET VOLINGE1/2

Α

В

С

 $\mathsf{D}$ 

Е

F

Н

Κ

L

M

0

Ρ

DTC Logic172		215
Diagnosis Procedure172	Precaution for Supplemental Restraint System	
U12B1 POWER SUPPLY VOLTAGE173	(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-	
DTC Logic173	SIONEIX	
Diagnosis Procedure173	recaution for frouble biagnosis	
	Trocation for Hamood Repair	
U1310 AV CONTROL UNIT 174	Precaution for Work	216
DTC Logic174	PREPARATION	217
POWER SUPPLY AND GROUND CIRCUIT 175	PREPARATION	217
AV CONTROL UNIT175		
AV CONTROL UNIT : Diagnosis Procedure175	· <del>.</del> .	
AUDIO AMP175		218
AUDIO AMP.: Diagnosis Procedure175	AV CONTROL UNIT	240
FRONT DOOR SPEAKER 177		
Diagnosis Procedure177		
Diagnosis i Tocedure	AUDIO AMP	
FRONT TWEETER180		219
Diagnosis Procedure180	FRONT TWEETER	220
REAR DOOR SPEAKER183		
Diagnosis Procedure183		
Diagnosis i roccuire	FRONT DOOR SPEAKER	221
REAR TWEETER 186	Removal and Installation	221
Diagnosis Procedure186	REAR DOOR SPEAKER	222
SUBWOOFER 189		
Diagnosis Procedure189		222
Diagnosis Flocedule108	REAR TWEETER	223
AMP. ON SIGNAL CIRCUIT 192	Removal and Installation	223
Diagnosis Procedure192	SUBWOOFER	004
REAR VIEW CAMERA IMAGE SIGNAL CIR-	Removal and Installation	
CUIT193		224
Diagnosis Procedure193	CILLDINI': CWIII'I	225
Diagnosis riocedule193	Removal and Installation	225
STEERING	MICROPHONE	000
Diagnosis Procedure195	Removal and Installation	
MICROPHONE SIGNAL CIRCUIT197		220
Diagnosis Procedure197		227
Diagnosis Procedure197	Location of Antenna	227
USB CONNECTOR 199	Removal and Installation	227
Diagnosis Procedure199	AUXILIARY INPUT JACK	000
ALIVII IADV INDLIT IACK		
AUXILIARY INPUT JACK		229
Diagnosis Procedure200	SATELLITE RADIO ANTENNA	230
SYMPTOM DIAGNOSIS201	Removal and Installation	230
MULTI AV SYSTEM201	GPS ANTENNA	231
Symptom Table201	B 1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
NORMAL OPERATING CONDITION206	USB CONNECTOR	232
Description206		
Description200		
PRECAUTION215	REAR VIEW CAMERA	
	Removal and Installation	233

## [BASE AUDIO]

INFOID:0000000010247109

Α

В

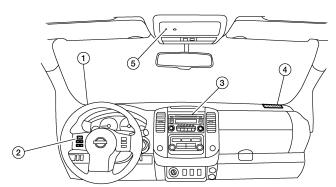
D

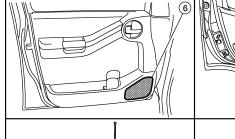
Е

# SYSTEM DESCRIPTION

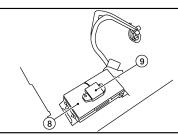
## **COMPONENT PARTS**

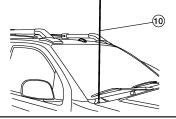
## **Component Parts Location**











AWNIA3322ZZ

- 1. Front tweeter LH M109
- 4. Front tweeter RH M111
- Rear door speaker LH D207 Rear door speaker RH D307
- 10. Rod antenna

- 2. Steering wheel audio control switches 3.
- 5. Microphone R8
- 8. Bluetooth® control unit B141, B142, B143 (Underneath passenger seat)
- 3. Audio unit M32, M43, M52
- Front door speaker LH D12
   Front door speaker RH D112
- 9. Bluetooth® antenna

## Component Description

INFOID:0000000010247110

M

ΑV

Part name	Description	
Audio unit	Controls audio and AUX IN connection	
Front door speakers		
Front tweeters	Outputs high, mid and low range audio signals from audio unit.	-
Rear door speakers		F
Steering wheel audio control switches	<ul> <li>Operations for audio, hands-free phone and voice recognition are possible.</li> <li>Steering switch signal is output to Bluetooth® control unit.</li> <li>Bluetooth® control unit outputs steering switch signal to audio unit.</li> </ul>	

## **COMPONENT PARTS**

## < SYSTEM DESCRIPTION >

[BASE AUDIO]

Part name	Description
Microphone	<ul> <li>Used for hands-free phone operations.</li> <li>Microphone signal is transmitted to Bluetooth<sup>®</sup> control unit.</li> <li>Power is supplied from Bluetooth<sup>®</sup> control unit.</li> </ul>
Bluetooth <sup>®</sup> control unit	<ul> <li>Inputs TEL voice signal from Bluetooth<sup>®</sup> antenna and outputs it to audio unit.</li> <li>Controlled via AV communication by audio unit.</li> </ul>
Bluetooth <sup>®</sup> antenna	Receives TEL voice signal and outputs it to Bluetooth® control unit.
Rod antenna	AM/FM signal is received and transmitted to the audio unit.

INFOID:0000000010247107

Α

D

Е

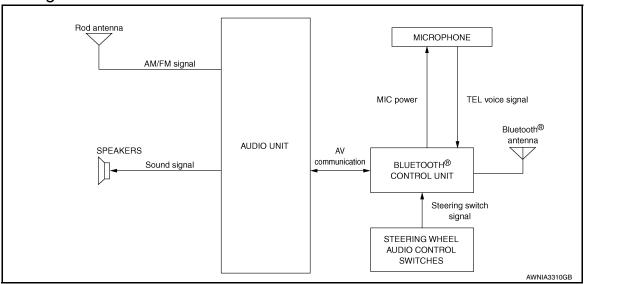
M

ΑV

0

## SYSTEM

## System Diagram



## System Description

INFOID:0000000010247108

#### **AUDIO SYSTEM**

The audio system consists of the following components

- Audio unit
- Rod antenna
- Front door speakers
- Front tweeters
- · Rear door speakers
- · Steering wheel audio control switches

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the front door speakers, front tweeters and rear door speakers.

Refer to Owner's Manual for audio system operating instructions.

#### HANDS-FREE PHONE SYSTEM

#### **System Operation**

#### NOTE:

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth<sup>®</sup> telephone system.

The Bluetooth<sup>®</sup> telephone system allows users who have a Bluetooth<sup>®</sup> cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth<sup>®</sup> control unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth<sup>®</sup> cellular telephones may not be recognized by the Bluetooth<sup>®</sup> control unit. When a cellular telephone or the Bluetooth<sup>®</sup> control unit is replaced, the telephone must be paired with the Bluetooth<sup>®</sup> control unit. Different cellular telephones may have different pairing procedures, refer to the cellular telephone operating manual.

Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.

#### Bluetooth® Control Unit

When the ignition switch is turned to ACC or ON, the Bluetooth<sup>®</sup> control unit will power up. During power up, the Bluetooth<sup>®</sup> control unit is initialized and performs various self-checks. Initialization may take up to 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth<sup>®</sup> control unit, Nissan Voice Recognition will then become active. Bluetooth<sup>®</sup> telephone functions can be turned off using the Nissan Voice Recognition system.

Steering Wheel Audio Control Switches

Revision: October 2013 AV-7 2014 Xterra NAM

#### **SYSTEM**

#### < SYSTEM DESCRIPTION >

[BASE AUDIO]

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes, depending on which button is pushed. The Bluetooth<sup>®</sup> control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- · Answer and end telephone calls
- · Adjust the volume of calls

#### Microphone

The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth<sup>®</sup> control unit. The microphone can be actively tested during self-diagnosis.

#### Audio Unit

The audio unit receives signals from the Bluetooth<sup>®</sup> control unit and sends audio signals to the speakers.

Α

C

D

Е

F

Н

K

L

M

0

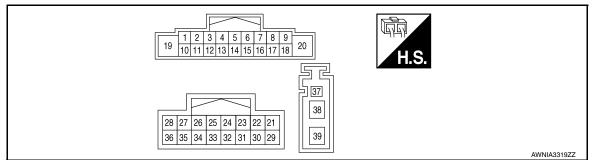
Р

# **ECU DIAGNOSIS INFORMATION**

## **AUDIO UNIT**

Reference Value

## **TERMINAL LAYOUT**



### PHYSICAL VALUES

	minal e color)	Description			O a salitita a	Reference value												
+	_	Signal name	Input/ Output		Condition	(Approx.)												
2 (BR)	3 (L)	Sound signal front door speaker and front tweeter LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 + 2ms SKIB3609E												
4 (G)	5 (B)	Sound signal rear door speaker LH	Output	Ignition switch ON	Audio output	(V) 1 0 -1 ** 2ms SKIB3609E												
					Press and hold MODE switch.	0 V												
															Ì		Press and hold $\Delta$ switch.	1.34 V
6 (V)	Ground	STRG SW A	Input	ON	Press and hold $\nabla$ switch.	2.45 V												
(*)					Press and hold $\mathcal{L}_{\mathbb{Q}}$ switch.	3.43 V												
					Except for above.	5.0 V												
7 (G/B)	Ground	ACC power supply	Input	Ignition switch ACC or ON	_	Battery voltage												
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage												

## < ECU DIAGNOSIS INFORMATION >

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output		Condition	(Approx.)
11 (LG)	12 (R)	Sound signal front door speaker and front tweeter RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E
13 (GR)	14 (BG)	Sound signal rear door speaker RH	Output	Ignition switch ON	Voice output	(V) 1 0 -1 + 2ms SKIB3609E
15 (BG)	_	STRG SW ground	Output	_	_	_
					Press VOL DOWN switch	0 V
16	Ground	STRG SW B	Input	ON	Press VOL UP switch.	1.34 V
(LG)					Press switch.  Except for above.	2.45 V 5.0 V
18 (SB)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	0 ZO ms JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	_	Battery voltage
20 (B)	_	GND	_	_	_	_
21 (G)	_	MCAN1 L	_	_	_	_
22 (R)	_	MCAN1 H	_	_	_	_
23	_	MCAN shield	_	_	_	_
25 (B)	_	EQ4 Ground	_	_	_	_
28 (B)	_	EQ1 Ground	_	_	_	_
29 (W)	_	MCAN2 L	_	_	_	_
30 (L)	_	MCAN2 H	_	_	<u> </u>	_
33 (W)	34 (GR)	Telephone audio in	_	_	_	_

## **AUDIO UNIT**

## < ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

	minal color)	Description		Condition		Reference value	
+	_	Signal name	Input/ Output		Condition	(Approx.)	
36 (R)	Ground	Telephone ON	Output	ON	_	_	
38 (B)	Ground	AM-FM main antenna	Input	ON	_	5.0 V	

D

С

Α

В

Е

F

G

Н

ı

J

Κ

L

 $\mathbb{N}$ 

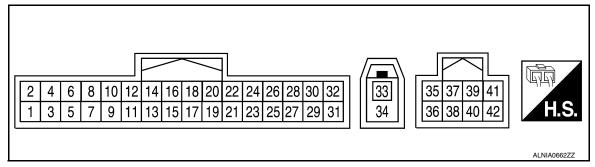
AV

0

## **BLUETOOTH® CONTROL UNIT**

Reference Value

## **TERMINAL LAYOUT**



## PHYSICAL VALUES

	minal color)	Description			Condition	Reference value	
+	_	Signal name	Input/ output	Ignition switch	Condition	(Approx.)	
1 (R/B)	Ground	Battery power	Input	_	-	Battery voltage	
2 (G/Y)	Ground	ACC power	Input	ACC or ON	_	Battery voltage	
3 (W/G)	Ground	IGN power	Input	ON or START	_	Battery voltage	
4 (B)	Ground	Ground	_	ON	_	0V	
6	_	MIC Shield	_	_	_	-	
7 (G)	8 (L)	MIC in signal	Input	_	_	-	
9 (W)	10 (GR)	Audio out	Output	ACC or ON	Bluetooth <sup>®</sup> control unit sends audio signal	(V) 1 0 -1 + 2ms SKIB3609E	
11 (R)	Ground	Telephone ON	_	_	_	_	
					Press and hold MODE switch.	0 V	
				400	Press and hold $\Delta$ switch.	1.34 V	
12 (BR)	Ground	Ladder in 1	Input	ACC or	Press and hold ∇ switch.	2.45 V	
` '				ON	Press and hold <b>r</b> v\(\xi \) switch.	3.43 V	
					Except for above.	5.0 V	

## **BLUETOOTH® CONTROL UNIT**

## < ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

Κ

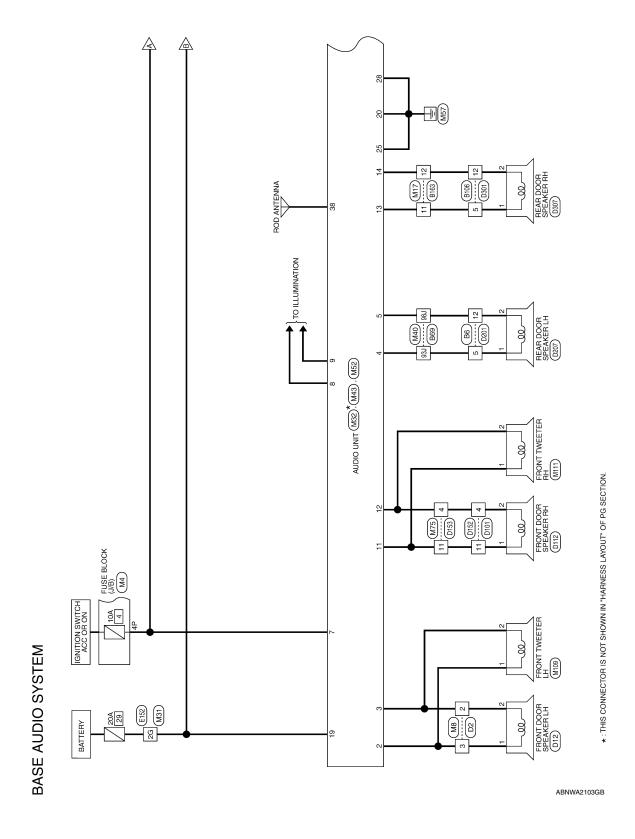
	minal color)	Description			Condition	Reference value
+	-	Signal name	Input/ output	Ignition switch	Condition	(Approx.)
					Press VOL DOWN switch	0 V
13	0	Laddaria O	lanat	ACC	Press VOL UP switch.	1.34 V
(L)	Ground	Ladder in 2	Input	or ON	Press 🗪 switch.	2.45 V
					Except for above.	5.0 V
14 (G)	-	Ladder in ground	Input	-	-	-
					Press and hold MODE switch.	0 V
				400	Press and hold $\Delta$ switch.	1.34 V
17 (V)	Ground	Ladder out 1	Input	ACC or	Press and hold $\nabla$ switch.	2.45 V
(*)				ON	Press and hold $\Gamma_{w}$ switch.	3.43 V
					Except for above.	5.0 V
					Press VOL DOWN switch	0 V
18	0	Laddan sut O	Input Or ON Press VOL UP switch.  Press VOL UP switch.  Press Switch.	1.34 V		
(LG)	Ground	Ladder out 2			Press A switch.	2.45 V
					Except for above.	5.0 V
19 (BG)	Ground	Ladder out ground	Output	_		-
20 (B)	Ground	Cont 1	_	-	-	0V
28 (SB)	Ground	Vehicle speed signal (8- pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	(V) 15 10 5
29 (Y)	Ground	Microphone power	Output	ON	-	5V
33 (B)	_	Bluetooth <sup>®</sup> antenna	_	_	_	_
34	_	Bluetooth® antenna shield	_	_	-	_
35 (R)	_	MCAN H	_	_	-	_
36 (G)	_	MCAN L	_	_	_	
37	-	MCAN shield	-	-	_	_

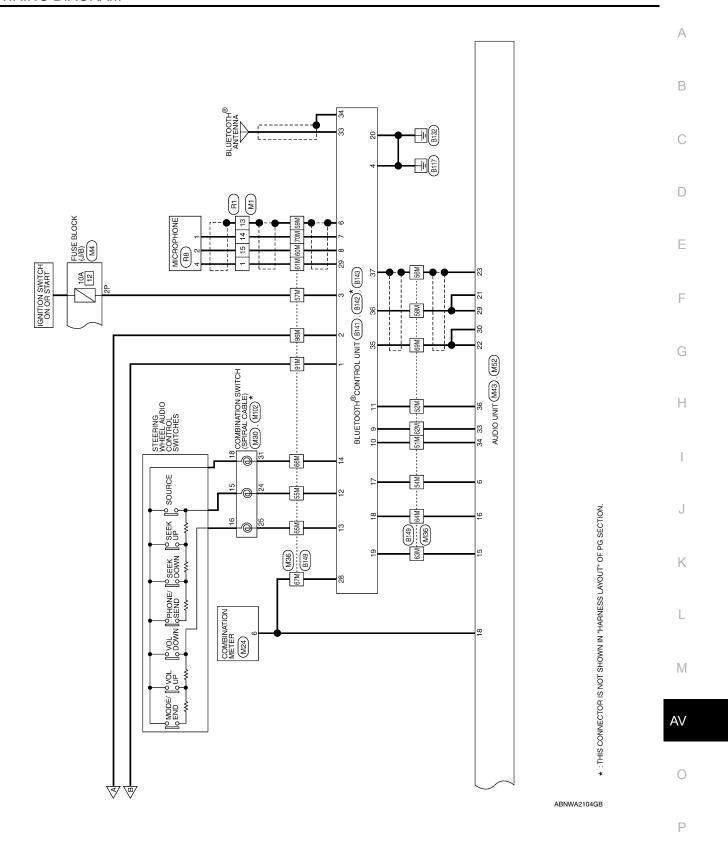
Revision: October 2013 AV-13 2014 Xterra NAM

# WIRING DIAGRAM

## **BASE AUDIO SYSTEM**

Wiring Diagram





Connector Name WIRE TO WIRE

Connector No.

Connector Color BROWN

# BASE AUDIO SYSTEM CONNECTORS

M1	VIRE TO WIRE	VHITE	
Connector No. N	Connector Name WIRE TO WIRE	Connector Color WHITE	

Connector Name FUSE BLOCK (J/B)

Α

Connector No.

Connector Color | WHITE





	9 10 11 12	13 14 15 16 17 18 19 20 21 22 23 24		Signal Name	- (WITHOUT NAVI)
117	8	20		ign	Ė
	7	19		တ	⋝
I	9	18			_
IIX	5	17			
	4	16		Jc	
	3	15		olor c Wire	_
	2	14		Color of Wire	_
	-	13	1 1	_	_
			'	nal No.	1

	(IV		(IV	(F
Signal Name	- (WITHOUT NAVI)	_	- (WITHOUT NAVI)	- (WITHOUT NAVI)
Color of Wire	<b>&gt;</b>	SHIELD	В	_
Ferminal No. Color of Wire	1	13	14	15



Signal Name	ı	I	
Color of Wire	W/G	G/B	

Signal Name	I	I	
Color of Wire	W/G	G/B	
rminal No.	2P	4P	

Signal Name	ı	_	
Color of Wire	W/G	G/B	
Terminal No.	2P	4P	

	M24
me	ame COMBINATION METER
olor	WHITE

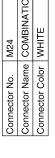
Connector Name | COMBINATION SWITCH (SPIRAL CABLE)

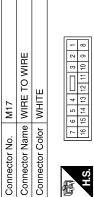
M30

Connector No.

GRAY

Connector Color







	Signal Name	I	- (WITHOUT NAVI)	1
]	Color of Wire	BR	_	g
	Terminal No. Wire	24	25	31

Signal Name	SPEED OUT 8	
Color of Wire	SB	
Terminal No.	9	

Signal Name	_	I	
Color of Wire	GR	BG	
erminal No.	11	12	

ABNIA5723GB

M31

- 1	ı.	
/	٦	

В

С

D

Е

F

G

Н

J

Κ

M

Δ\/

ABNIA5724GB

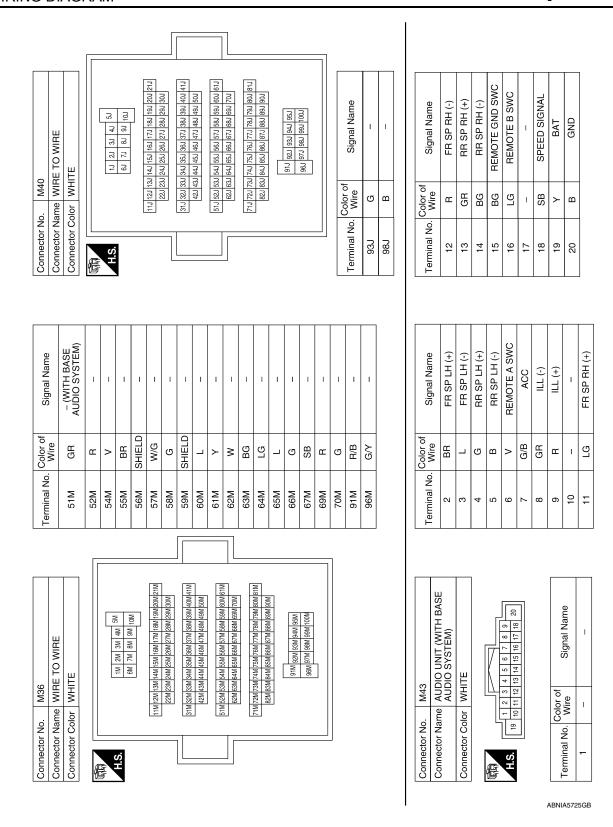
Р

	AUDIO UNIT (WITH BASE AUDIO SYSTEM)	47		Signal Name	1	ANT MAIN	ı
. M32		lor GRAY		Color of Wire	ı	В	ı
Connector No.	Connector Name	Connector Color	所 A.S.	Terminal No.	37	38	39

		Γ		7
ie WIRE TO WIRE	r WHITE		10   20   30   40   56   60   100	
Connector Name	Connector Color		H.S. 17	

Signal Name	-
Color of Wire	<b>&gt;</b>
Terminal No.	2G

Revision: October 2013 AV-17 2014 Xterra NAM



Connector No.	). M75	2
Connector Name WIRE TO WIRE	ame WIF	RE TO WIRE
Connector Color WHITE	olor WH	ТЕ
斯.S.	5 4 12 11 10 9	0 9 8 7 6
Terminal No. Wire	Color of Wire	Signal Name
4	Œ	1
1	PC	1

Name			=	N 2 L	HZ7		1	(+) F	TEL I/F (-)		TEL ON
Signal Name	'	'	EQ1	M CAN 2 L	M CAN 2 H		ľ	TEL I/F (+)	TEL	'	TEL
Color of Wire	ı	ı	В	8	_	-	ı	>	GR	ı	В
Terminal No. Wire	26	27	28	29	30	31	32	33	34	35	36

2	AUDIO UNIT (WITH BASE AUDIO SYSTEM)	WHITE	36 26 24 23 22 21 34 33 32 31 30 29	Signal Name	M CAN 1 L	M CAN 1 H	M CAN 1 SHIELD	1	EQ4
. M52			28 27 2	Color of Wire	U	œ	SHIELD	ı	В
Connector No.	Connector Name	Connector Color	研 H.S.	Terminal No.	21	22	23	24	25

Connector No.	). M111	-
Connector Name		FRONT TWEETER RH
Connector Color		BROWN
H.S.	[ [ ]	
Terminal No.	Color of Wire	Signal Name
-	×	I
2	_	- (WITH BASE

FRONT TWEETER LH	NWO		Signal Name	- (WITH BASE AUDIO SYSTEM)	– (WITH BASE AUDIO SYSTEM)
me FRC	lor BROWN		Color of Wire	ŋ	_
Connector Name	Connector Color	H.S.	Terminal No.	-	2

M109

Connector No.

			ı				
)2	Connector Name   COMBINATION SWITCH (SPIRAL CABLE)	АУ	14 15 16 17 18 19 20 21	Signal Name	ı	-	-
. M102	me CO	lor GRAY	14 15 1	Color of Wire	GR	В	В
Connector No.	Connector Na	Connector Color	H.S.	Terminal No.	15	16	18

ABNIA5726GB

Revision: October 2013 AV-19 2014 Xterra NAM

Α

В

C

D

Е

F

G

Н

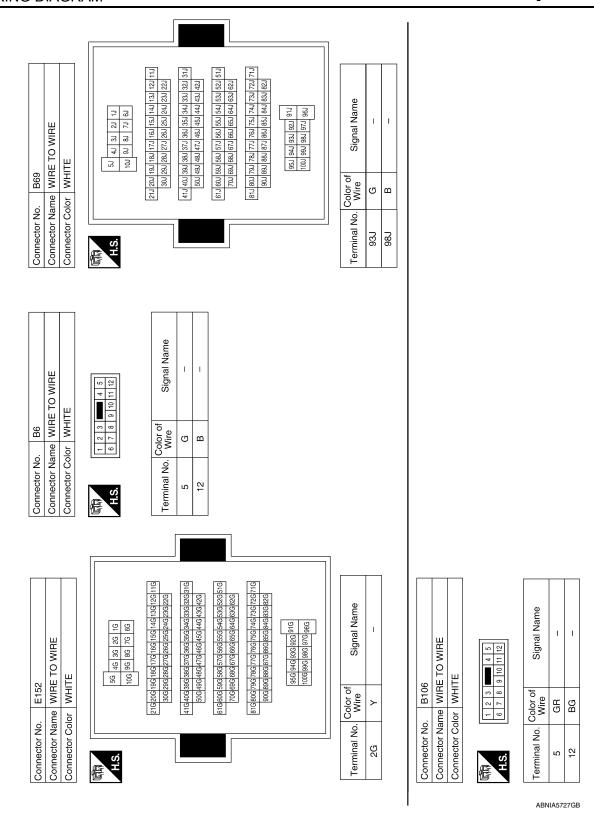
. I

Κ

M

ΑV

0



5	Connector Name BLUETOOTH® CONTROL UNIT	ICK		83 8 8	Signal Name	BT ANTENNA
. B142	me BLUE UNIT	lor BL/			Color of Wire	В
Connector No.	Connector Na	Connector Color BLACK	E	H.S.	Terminal No.	33

Terminal No.	Color of Wire	Signal Name
	٦	LADDER IN 2
	ŋ	LADDER IN GND
	ı	ı
	ı	ı
	>	LADDER OUT 1
	LG	LADDER OUT 2
	BG	LADDER OUT GND
	В	CONT 1
	-	-
	1	ı
	ı	I
	ı	-
	1	-
	ı	1
	-	_
	SB	SPEED SIGNAL
	>	MIC POWER
	1	1
	ı	1
	ı	ı

SHIELD BT ANTENNA SHIELD

34

			30 32 29 31													
Ξ.	BLUETOOTH® CONTROL UNIT	WHITE	10 12 14 16 18 20 22 24 26 28 9 11 13 15 17 19 21 23 25 27	Signal Name	BATT	OOV	IGN	GNĐ	=	MIC SHIELD	+ NI OIW	- NI OIM	+ TUO OUT +	AUDIO OUT - (WITH BASE AUDIO SYSTEM)	NO JEL	LADDER IN 1
B141			3 5 7	Color of Wire	R/B	G/Y	M/G	В	ı	SHIELD	g	٦	>	GR	ж	BR
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	-	2	ဇ	4	2	9	7	8	6	10	11	12

Signal Name	CAN SHIELD 1	-	_	I	-	1
Color of Wire	SHIELD	-	-	ı	_	ı
Terminal No. Wire	37	38	39	40	41	42

2	BLUETOOTH® CONTROL UNIT	ITE	198 41	Signal Name	CAN-H1	CAN-L1
. 0143		lor WH	38 33	Color of Wire	В	G
Collinector No.	Connector Name	Connector Color WHITE	师 H.S.	Terminal No.	32	36

ABNIA5728GB

Α

В

С

D

Е

F

G

Н

Κ

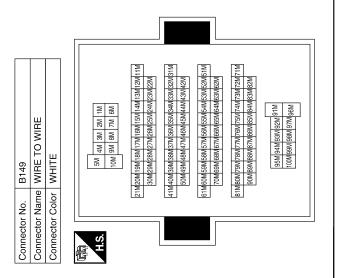
M

ΑV

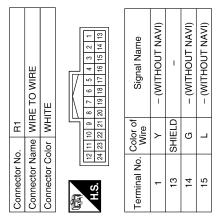
0

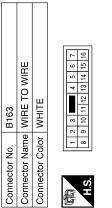
Signal Name	I	1	I	ı	1	I	ı	-
Color of Wire	LG	Τ	G	SB	В	G	B/B	G/Y
Terminal No. Wire	64M	65M	M99	M29	M69	70M	91M	M96

Signal Name	- (WITH BASE AUDIO SYSTEM)	1	ı	ı	1	1	1	1	1	I	1	ı
Color of Wire	GR	Œ	>	BB	SHIELD	M/G	В	SHIELD		<b>\</b>	>	BG
Terminal No. Wire	51M	52M	54M	55M	26M	27M	W85	29M	M09	M19	62M	63M



Connector No.
Connector Name MICROPHONE
Connector Color WHITE
Color of Wire





E TO WIRE	TE	3	Signal Name	_	I
me WIF	lor WHITE	8 9 10	Color of Wire	GR	BG
Connector Name WIRE TO WIRE	Connector Color	·斯	Terminal No.	11	12

ABNIA5729GB

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

J

Κ

L

M

ΑV

D101 WIRE TO WIRE WHITE	9 0 1 12	Signal Name	I	1			TO WIRE	ı	9 10 11 12
	6 7 2 8 7 8 8 8	Color of Wire	L/B	M/B		). D153	Ime WIRE		6 7 8
Connector No. Connector Name Connector Color	H.S.	Terminal No.	4	11		Connector No.	Connector Name WIRE TO WIRE Connector Color WHITE		原 H.S.
Connector No. D12 Connector Name FRONT DOOR SPEAKER LH Connector Color WHITE	C   C   C   C   C   C   C   C   C   C	Signal Name	I	-		2	Connector Name WIRE TO WIRE Connector Color WHITE	1	10 9 8 7 6
lo. D12 lame FRC		Color of Wire	N/	L/R		lo. D152	lame WIR		5 4 11 11
Connector No. D12 Connector Name FRONT Connector Color WHITE	E.S.	Terminal No.	-	2		Connector No.	Connector Name WIRE T		明.
							HH	7	
D2 WIRE TO WIRE BROWN	9 01 12 5 11 2 2 1	Signal Name	I	ı			FRONT DOOR SPEAKER RH	ı	
	6 7 8 8 8	Color of Wire	L/R	L/W		). D112	ame FRONT		[ <u></u> ] 0
Connector No. Connector Name Connector Color	H.S.	Terminal No.	2	3		Connector No.	Connector Name		而 H.S.

Color of Wire	Œ	ГС	
Terminal No. Wire	4	11	
Signal Name	1	_	
Color of Wire	œ	FG	
Terminal No. Wire	4	11	

Signal Name

Signal Name	ı	1	
Color of Wire	W/B	L/B	
Terminal No.	-	2	

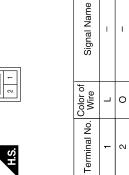
ABNIA5657GB

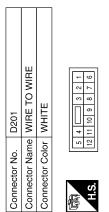
Р

0

	Signal Name	_	-
-	Color of Wire	٦	0
	Terminal No.	5	12

Connector No.	D207
Connector Name	Connector Name REAR DOOR SPEAKEF
Connector Color WHITE	WHITE





Signal Name	1	1	
Color of Wire	٦	0	
Terminal No.	5	12	

Connector Name REAR DOOR SPEAKER RH	
	R SPEAKER RH
Connector Color   WHITE	

Signal Name	I	_
Color of Wire	Γ	0
Terminal No.	-	2

Signe		
Color of Wire	Γ	0
rminal No.	1	2

ABNIA5730GB

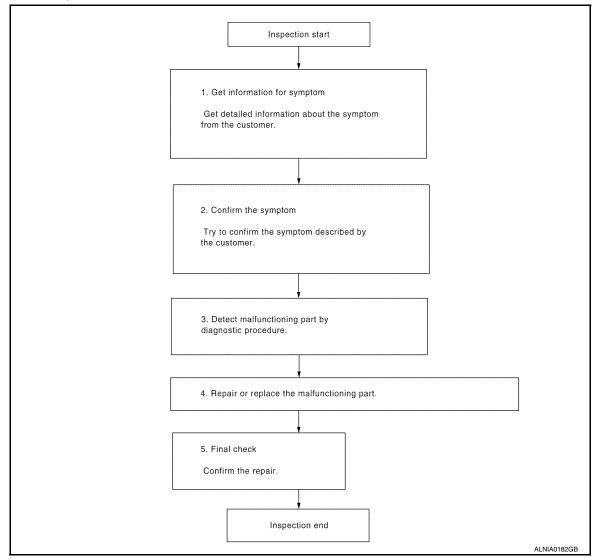
< BASIC INSPECTION > [BASE AUDIO]

# **BASIC INSPECTION**

## DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

### **OVERALL SEQUENCE**



### **DETAILED FLOW**

## 1.GET INFORMATION FOR SYMPTOM

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

#### >> GO TO 2

## 2.confirm the symptom

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.

## >> GO TO 3

# 3. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Revision: October 2013 AV-25 2014 Xterra NAM

ΑV

Α

D

Е

0

### **DIAGNOSIS AND REPAIR WORKFLOW**

< BASIC INSPECTION > [BASE AUDIO]

## Is malfunctioning part detected?

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

# 4. REPAIR OR REPLACE THE MALFUNCTIONING PART

- 1. Repair or replace the malfunctioning part.
- 2. Reconnect parts or connectors disconnected during Diagnostic Procedure.

>> GO TO 5

## 5. FINAL CHECK

Refer to confirmed symptom in step 2, and make sure that the symptom is not detected.

## Has the symptom been repaired?

YES >> Inspection End.

NO >> GO TO 2

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

## DTC/CIRCUIT DIAGNOSIS

# POWER SUPPLY AND GROUND CIRCUIT

**AUDIO UNIT** 

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000010247111

Regarding Wiring Diagram information, refer to AV-14, "Wiring Diagram".

## 1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	29 (20A)

#### Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

Turn ignition switch OFF.

2. Disconnect audio unit connector M43.

Check voltage between audio unit connector M43 and ground.

Aud	Audio unit		Condition	Voltage
Connector	Terminal	Ground	Condition	(Approx.)
M43	7	Ignition switch: ON	Battery voltage	
10143	19	_	Ignition switch: OFF	Dattery Voltage

## Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

# 3. CHECK GROUND CIRCUIT

Check continuity between audio unit connectors M43, M52 and ground.

Audio unit		Ground	Continuity
Connector	Connector Terminal		Continuity
M43	20		
M52	25	_	Yes
WISZ	28		

#### Is the inspection result normal?

YES >> Inspection End.

>> Repair or replace harness or connectors.

## BLUETOOTH® CONTROL UNIT

## BLUETOOTH® CONTROL UNIT: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-14, "Wiring Diagram".

Α

В

Е

D

F

Р

INFOID:0000000010247112

## POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

INFOID:0000000010247113

## 1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
1	Battery power supply	29 (20A)
2	ACC power supply	4 (10A)
3	Ignition power supply	12 (10A)

#### Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect Bluetooth® control unit connector B141.
- 3. Check voltage between Bluetooth® control unit connector B141 and ground.

Bluetooth <sup>®</sup>	Bluetooth <sup>®</sup> control unit		Condition	Voltage
Connector	Terminal	Ground	Condition	(Approx.)
	1		Ignition switch: OFF	
B141	2	_	Ignition switch: ON	Battery voltage
	3		Ignition switch: ON	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

# 3.CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Check continuity between Bluetooth® control unit connector B141 and ground.

Bluetooth® control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
B141	4		Yes
ואוט	20	_	165

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

### **MICROPHONE**

## MICROPHONE: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-14, "Wiring Diagram".

# 1. CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch ON.
- 2. Check voltage between microphone connector R8 and ground.

Micro	phone	Ground	Value (Approx.)
Connector	Connector Terminal		value (Approx.)
R8	4	_	5V

## POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Α

В

D

Е

F

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone connector and Bluetooth® control unit connector B141.
- 3. Check continuity between microphone connector R8 and Bluetooth® control unit connector B141.

Micro	Microphone		Bluetooth® control unit	
Connector	Terminal	Connector Terminal		Continuity
R8	4	B141	29	Yes

4. Check continuity between microphone connector R8 and ground.

Micro	phone	_	Continuity
Connector	Connector Terminal		Continuity
R8	4	Ground	No

#### Is the inspection result normal?

YES >> Replace the Bluetooth® control unit. Refer to AV-53, "Removal and Installation".

NO >> Repair or replace harness or connectors.

## 3. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone connector and Bluetooth® control unit connector B141.
- 3. Check continuity between microphone connector R8 and Bluetooth® control unit connector B141.

Micro	phone	Bluetooth <sup>®</sup> control unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
R8	2	B141	8	Yes

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

Δ\/

0

ŀ

Revision: October 2013 AV-29 2014 Xterra NAM

[BASE AUDIO]

## FRONT DOOR SPEAKER

Description INFOID:000000010247114

The audio unit sends audio signals to the front door speakers using the front door speaker circuits.

Diagnosis Procedure

INFOID:0000000010247115

Regarding Wiring Diagram information, refer to AV-14, "Wiring Diagram".

## 1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- · Proper connection
- Damage
- Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

# 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect audio unit connector M43 and suspect front door speaker connector.
- 2. Check continuity between audio unit connector M43 and suspect front door speaker connector.

Audi	o unit	Front doc	or speaker	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	D12 (LH)	D42 (LI)	Yes
M43	3		2	
IVI43	11	D112 (RH)	1	res
	12		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
	2		
M43	3	_	No
	11		
	12		

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# 3.CHECK FRONT DOOR SPEAKER SIGNAL

- 1. Connect audio unit connector M43 and suspect front door speaker connector.
- Turn ignition switch to ACC.
- 3. Push audio unit POWER switch.
- 4. Check signal between the terminals of audio unit connector M43.

Audio unit connector M43			
(+)	(–)	Condition	Reference value
Terminal	Terminal		

## FRONT DOOR SPEAKER

## < DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

2	3		(V)
11	12	Audio signal output	1 0 -1 * 2ms SKIB3609E

Is the inspection result normal?

>> Replace front door speaker. Refer to <u>AV-50, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-48, "Removal and Installation"</u>. YES

NO

Α

В

 $\mathsf{D}$ 

Е

F

G

Н

K

L

M

ΑV

0

[BASE AUDIO]

## FRONT TWEETER

Description INFOID:000000010247116

The audio unit sends audio signals to the front tweeters using the front tweeter circuits.

## Diagnosis Procedure

INFOID:0000000010247117

Regarding Wiring Diagram information, refer to AV-14, "Wiring Diagram".

## 1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- · Proper connection
- Damage
- Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

# 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect audio unit connector M43 and suspect front tweeter connector.
- 2. Check continuity between audio unit connector M43 and suspect front tweeter connector.

Aud	Audio unit Front tweeter		Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
M43	2	M109 (LH)	M400 (LLI)	1	
	3		2	Yes	
	11	M111 (RH)	1	165	
	12		2		

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
	2		
M43	3	_	No
	11		
	12		

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# 3.CHECK FRONT DOOR SPEAKER SIGNAL

- Connect audio unit connector M43 and suspect front tweeter connector.
- Turn ignition switch to ACC.
- 3. Push audio unit POWER switch.
- 4. Check signal between the terminals of audio unit connector M43.

Audio unit connector M43			
(+)	(–)	Condition	Reference value
Terminal	Terminal		

## **FRONT TWEETER**

## < DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

2	3		(V)
11	12	Audio signal output	1 0 -1 * 2ms SKIB3609E

## Is the inspection result normal?

YES >> Replace front tweeter. Refer to AV-49, "Removal and Installation".

NO >> Replace audio unit. Refer to AV-48, "Removal and Installation".

Α

В

C.

 $\mathsf{D}$ 

Е

F

G

Н

K

L

M

ΑV

0

INFOID:0000000010247119

## REAR DOOR SPEAKER

Description INFOID:000000010247118

The audio unit sends audio signals to the rear door speakers using the rear door speaker circuits.

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-14, "Wiring Diagram".

## 1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

# 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect audio unit connector M43 and suspect rear door speaker connector.
- 2. Check continuity between audio unit connector M43 and suspect rear door speaker connector.

Aud	Audio unit Rear door speaker		Continuity	
Connector	Terminal	Connector	Terminal	Continuity
	4	D207 (LH)	1	
M43	5		2	Yes
10143	13	D307 (RH)	1	165
	14		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
	4		
M43	5	_	No
	13		
	14		

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# 3.CHECK FRONT DOOR SPEAKER SIGNAL

- Connect audio unit connector M43 and suspect rear door speaker connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit POWER switch.
- 4. Check signal between the terminals of audio unit connector M43.

Audio unit connector M43			
(+)	(-)	Condition	Reference value
Terminal	Terminal		

## **REAR DOOR SPEAKER**

## < DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

4	5	Audio signal output	(V) 1
13	14		0 -1 → 2ms SKIB3609E

## Is the inspection result normal?

>> Replace rear door speaker. Refer to <u>AV-51, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-48, "Removal and Installation"</u>. YES

NO

Α

В

 $\mathsf{D}$ 

Е

F

G

Н

J

K

L

M

ΑV

0

## STEERING SWITCH

## Diagnosis Procedure

INFOID:0000000010247120

Regarding Wiring Diagram information, refer to AV-14, "Wiring Diagram".

## 1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

- 1. Disconnect combination switch connector M102.
- 2. Check resistance between combination switch connector terminals.

Combination switch connector M102		Condition	Resistance (Ω)
Terminal	Terminal	Condition	(Approx.)
16	18	Depress VOL DOWN switch.	1
		Depress VOL UP switch.	121
		Depress 🗪 switch.	321
15		Depress MODE switch.	1
		Depress △ switch.	121
		Depress ♥ switch.	321
		Depress <b>€</b> w≥ switch.	723

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering wheel audio control switches. Refer to AV-52, "Removal and Installation".

## 2.CHECK HARNESS BETWEEN BLUETOOTH $^{ ext{@}}$ CONTROL UNIT AND COMBINATION SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect Bluetooth® control unit connector B141 and combination switch connector M30.
- 3. Check continuity between Bluetooth® control unit connector B141 and combination switch connector M30.

Bluetooth <sup>®</sup> control unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B141	12	M30	24	Yes
	13		25	
	14		31	

4. Check continuity between Bluetooth® control unit connector B141 and ground.

Bluetooth <sup>®</sup> control unit			Continuity
Connector	Terminal	_	Continuity
B141	12		
	13	Ground	No
	14	<del>-</del>	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

## 3. SPIRAL CABLE CHECK

Check continuity between combination switch connectors M30 and M102.

#### STEERING SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Α

В

D

Е

F

Н

	Combination switch			Continuity
Connector	Terminal	Connector	Terminal	Continuity
	24		15	
M30	25	M102	16	Yes
	31		18	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace spiral cable. Refer to <u>SR-13, "Removal and Installation"</u>.

## 4. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND AUDIO UNIT

- 1. Disconnect audio unit connector M43.
- 2. Check continuity between Bluetooth® control unit connector B141 and audio unit connector M43.

Bluetooth <sup>®</sup>	Bluetooth® control unit		dio unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	17		6	
B141	18	M43	16	Yes
	19		15	

3. Check continuity between Bluetooth® control unit connector B141 and ground.

Blue	Bluetooth® control unit		Continuity
Connector	Terminal	_	Continuity
	17		
B141	18	Ground	No
	19		

#### Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-48, "Removal and Installation".

NO >> Repair or replace harness or connectors.

Δ١/

M

0

Р

Revision: October 2013 AV-37 2014 Xterra NAM

#### MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

## MICROPHONE SIGNAL CIRCUIT

## Diagnosis Procedure

INFOID:0000000010247121

Regarding Wiring Diagram information, refer to AV-14. "Wiring Diagram".

# 1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

- 1. Turn ignition switch OFF.
- 2. Disconnect Bluetooth® control unit connector B141 and microphone connector.
- 3. Check continuity between Bluetooth® control unit connector B141 and microphone connector R8.

Bluetooth® control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	7		1	
B141	8	R8	2	Yes
	29		4	

4. Check continuity between Bluetooth® control unit connector B141 and ground.

Bluetooth <sup>®</sup> control unit		_	Continuity
Connector	Terminal		Continuity
	7		
B141	8	Ground	No
	29		

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

## 2. CHECK MICROPHONE POWER SUPPLY

- 1. Connect Bluetooth® control unit connector B141 and microphone connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between microphone connector R8 terminal 4 and ground.

Micro	phone	Ground	Value (Approx.)
Connector	Terminal	Ground	value (Approx.)
R8	4	_	5V

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace Bluetooth<sup>®</sup> control unit. Refer to AV-53, "Removal and Installation".

#### $oldsymbol{3}.$ CHECK MICROPHONE SIGNAL

Check signal between Bluetooth® control unit connector B141 with CONSULT or and oscilloscope.

## **MICROPHONE SIGNAL CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

Bluetooth® control unit connector B141				
(+)	(-)	Condition	Reference signal	
Terminal	Terminal			
7	8	Speak into microphone.	(V) 2. 5 2. 0 1. 5 1. 0 0. 5 0 0 PKIB5037J	

Is the inspection result normal?

YES >> Replace Bluetooth<sup>®</sup> control unit. Refer to <u>AV-53, "Removal and Installation"</u>.

NO >> Replace microphone. Refer to AV-55, "Removal and Installation".

F

Α

В

 $\mathsf{D}$ 

Е

G

Н

ı

M

ΑV

C

# SYMPTOM DIAGNOSIS

## **AUDIO SYSTEM**

# Symptom Table

INFOID:0000000010247125

## **AUDIO SYSTEM**

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-48, "Removal and Installation".
	No sound from all speakers.	Speaker circuit shorted to ground. Refer to AV-14, "Wiring Diagram".     Audio unit power supply and ground circuits malfunction. Refer to AV-27, "AUDIO UNIT: Diagnosis Procedure".
No sound comes out or the level of the sound is low.	Only a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH) does not output sound.	<ul> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between audio unit and speaker. Refer to:  - AV-32, "Diagnosis Procedure" (front tweeter).  - AV-30, "Diagnosis Procedure" (front door speaker).  - AV-34, "Diagnosis Procedure" (rear door speaker).</li> <li>Malfunction in speaker. Refer to:  - AV-49, "Removal and Installation" (front tweeter).  - AV-50, "Removal and Installation" (front door speaker).</li> <li>- AV-51, "Removal and Installation" (rear door speaker).</li> <li>- Malfunction in audio unit. Refer to AV-48, "Removal and Installation".</li> </ul>

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-48, "Removal and Installation".
Noise is mixed with audio.	Noise comes out only from a certain speaker (front tweeter LH, front tweeter RH, front door speaker RH, rear door speaker LH, rear door speaker RH).	<ul> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between audio unit and speaker. Refer to:  - AV-32, "Diagnosis Procedure" (front tweeter).  - AV-30, "Diagnosis Procedure" (front door speaker).  - AV-34, "Diagnosis Procedure" (rear door speaker).</li> <li>Malfunction in speaker.</li> <li>Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-49, "Removal and Installation" (front tweeter).</li> <li>AV-50, "Removal and Installation" (front door speaker).</li> <li>AV-51, "Removal and Installation" (rear door speaker).</li> <li>Malfunction in audio unit. Refer to AV-48, "Removal and Installation".</li> </ul>
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder.  Refer to AV-56, "Location of Antenna".
No radio reception or poor reception.	Other audio sounds are normal. Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	<ul> <li>Rod antenna is not fully connected to antenna base.</li> <li>Antenna base/rod connection (thread zone) has foreign material or corrosion inside.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Refer to AV-56, "Location of Antenna".</li> </ul>
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

#### RELATED TO HANDS-FREE PHONE

- · Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

#### Check Compatibility

- 1. Make sure the customer's Bluetooth® related concern is understood.
- 2. Verify the customer's concern.

#### NOTE:

The customer's phone may be required, depending upon their concern.

3. Write down the customer's phone brand, model and service provider.

#### NOTE:

It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.

- Go to "www.nissanusa.com/bluetooth/".
- Using the website's search engine, find out if the customer's phone is on the approved list.

ΑV

- If the customer's phone is NOT on the approved list:
   Stop diagnosis here. The customer needs to obtain a Bluetooth<sup>®</sup> phone that is on the approved list before any further action.
- c. If the feature related to the customer's concern shows as "N" (not compatible): Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
- d. If the feature related to the customer's concern shows as "Y" (compatible): Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location	
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.		
Hands-free phone cannot be established.	<ul> <li>Hands-free phone operation can be made, but the communication cannot be established.</li> <li>Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>	Malfunction in audio unit.  Replace audio unit. Refer to AV-48, "Removal and Installation".	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.		
Originating sound is not heard by the other	Sound operation function is normal.		
party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-38, "Diagnosis Procedure".	
	<ul> <li>The voice recognition can be controlled.</li> <li>Steering switch's VOL UP and VOL</li> <li>DOWN switch works, but  does not work.</li> </ul>	Steering switch malfunction. Replace steering switch. Refer to AV-52.  "Removal and Installation".	
The system cannot be operated.	Steering switch's   Note of the steering switches do not work.	Steering switch signal circuit malfunction. Refer to AV-36, "Diagnosis Procedure".	
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-36, "Diagnosis Procedure".	

#### NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

#### NORMAL OPERATING CONDITION

Description INFOID:0000000010247126

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

#### NOISE

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

- 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 the waves sent directly from the broadcast station arriving at the antenna at a different time from the waves which reflect off mountains or buildings.

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 to determine the cause.

#### NOTE:

The source of the noise can be found easily by listening to the noise while removing the fuses of electrical components, one by one.

Type of Noise and Possible Cause

C	Occurrence condition	Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	
The occurrence of the noise is lin	ked with the operation of the fuel pump.	Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	Motor case ground     Motor
The noise occurs constantly, not just under certain conditions.		Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		<ul><li> Ground wire of body parts</li><li> Ground due to improper part installation</li><li> Wiring connections or a short circuit</li></ul>

#### RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth <sup>®</sup> enabled cellular phones may not be recognized by the in-vehicle phone module.  Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-40. "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions:  • The vehicle is outside of the telephone service area.  • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.  • The cellular phone is locked to prevent it from being dialed.  NOTE:
	While a cellular phone is connected through the Bluetooth <sup>®</sup> wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth <sup>®</sup> Hands-Free Phone System cannot charge cellular phones.

Revision: October 2013 AV-43 2014 Xterra NAM

G

Α

D

Е

.

J

M

 $\circ$ 

## **NORMAL OPERATING CONDITION**

## < SYMPTOM DIAGNOSIS >

[BASE AUDIO]

Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

< PRECAUTION > [BASE AUDIO]

# **PRECAUTION**

#### **PRECAUTIONS**

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

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

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag 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 three minutes before performing any service.

Precaution for Trouble Diagnosis

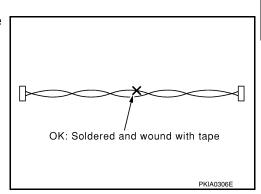
#### AV COMMUNICATION SYSTEM

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

## Precaution for Harness Repair

#### AV COMMUNICATION SYSTEM

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



Α

D

Е

Н

INFOID:0000000010247128

INFOID:0000000010247129

ı

M

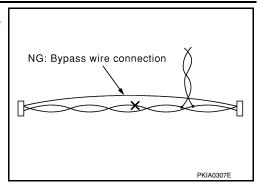
AV

0

#### **PRECAUTIONS**

< PRECAUTION > [BASE AUDIO]

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



Precaution for Work

INFOID:0000000010247130

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- · Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

## **PREPARATION**

[BASE AUDIO] < PREPARATION >

# **PREPARATION**

## **PREPARATION**

Special Service Tool

INFOID:0000000010247131

Α

 $\mathsf{D}$ 

Ε

The actual shape of the tools may	differ from those of illustrated here.
Tool number	

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set	Removing trim components  AWJIA0483ZZ

# **Commercial Service Tools**

INFOID:0000000010247132

Tool name		Description	G
Power tool		Loosening nuts, screws and bolts	
			Н
			I
	PIIB1407E		

M

[BASE AUDIO]

# REMOVAL AND INSTALLATION

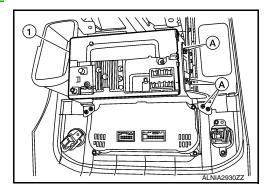
## **AUDIO UNIT**

## Removal and Installation

INFOID:0000000010247133

#### **REMOVAL**

- 1. Disconnect the negative battery terminal. Refer to PG-72. "Removal and Installation".
- 2. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
- 3. Remove the screws (A) from the bracket.
- 4. Remove the audio unit (1) from cluster lid C.



#### **INSTALLATION**

Installation is in the reverse order of removal.

#### **FRONT TWEETER**

#### < REMOVAL AND INSTALLATION >

[BASE AUDIO]

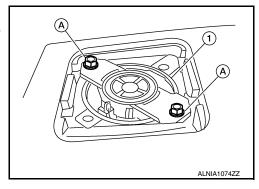
## **FRONT TWEETER**

## Removal and Installation

#### INFOID:0000000010247134

#### **REMOVAL**

- 1. Remove the front tweeter grille.
- 2. Remove the front tweeter screws (A).
- 3. Pull out the front tweeter (1), then disconnect the harness connector from the front tweeter and remove.



#### **INSTALLATION**

Installation is in the reverse order of removal.

G

Α

В

D

Е

Н

U

K

L

M

#### ΑV

0

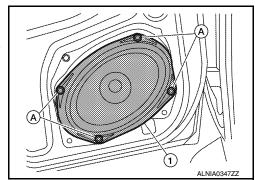
## FRONT DOOR SPEAKER

## Removal and Installation

#### INFOID:0000000010247135

#### **REMOVAL**

- 1. Remove the front door finisher. Refer to XX-XX, "\*\*\*\*\*".
- 2. Remove the front door speaker screws (A).
- 3. Pull out the front door speaker (1).
- 4. Disconnect the harness connector from the front door speaker (1) and remove.



#### **INSTALLATION**

Installation is in the reverse order of removal.

#### **REAR DOOR SPEAKER**

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

## REAR DOOR SPEAKER

## Removal and Installation

INFOID:0000000010247136

Α

В

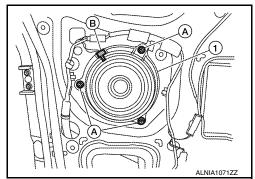
C

 $\mathsf{D}$ 

Е

#### **REMOVAL**

- 1. Remove the rear door finisher. Refer to INT-14, "Removal and Installation".
- 2. Remove the rear door speaker screws (A).
- 3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



#### **INSTALLATION**

Installation is in the reverse order of removal.

G

Н

K

L

M

ΑV

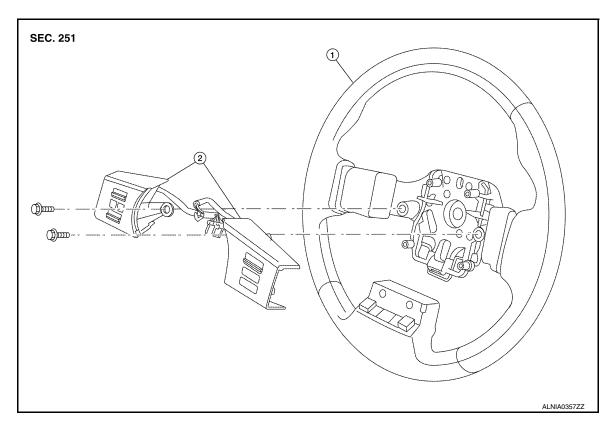
0

## STEERING SWITCH

#### Removal and Installation

INFOID:0000000010247137

#### Removal and Installation



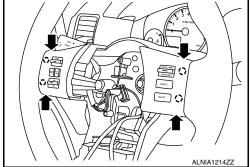
- 1. Steering wheel
- 2. Steering wheel audio control switches

#### **REMOVAL**

- 1. Remove the driver air bag module. Refer to XX-XX, "\*\*\*\*\*".
- 2. Remove the steering wheel audio control switch assembly screws.
- 3. Disconnect the harness connectors from the steering wheel audio control switches.
- 4. Remove the steering wheel audio control switches by pulling on steering wheel audio control switches to release the pawls.

# (): Pawl CAUTION:

Do not tilt steering wheel audio control switches during removal or damage may occur to the pawls.



#### **INSTALLATION**

Installation is in the reverse order of removal.

[BASE AUDIO]

INFOID:0000000010247138

Α

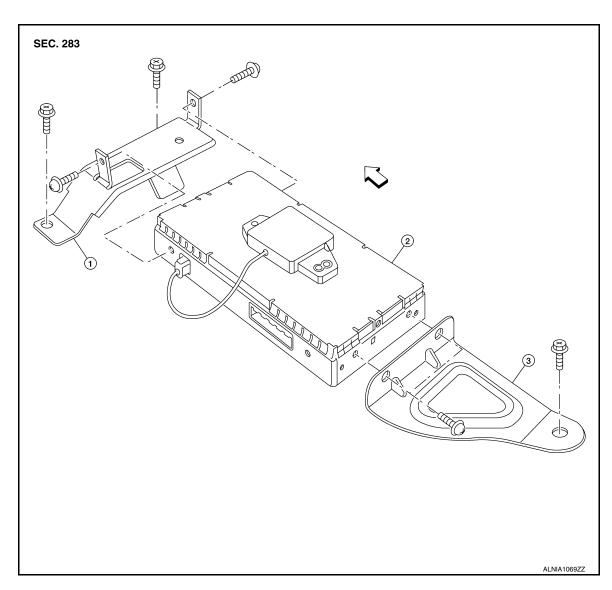
В

D

Е

## **BLUETOOTH CONTROL UNIT**

## Removal and Installation



- 1. Bluetooth control unit front bracket 2. Bluetooth control unit/antenna 3. Bluetooth control unit rear bracket

#### **REMOVAL**

#### NOTE:

Do not remove the RH front seat from the vehicle.

- Remove the RH front seat bolts, disconnect the harness connectors from the RH front seat. Refer to XX-XX. "\*\*\*\*".
- Tilt the RH front seat back to access the bluetooth control unit.

A۱/

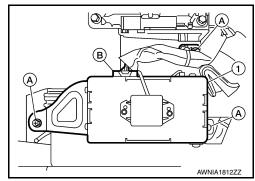
C

## **BLUETOOTH CONTROL UNIT**

#### < REMOVAL AND INSTALLATION >

[BASE AUDIO]

- Disconnect the harness connector (B) from the Bluetooth control unit.
- 4. Remove the Bluetooth control unit screws (A), then remove the Bluetooth control unit assembly (1).
- 5. Remove the Bluetooth control unit bracket screws and Bluetooth control unit front and rear brackets.



#### **INSTALLATION**

Installation is in the reverse order of removal.

#### **MICROPHONE**

## < REMOVAL AND INSTALLATION >

[BASE AUDIO]

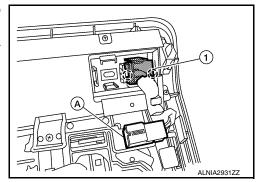
## **MICROPHONE**

## Removal and Installation

#### INFOID:0000000010247139

#### **REMOVAL**

- 1. Remove the roof console. Refer to XX-XX. "\*\*\*\*\*".
- 2. Release the pawls that retain the Bluetooth microphone (1) to the roof console.
- 3. Disconnect the harness connector (A) from the Bluetooth microphone (1) and remove.



#### **INSTALLATION**

Installation is in the reverse order of removal.

G

Α

В

C

D

Е

Н

K

L

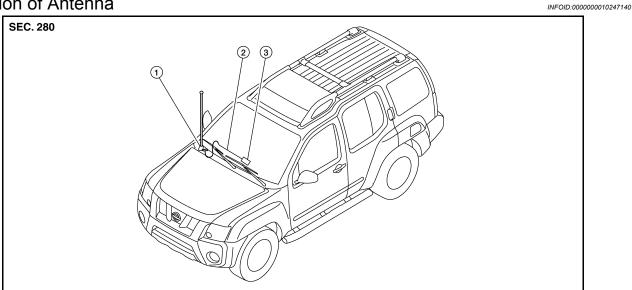
M

ΑV

0

## **AUDIO ANTENNA**

#### Location of Antenna



1. Audio antenna

Antenna feeder

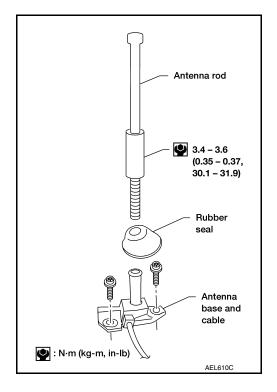
Audio unit

#### Removal and Installation

INFOID:0000000010247141

#### **REMOVAL**

- 1. Remove instrument lower panel RH and glove box. Refer to XX-XX, "\*\*\*\*\*"
- 2. Disconnect audio antenna cable from antenna feeder.
- Remove antenna rod.
- 4. Remove rubber seal.
- 5. Remove cowl top. Refer to XX-XX, "\*\*\*\*\*".
- 6. Remove fender protector. Refer to XX-XX, "\*\*\*\*\*".
- 7. Remove antenna base bolts.
- 8. Remove antenna base and cable.



#### **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

Always properly tighten the antenna rod during installation or the antenna rod may bend or break during vehicle operation.

#### [DISPLAY AUDIO]

INFOID:0000000009485173

Α

В

D

Е

K

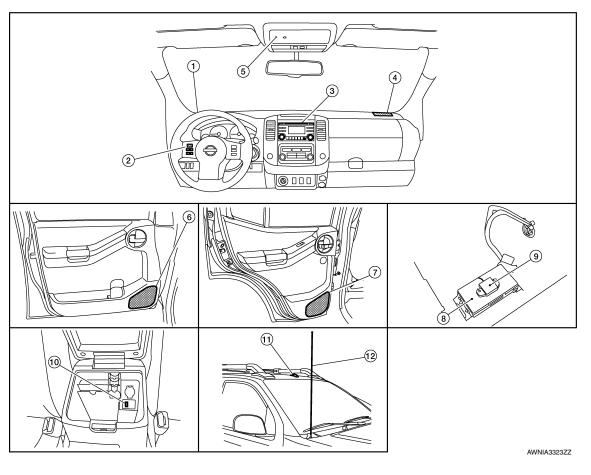
M

ΑV

# SYSTEM DESCRIPTION

# **COMPONENT PARTS**

## **Component Parts Location**



- 1. Front tweeter LH M109
- 4. Front tweeter RH M111
- Rear door speaker LH D207 Rear door speaker RH D307
- 10. USB interface M214

- 2. Steering wheel audio control switches 3.
- 5. Microphone R8
- 8. Bluetooth® control unit B141, B142, B143 (Underneath passenger seat)
- 11. Satellite antenna

- B. Audio unit M33, M41, M44, M45, M64
- Front door speaker LH D12 Front door speaker RH D112
- 9. Bluetooth® antenna
- 12. Rod antenna

# **Component Description**

INFOID:0000000009485174

Part name	Description	
Audio unit	<ul> <li>Controls audio, USB connection, AUX IN connection and satellite radio.</li> <li>Display unit is built in to audio unit.</li> </ul>	
Front door speakers		
Rear door speakers	Outputs high, mid and low range audio signals from audio unit.	
Front tweeters		
Steering wheel audio control switches	<ul> <li>Operations for audio, hands-free phone and voice recognition are possible.</li> <li>Steering switch signal is output to Bluetooth<sup>®</sup> control unit.</li> <li>Bluetooth<sup>®</sup> control unit outputs steering switch signal to audio unit.</li> </ul>	

## **COMPONENT PARTS**

## < SYSTEM DESCRIPTION >

## [DISPLAY AUDIO]

Part name	Description	
Microphone	<ul> <li>Used for hands-free phone operations.</li> <li>Microphone signal is transmitted to Bluetooth<sup>®</sup> control unit.</li> <li>Power is supplied from Bluetooth<sup>®</sup> control unit.</li> </ul>	
Bluetooth <sup>®</sup> control unit	<ul> <li>Inputs TEL voice signal from Bluetooth<sup>®</sup> antenna and outputs it to audio unit.</li> <li>Controlled via AV communication by audio unit.</li> </ul>	
Bluetooth <sup>®</sup> antenna	Receives TEL voice signal and outputs it to Bluetooth® control unit.	
USB interface	USB sound and data input signals are transmitted to audio unit.	
Satellite antenna	Satellite radio signal is received and transmitted to audio unit.	
Rod antenna	AM/FM signal is received and transmitted to the audio unit.	

INFOID:0000000009485175

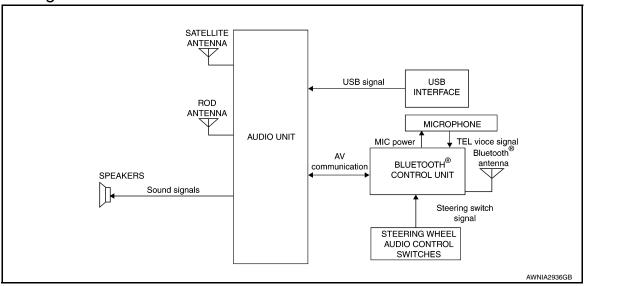
Α

D

Е

#### **SYSTEM**

System Diagram



## System Description

INFOID:0000000009485176

#### **AUDIO SYSTEM**

The audio system consists of the following components

- Audio unit
- Front door speakers
- Front tweeters
- Rear door speakers
- · Steering wheel audio control switches
- USB interface
- Rod antenna

When the audio system is on, AM/FM signals received by the rod antenna are sent to the audio unit. The audio unit then sends audio signals to the front door speakers, front tweeters and rear door speakers. Refer to Owner's Manual for audio system operating instructions.

#### SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- Satellite antenna
- · Satellite radio tuner integral to the audio unit

When the satellite radio system is on, satellite radio signals are supplied to the audio unit from the satellite antenna. The audio unit then sends audio signals to the speakers.

Refer to Owner's Manual for satellite radio system operating instructions.

#### HANDS-FREE PHONE SYSTEM

System Operation

#### NOTE:

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth<sup>®</sup> telephone system.

The Bluetooth<sup>®</sup> telephone system allows users who have a Bluetooth<sup>®</sup> cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth<sup>®</sup> control unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth<sup>®</sup> cellular telephones may not be recognized by the Bluetooth<sup>®</sup> control unit. When a cellular telephone or the Bluetooth<sup>®</sup> control unit is replaced, the telephone must be paired with the Bluetooth<sup>®</sup> control unit. Different cellular telephones may have different pairing procedures, refer to the cellular telephone operating manual.

Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.

ΑV

#### Bluetooth® Control Unit

When the ignition switch is turned to ACC or ON, the Bluetooth® control unit will power up. During power up, the Bluetooth® control unit is initialized and performs various self-checks. Initialization may take up to 20 seconds. If a phone is present in the vehicle and paired with the Bluetooth® control unit, Nissan Voice Recognition will then become active. Bluetooth® telephone functions can be turned off using the Nissan Voice Recognition system.

#### Steering Wheel Audio Control Switches

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes, depending on which button is pushed. The Bluetooth® control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- · Adjust the volume of calls

#### Microphone

The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth® control unit. The microphone can be actively tested during self-diagnosis.

The audio unit receives signals from the Bluetooth® control unit and sends audio signals to the speakers.

#### **USB CONNECTION FUNCTION**

- iPod<sup>®</sup> or music files in USB memory can be played.
  Sound signals are transmitted from USB connector and AUX jack to the audio unit and output to each speaker and tweeter.
- iPod<sup>®</sup> is recharged when connected to USB connector and AUX jack.

#### NOTE:

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

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

[DISPLAY AUDIO]

Α

В

D

Е

# **DIAGNOSIS SYSTEM (AUDIO UNIT)**

Description INFOID:000000000485177

The audio unit on board diagnosis performs the functions listed in the table below:

	Mode	Description	
	Self Diagnosis	<ul><li>Audio unit diagnosis.</li><li>Diagnoses the connections across system components.</li></ul>	
	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.	
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination.	
	Speaker Test	The connection of a speaker can be confirmed by test tone.	
Confirmation/ Adjustment	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.	
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.	
	Delete Unit Connection Log	Erase the connection history of unit and error history.	
	Initialize Setting	Initializes the audio unit memory.	

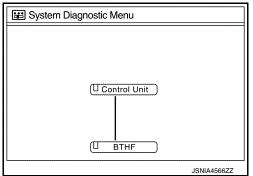
## On Board Diagnosis Function

INFOID:0000000009485178

#### **SELF DIAGNOSIS MODE**

Audio Unit Self Diagnosis

- 1. Select Self Diagnosis.
- Self diagnosis screen is displayed. The bar graph visible in center of screen indicates progress of self diagnosis.
- Diagnosis results are displayed after the self diagnosis is completed. The unit names and the connection lines are color coded according to the diagnostic results.



Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction <sup>1</sup>	Red	Green

- 1: Control unit (audio unit) is displayed in red.
- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to <a href="AV-108">AV-108</a>, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

AV

M

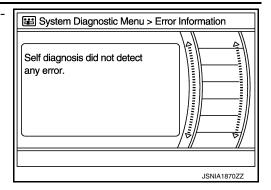
K

## **DIAGNOSIS SYSTEM (AUDIO UNIT)**

#### < SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

Comments of self diagnosis results can be viewed in the diagnosis result screen.



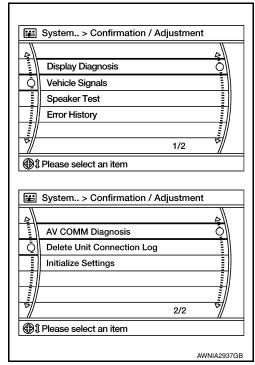
#### Audio Unit Self Diagnosis Results

Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	<ul> <li>Audio unit power supply or ground circuits. Refer to <u>AV-86</u>, "<u>AUDIO UNIT</u>: <u>Diagnosis Procedure</u>".</li> <li>If no malfunction is detected in audio un power supply and ground circuits, replace audio unit. Refer to <u>AV-108</u>, "<u>Removal and Installation</u>".</li> </ul>

A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ BTHF	When one of the following is detected:  malfunction is detected in Bluetooth® control unit power supply and ground circuits.  malfunction is detected in AV communication circuits between audio unit and Bluetooth® control unit.	Bluetooth® control unit power supply or ground circuits. Refer to AV-86, "BLUETOOTH® CONTROL UNIT: Diagnosis Procedure".  AV communication circuits between audio unit and Bluetooth® control unit.

#### Audio Unit Confirmation/Adjustment

- 1. Select Confirmation/Adjustment.
- 2. Select each switch on the Confirmation/Adjustment screen to display the relevant trouble diagnosis screen. Press the BACK switch to return to the initial Confirmation/Adjustment screen.



[DISPLAY AUDIO]

Α

Е

Н

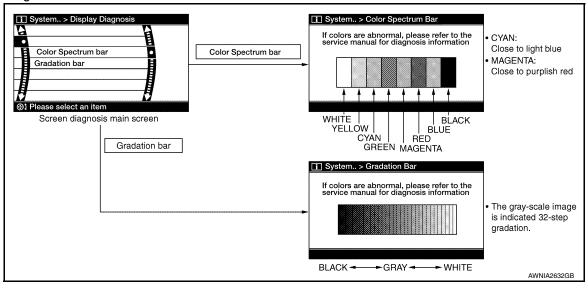
M

ΑV

0

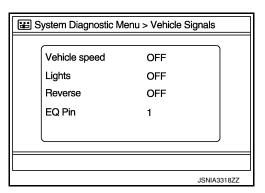
Р

Display Diagnosis



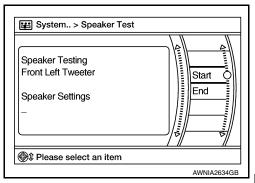
#### Vehicle Signals

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



#### Speaker Test

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



#### Error History

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

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

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

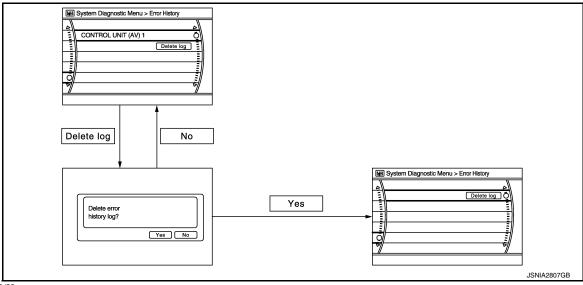
#### Count up method A

- The counter is set to 40 if an error occurs. 1 is subtracted from the counter if the condition is normal at a next ignition ON cycle.
- The counter lower limit is 1. The counter can be reset (no error record display) with the Delete log switch.

Count up method B

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

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



#### Error item

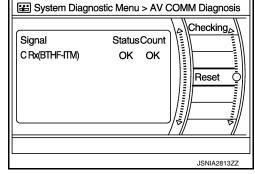
Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly.  Refer to AV-108, "Removal and Installation".
AV COMM CIRCUIT     H/F Unit Connection Error	<ul> <li>When one of the following is detected:</li> <li>malfunction is detected in Bluetooth<sup>®</sup> control unit power supply and ground circuits.</li> <li>malfunction is detected in AV communication circuits between audio unit and Bluetooth<sup>®</sup> control unit.</li> </ul>	Bluetooth® control unit power supply or ground circuits. Refer to AV-86, "BLUETOOTH® CONTROL UNIT: Diagnosis Procedure".  AV communication circuits between audio unit and Bluetooth® control unit.

#### **AV COMM Diagnosis**

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

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



#### NOTE:

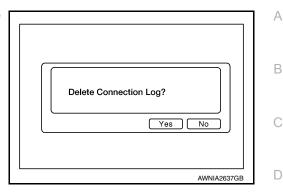
## **DIAGNOSIS SYSTEM (AUDIO UNIT)**

#### < SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

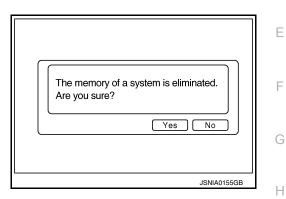
**Delete Unit Connection Log** 

Deletes any unit connection records and error records from the audio unit memory (clears the records of the unit that has been removed).



Initialize Settings

Deletes data stored from the audio unit.



ΑV

M

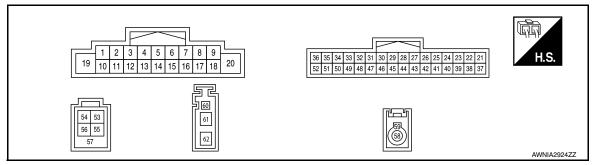
0

# **ECU DIAGNOSIS INFORMATION**

## **AUDIO UNIT**

Reference Value

#### TERMINAL LAYOUT



#### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
2 (BR)	3 (L)	Sound signal front speaker LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
4 (G)	5 (B)	Sound signal rear speaker LH	Output	ON	Sound output	(V) 1 0 -1 *** 2ms SKIB3609E
					Press and hold MODE switch.	0 V
					Press and hold $\Delta$ switch.	1.34 V
6 (V)	Ground	STRG SW A	Input	ON	Press and hold $\nabla$ switch.	2.45 V
(-,					Press and hold <b>r</b> vs switch.	3.43 V
					Except for above.	5.0 V
7 (G/B)	Ground	ACC power supply	Input	ACC	_	Battery voltage
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage

## **AUDIO UNIT**

## < ECU DIAGNOSIS INFORMATION >

## [DISPLAY AUDIO]

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

Κ

L

 $\mathbb{N}$ 

0

Ρ

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
11 (LG)	12 (R)	Sound signal front speaker RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
13 (GR)	14 (BG)	Sound signal rear speaker RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
15 (BG)	_	STRG SW ground	Output	_	-	-
16		STRG SW B	Input		Press VOL DOWN switch Press VOL UP switch.	0 V 1.34 V
(LG)	Ground			ON	Press A switch.	2.45 V
					Except for above.	5.0 V
18 (SB)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	0 20 ms JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	_	Battery voltage
20 (B)	_	GND	_	_	_	_
25 (W)	24 (B)	Telephone audio in		-	-	
28 (R)	_	MCAN2 H	_	_	_	_
29 (G)	_	MCAN2 L			_	_
30		MCAN shield	_		_	_
31 (L)	_	MCAN1 H	_	_	_	_
32 (W)	_	MCAN1 L	_		_	_
47 (B)	_	EQ3	_	_	_	_
53 (R)	_	V BUS signal	_	_	_	_
54 (B)	_	USB ground	_	_	_	_

## **AUDIO UNIT**

## < ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO]

	minal color)	Description		Condition		Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
55 (G)	_	USB D+	_	_	_	_
56 (W)	_	USB D-	_	_	_	_
57	_	Shield	_	_	_	_
58 (B)	Ground	Satellite antenna signal	Input	ON	_	5.0 V
59	_	SAT Shield	_	_	_	_
61 (B)	Ground	AM-FM main antenna	_	_	_	_

## **BLUETOOTH® CONTROL UNIT**

[DISPLAY AUDIO]

В

C

 $\mathsf{D}$ 

Е

F

G

Н

J

K

L

M

ΑV

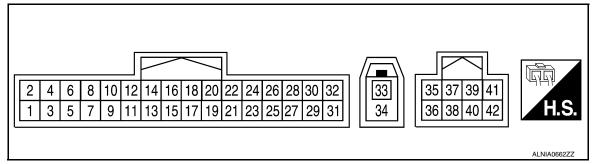
0

Р

## **BLUETOOTH® CONTROL UNIT**

Reference Value

#### **TERMINAL LAYOUT**



#### PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value	
+	_	Signal name	Input/ output	Ignition switch	Condition	(Approx.)	
1 (R/B)	Ground	Battery power	Input	_	_	Battery voltage	
2 (G/Y)	Ground	ACC power	Input	ACC or ON	_	Battery voltage	
3 (W/G)	Ground	IGN power	Input	ON or START	_	Battery voltage	
4 (B)	Ground	Ground	-	ON	_	0V	
6	_	MIC Shield	_	_	_	-	
7 (G)	8 (L)	MIC in signal	Input	-	_	-	
9 (W)	10 (B)	Audio out	Output	ACC or ON	Bluetooth <sup>®</sup> control unit sends audio signal	(V) 1 0 -1 + 2ms SKIB3609E	
		Ladder in 1	Input	ACC or ON	Press and hold MODE switch.	0 V	
					Press and hold $\Delta$ switch.	1.34 V	
12 (BR)	Ground				Press and hold $\nabla$ switch.	2.45 V	
(BIV)					Press and hold <b>r</b> \( \sqrt{\sq}}\sqrt{\sq}}}}}}}}}\sqit{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	3.43 V	
					Except for above.	5.0 V	
		nd Ladder in 2		ACC or ON	Press VOL DOWN switch	0 V	
13			Input		Press VOL UP switch.	1.34 V	
(L)	Ground				Press A switch.	2.45 V	
					Except for above.	5.0 V	

## **BLUETOOTH® CONTROL UNIT**

## < ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO]

Terminal (wire color)		Description		Condition		Reference value
+	_	Signal name	Input/ output	Ignition switch	Condition	(Approx.)
14 (G)	-	Ladder in ground	Input	-	-	-
			Input	ACC or ON	Press and hold MODE switch.	0 V
					Press and hold $\Delta$ switch.	1.34 V
17 (V)	Ground	Ladder out 1			Press and hold $\nabla$ switch.	2.45 V
(*)					Press and hold $\Gamma$	3.43 V
					Except for above.	5.0 V
				ACC or ON	Press VOL DOWN switch	0 V
18	Ground	Ladder out 2	Input		Press VOL UP switch.	1.34 V
(LG)	Ground				Press 🗪 switch.	2.45 V
					Except for above.	5.0 V
19 (BG)	Ground	Ladder out ground	Output	_		-
21 (B)	Ground	Cont 2	_	_	_	0V
22 (B)	Ground	Cont 3	_	_	_	0V
28 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	(V) 15 10 5 0 ++20ms PKIA1935E
29 (Y)	Ground	Microphone power	Output	ON	_	5V
33 (B)	_	Bluetooth <sup>®</sup> antenna	_	_	_	_
34	_	Bluetooth® antenna shield	_	_	_	_
35 (R)	-	MCAN H	_	_	_	_
36 (G)	-	MCAN L	_	-	-	_
37	_	MCAN shield	_	_	_	_

Α

В

C

D

Е

F

G

Н

J

K

L

M

ΑV

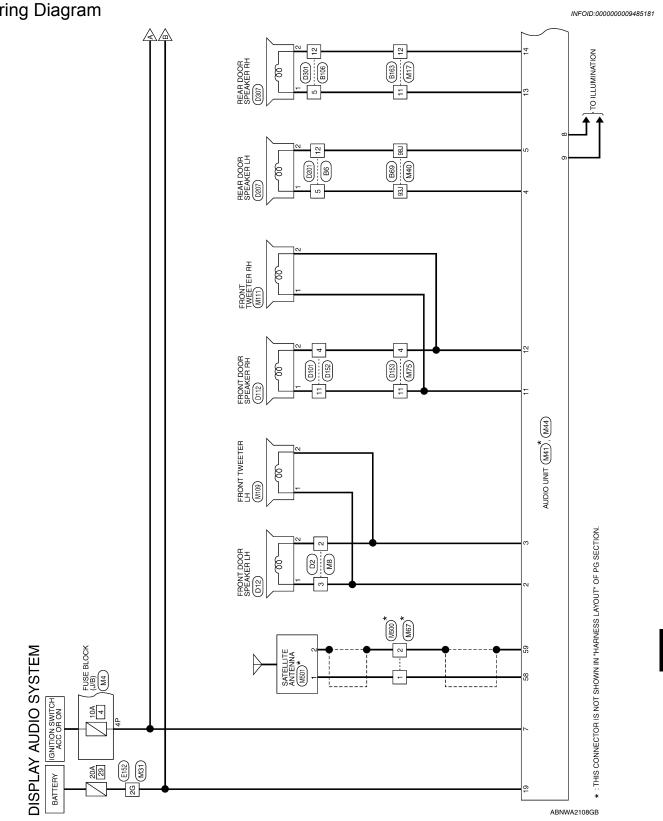
0

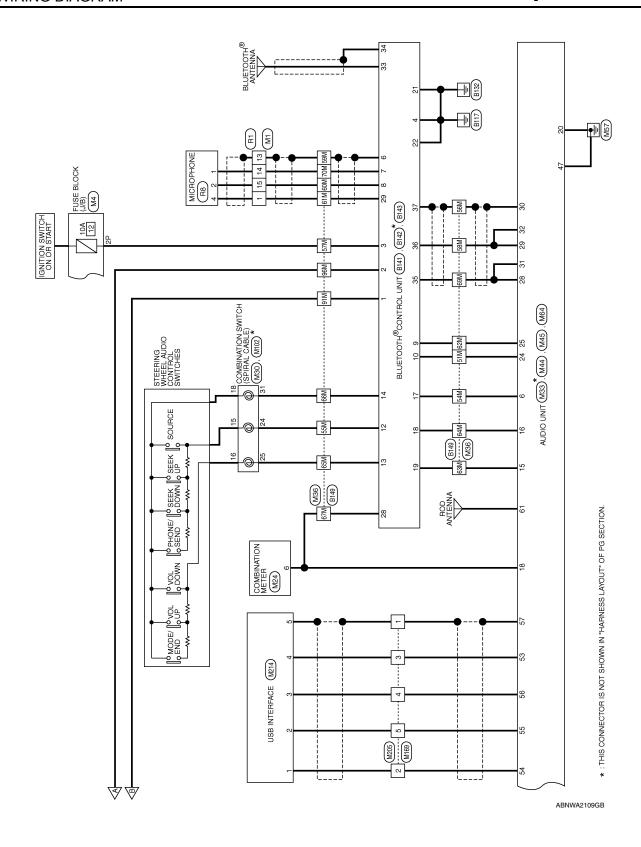
Ρ

# **WIRING DIAGRAM**

## **DISPLAY AUDIO SYSTEM**







WIRE TO WIRE

Connector Name WIRE TO Connector Color BROWN

Connector No.

# DISPLAY AUDIO SYSTEM CONNECTORS

M4	Connector Name FUSE BLOCK (J/B)	WHITE	7P (8P) SP  4P    3P  2P  1P    (8P) (3P  1P    13P  12P  11P  10P  9P  3P	of Signal Name	1	ı		
	lame	Solor	7P 6P 5P 4P 16P 15P 14P 13P	Color Wire	W/G	G/B		
Connector No.	Connector N	Connector Color WHITE	原列 H.S.	Terminal No. Wire	2P	4P		
	Æ		9 10 11 12	Signal Name	- (WITHOUT NAVI)	1	- (WITHOUT NAVI)	- (WITHOUT NAVI)
	E TO WIF	TE	6 7 8 18 19 20 2		TIW) —		- (WI	- (W
Σ	ne WIRE TO WIF	or WHITE	3 4 5 6 7 8 15 16 17 18 19 20 2		Y − (WIT	SHIELD	G – (WI	M) – (W
Connector No. M1	Connector Name WIRE TO WIRE	Connector Oolor WHITE	4 5 6 7 8 16 17 18 19 20 3	Terminal No.   Color of   Sig	1 Y – (WIT	13 SHIELD		15 L – (W

Signal Name

Terminal No. N က

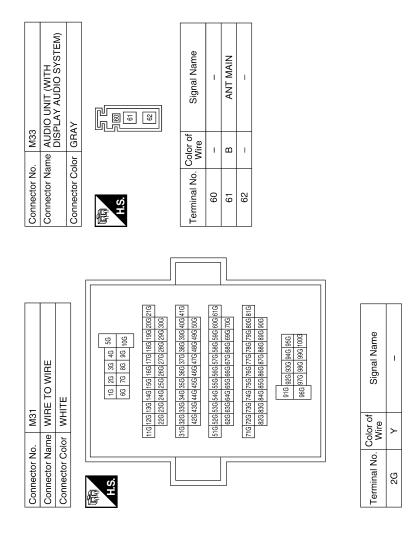
BB

						ח	ı		AY AL	נטוטו	<u>i</u>
											Α
- CHINA CHACH A HAIG	Connector Name   COMBINATION SWITCH (SPIRAL CABLE)	>	28 27 33 34 33 34		Signal Name	1	- (WITHOUT NAVI)	I			В
N30	Name COM (SPIF	Solor GRAY	24 25 26 27 31 32 33 34		Color of Wire	BB	٦	G			D
Connector No.	Connector	Connector Color	师 H.S.		Terminal No.	24	25	31			Е
				22 21							F
	Connector Name COMBINATION METER Connector Color WHITE			7 6 5 4 3 27 26 25 24 23	Signal Name	SPEED OUT 8					G
4	COMBINATION			12 11 10 9 32 31 30 29		SPE					Н
No. M24	Name CC Color WH			16     15     14     13     12     11     10     9     8       36     35     34     33     32     31     30     29     28	Color of Wire	SB	-				I
Connector No.	Connector Name		H.S.	20 19 18 17 40 39 38 37	Terminal No.	9					J
		7									K
L	) WIRE		00 00 00 00 00 00 00 00 00 00 00 00 00		Signal Name	ı	-				L
M17	Connector Name WIRE TO WIRE Connector Color WHITE		5 4		Color of Wire	GR	BG				M
tor No.	Connector Name WIRE T		7 6 15 15		I No. Cole	5					AV
Connector No.	Connec		用.S.		Terminal No.	7	12				0

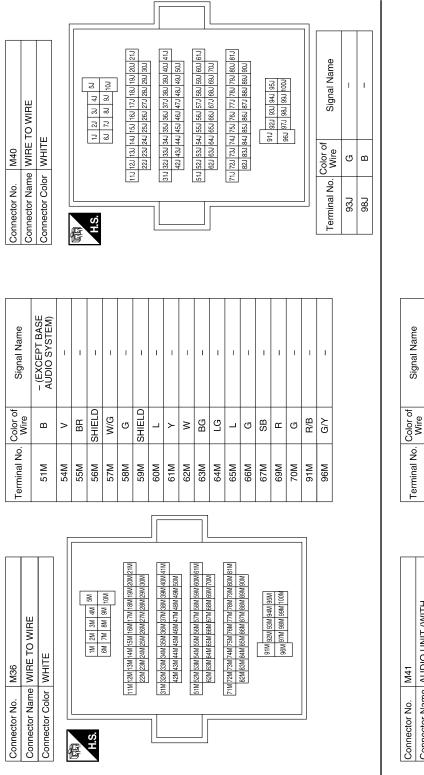
Р

ABNIA5739GB

**AV-73** Revision: October 2013 2014 Xterra NAM



ABNIA5740GB



SAT ANT	SAT SHIELD	
В	SHIELD	
58	29	
	В	B SHIELD

Connector No.	M41
Connector Name	Connector Name AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM
Connector Color PINK	PINK





ABNIA5741GB

Α

В

С

D

Е

F

G

Н

J

Κ

L

M

ΑV

0

Р

Signal Name	1	ı	1	ı	ı	1	ı	EQ3	ı	1	1	ı	1
Color of Wire	ı	ı	ı	ı	ı	ı	ı	В	ı	_	-	ı	_
Terminal No. Wire	40	41	42	43	44	45	46	47	48	49	20	51	52

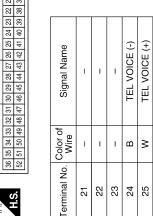
Terminal No.	Color of Wire	Signal Name
7	G/B	ACC
8	ВĐ	ILL (-)
6	Œ	ILL (+)
10	1	I
11	57	FR SP RH (+)
12	Œ	FR SP RH (-)
13	GR	RR SP RH (+)
14	BG	RR SP RH (-)
15	ВG	STRG SW GND
16	ГG	STRG SW B
17	-	1
18	SB	SPD
19	Υ	+B
20	В	GND

Signal Name	ı	ı	M CAN2 H	M CAN2 L	M CAN GND	M CAN1 H	M CAN1 L	I	I	_	I	I	ı	1
Color of Wire	1	ı	ш	ŋ	SHIELD	7	Ν	_	-	_	_	_	1	1
Terminal No. Color of Wire	26	27	28	29	30	31	32	33	34	35	36	37	38	39

Connector No.	M44
Connector Name	Connector Name AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color WHITE	WHITE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 20	Signal Name	ı	(+) HT AS H4	FR SP LH (-)
19 10 11 11	Color of Wire	ı	BR	_
明.S.	Terminal No. Wire	-	2	က

Connector No.	M45
Connector Name	Connector Name AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)
Connector Color WHITE	WHITE
ļ ļ	



ABNIA5742GB

RR SP LH (+) RR SP LH (-) STRG SW A

ල m >

w 4 w ω

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

J

Κ

L

M

Connector No.	M64		Connector No.	o. M67		Connector No.	. No. M75	2	
Connector Name   AUDIO UNIT (WITH DISPLAY AUDIO SY	AUDIO UNIT	AUDIO UNIT (WITH DISPLAY AUDIO SYSTEM)	Connector Name WIRE	Connector Name WIRE TO WIRE	TO WIRE	Connecto	Connector Name WIRE T	Connector Name WIRE TO WIRE	
Connector Color GREEN	GREEN			- 100					
H.S.	54 53 55 57		别 H.S.			H.S.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 9 8 7 6	
Terminal No. Color of Wire		Signal Name	Terminal No. Color of Wire	Color of Wire	Signal Name	Terminal	Color of Terminal No. Wire	Signal Name	
53	<u>«</u>	VBUS	-	В	1	4	۳	ı	
54	В	USB GND	2	SHIELD	ı	1	ГG	ı	
55	ŋ	USB D+							
56	M	USB D-							
57 SH	SHIELD	SHIELD							

	M111	onnector Name FRONT TWEET
	Connector No.	Connector Name
	M109	Connector Name FRONT TWEETER LH
	Connector No.	Connector Name
	M102	Connector Name COMBINATION SWITCH
	Connector No.	Connector Name

Connector Color BROWN

Sonnector Name   FRONT TWEETER RH	BROWN		Signal Name	_	- (EXCEPT BASE	AUDIO SYSTEM)
me FR	lor BR		Color of Wire	Μ	۵	-
Connector Na	Connector Color	H.S.	Terminal No. Wire	1	c	7
<b>МЕЕТЕВ LH</b>			Signal Name	EXCEPT BASE	JUIO SYSTEM)	EXCEPT BASE

	Terminal No. Color of Signal Na	– (EXCEPT AUDIO SYS	- (EXCEPT AUDIO SYS
Ш	Color of Wire	٨	GR
SH .	Terminal No.	1	2

Connector name   COMBINATION SWITCH   (SPIRAL CABLE)	٨t	14 15 16 17 18 19 20 21	Signal Name	1
	lor GR/	14151617	Color of Wire	GB
Connector Na	Connector Color GRAY	H.S.	Terminal No.	15

Signal Name	1	ı	ı	
Color of Wire	GR	5	В	
Terminal No.	15	16	18	

ABNIA5761GB

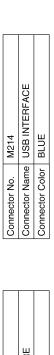
H.S.	Termina

AV

0

Р

**AV-77** Revision: October 2013



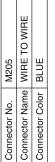
	Signal Name	_	-	-	_	ı
	Color of Wire	В	В	8	В	SHIELD
H.S.	Terminal No.   Color of Wire	1	2	3	4	5

Signal Name

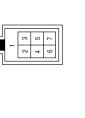
SHIELD ш α ≥ G

> က 4 2

N

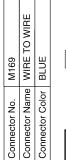






-	2	4	9		
					Color of Wire
	H.S.				Terminal No.

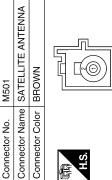
Conr	Conr	匮	Ħ







Signal Name	_	1	ı	-	ı
Color of Wire	SHIELD	В	œ	M	ŋ
Terminal No. Wire	1	7	3	4	5





Connector No.

H.S.		
<b>肾</b>		



Connector Name WIRE TO WIRE

M500

Connector No.

Signal Name	I	1
Color of Wire	В	SHIELD
Terminal No.	1	2

Signal Name

Color of Wire

Terminal No.

SHIELD

8

ш

ABNIA5744GB

Α

В

C

D

Е

F

Н

J

K

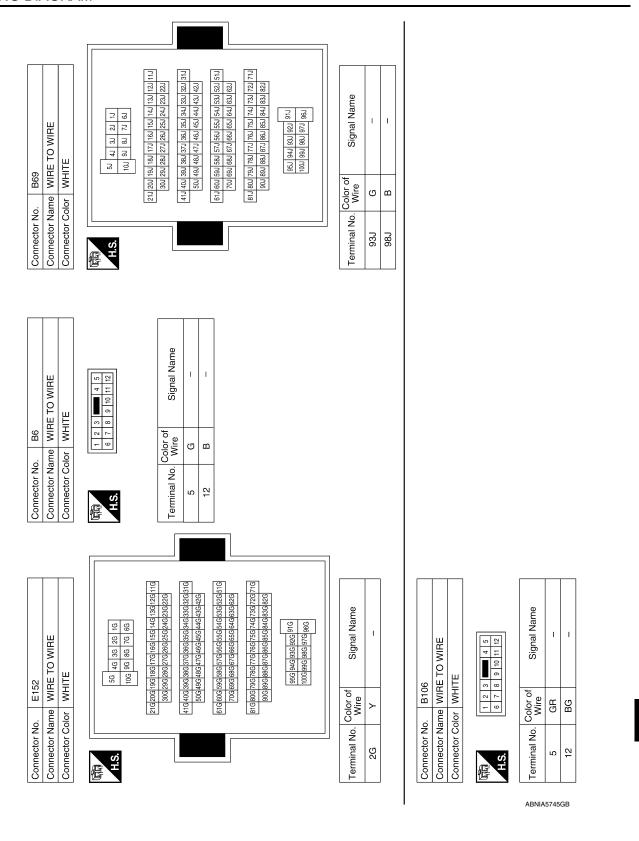
L

M

ΑV

0

Р



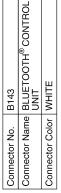
Revision: October 2013 AV-79 2014 Xterra NAM

Signal Name	CONT 2	CONT 3	ı	I	ı	ı	ı	SPEED SIGNAL	MIC POWER	ı	1	I
Color of Wire	В	В	ı	ı	ı	ı	ı	SB	>	ı	ı	ı
Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32

Signal Name	MIC SHIELD	MIC IN+	MIC IN-	AUDIO OUT+	AUDIO OUT- (EXCEPT BASE AUDIO SYSTEM)	I	LADDER IN 1	LADDER IN 2	LADDER IN GND	1	1	LADDER OUT 1	LADDER OUT 2	LADDER OUT GND	ı
Color of Wire	SHIELD	ŋ	_	8	B AL	1	BB	_	ŋ	1	-	>	LG	BG L	1
Terminal No.	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20

_	BLUETOOTH <sup>®</sup> CONTROL UNIT	里		18 20 22 24 26 28 30 32 17 19 21 22 25 27 29 31	Signal Name	BATT	SOV	NSI	GNÐ
, B141		lor WHITE		9 11 13 15	Color of Wire	B/B	G/Y	W/G	В
Connector No.	Connector Name	Connector Color	H.S.	2 4 6 8 10 1 3 5 7 9	Terminal No.	-	2	က	4

Terminal No. Color of Wire	Color of Wire	Signal Name
35	Я	CAN-H1
36	g	CAN-L1
37	SHIELD	CAN SHIELD 1
38	ı	I
39	_	I
40	1	1
41	1	ı
42	_	I







B142	Connector Name   BLUETOOTH <sup>®</sup> CONTROL   UNIT	BLACK	
Connector No.	Connector Name	Connector Color BLACK	





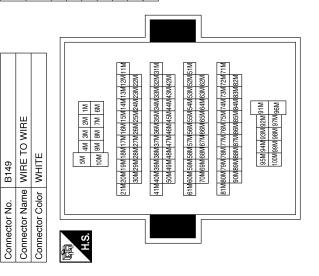


ABNIA5746GB

2

Signal Name	1	I	ı	ı	ı	ı	ı	ı	1	ı	1
Color of Wire	>	8	BG	ГG	_	ŋ	SB	ش	ŋ	B/B	G/Y
Terminal No. Wire	61M	62M	63M	64M	65M	M99	MZ9	M69	70M	91M	96M
lame	T BASE	SIEM)									

Signal Name	- (EXCEPT BASE AUDIO SYSTEM)	1	1	1	1	1	1	-
Color of Wire	В	^	BR	SHIELD	M/G	g	SHIELD	Т
Terminal No. Wire	51M	24M	55M	W95	W29	28M	W69	W09



Connector No.		R8
Connector Name	l	MICROPHONE
Connector Color	-	WHITE
雨 H.S.		2 3 4
Terminal No.	Color of Wire	of Signal Name
1	В	- (WITHOUT NAVI)
2	7	- (WITHOUT NAVI)
4	Υ	- (WITHOUT NAVI)

	WIRE TO WIRE	3	24 28 22 21 20 19 18 17 16 15 14 13	Signal Name	- (WITHOUT NAVI)	1	- (WITHOUT NAVI)	- (WITHOUT NAVI)
B1		lor WHIT	12 11 10 9 8 7 24 23 22 21 20 19	Color of Wire	>	SHIELD	g	
Connector No.	Connector Name	Connector Color WHITE	H.S. 24 23	Terminal No. Color of Wire	-	13	14	15

33	WIRE TO WIRE	WHITE	10 11 12 13 14 15 16	Signal Name	-	I	
. B163		_	8 8	Color of Wire	GR	BG	
Connector No.	Connector Name	Connector Color	斯 H.S.	Terminal No. Wire	11	12	

ABNIA5747GB

Revision: October 2013 AV-81 2014 Xterra NAM

Α

В

С

D

Е

F

G

Н

1

K

L

M

ΑV

0

Р

D101  WHITE  WHITE  2 3	Connector No. D153  Connector Name WIRE TO WIRE  Connector Color WHITE  Connector Color WHITE  Terminal No. Color of Signal Name  4 R
	r No. D15 r Name WIR r Color WHI 6 7 2
Connector No.  Connector Color  Connector Color  Lis.  4 L  4 L  4 L	Connector No. Connector Name Connector Color H.S. H.S.  11 L
P12 WHITE  r of Signal Name  "	Connector No.   D152   Connector Name   WIRE TO WIRE   Connector Color   WHITE
	Connector No. D152 Connector Name WIRE T Connector Color WHITE  LAS. Color of  A R  A R  A R  11 LG
	stor No.
Connector No. Connector Col. H.S.  1 1 2	Connector No. Connector Col Connector Col H.S. H.S.
D2  WIRE TO WIRE  BROWN  2   3   10   11   12    7   8   9   10   11   12    Reference	Connector No. D112 Connector Name FRONT DOOR SPEAKER RH Connector Color WHITE  Terminal No. Color of Wire Signal Name  1 W/B 2 L/B
2. D2  Slor BROWN  Color of Wire  L/R  L/M	Connector No. D112 Connector Name FRONT Connector Color WHITE LIS. Color of Terminal No. Color of Wire WIRE 2 L/B
Connector Name Connector Color  Terminal No. Will  2 U  3 U	tor No.
Connector No. Connector Col Connector Col H.S.  Terminal No.	Connector No. Connector Cold Connector Cold H.S.  Terminal No. C

ABNIA5762GB

				А
WIRE 6	Signal Name			В
D301   WHE TO W   WHITE	<b>J</b> o .			С
No. D301  Name WIRE  Color WHITI    5 4	Color of Wire			D
Connector No. D301  Connector Name WIRE TO WIRE  Connector Color WHITE    5 4     3 2 1	Terminal No. 5			Е
				F
Connector Name REAR DOOR SPEAKER LH Connector Color WHITE	Signal Name			G
EAR DOOR SI				Н
No. D207 Name REAR	Color of Wire			I
Connector No. D207 Connector Name REAR Connector Color WHITE	Terminal No.			J
				K
WIRE 7 2 1 8 7 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	Signal Name	Connector No. D307 Connector Color WHITE  MHITE  LAS.	Signal Name – – – – – – – – – – – – – – – – – – –	L
0      <del>   </del>	or of ire	D307 REAR DC WHITE	or of life of	M
or No.	No. Color of Wire	or No.	No. Color of Wire	AV
Connector No. D201 Connector Name WIRE T Connector Color WHITE	Terminal No. 5	Connector No. D307 Connector Name REAR Connector Color WHITE	Terminal No.	0

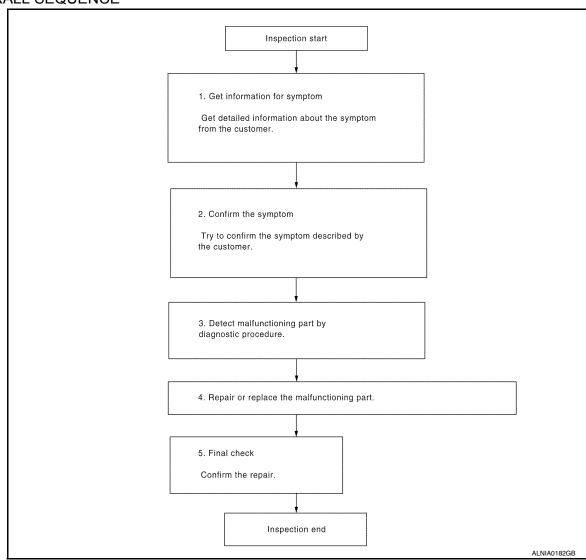
Revision: October 2013 AV-83 2014 Xterra NAM

# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

#### **OVERALL SEQUENCE**



#### **DETAILED FLOW**

# 1.GET INFORMATION FOR SYMPTOM

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2.

## 2.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 3.

# 3. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW	[DISPLAY AUDIO]
< BASIC INSPECTION >	[DISPLAT AUDIO]
Is malfunctioning part detected?	
YES >> GO TO 4. NO >> GO TO 2.	
4. REPAIR OR REPLACE THE MALFUNCTIONING PART	
Repair or replace the malfunctioning part.	
2. Reconnect parts or connectors disconnected during Diagnostic Procedure.	
>> GO TO 5.	
5. FINAL CHECK	
Refer to confirmed symptom in step 2, and make sure that the symptom is not detected	d.
Was the repair confirmed?	
YES >> Inspection End. NO >> GO TO 2.	
	A
	_

**AV-85** Revision: October 2013 2014 Xterra NAM

[DISPLAY AUDIO]

# DTC/CIRCUIT DIAGNOSIS

# POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

**AUDIO UNIT: Diagnosis Procedure** 

INFOID:0000000009485183

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

## 1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	29 (20A)

#### Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect audio unit connector M44.
- 3. Check voltage between audio unit connector M44 and ground.

Audio unit		Ground	Condition	Voltage
Connector	Terminal	Ground	Condition	(Approx.)
M44	7		Ignition switch: ON	Battery voltage
IVI <del>44</del>	19	_	Ignition switch: OFF	battery voltage

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

# 3. CHECK GROUND CIRCUIT

Check continuity between audio unit connectors M44, M45 and ground.

Audio unit		Ground	Continuity	
Connector	Terminal	Orodina	Continuity	
M44	20	_	Yes	
M45	47	<del>_</del>	165	

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

#### BLUETOOTH® CONTROL UNIT

## BLUETOOTH® CONTROL UNIT: Diagnosis Procedure

INFOID:0000000009485184

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

# 1.CHECK FUSE

#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
1	Battery power supply	29 (20A)
2	ACC power supply	4 (10A)
3	Ignition power supply	12 (10A)

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

# 2. CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect Bluetooth® control unit connector B141.
- 3. Check voltage between Bluetooth® control unit connector B141 and ground.

Bluetooth® control unit		Ground	Condition	Voltage
Connector	Terminal	0.04.14	Condition	(Approx.)
	1		Ignition switch: OFF	
B141	2	_	Ignition quitable ON	Battery voltage
	3		Ignition switch: ON	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

# 3.CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- Check continuity between Bluetooth® control unit connector B141 and ground.

Bluetooth <sup>®</sup> control unit		Ground	Continuity	-
Connector	Terminal	Giodila	Continuity	
	4			ľ
B141	21	_	Yes	
	22			L

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

#### MICROPHONE

# MICROPHONE: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

# 1. CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch ON.
- Check voltage between microphone connector R8 and ground.

(+)		(-)	Value (Approx.)	
Connector	Terminal	(-)	ναίαε (Αρρίολ.)	
R8	4	Ground	5V	

**AV-87** Revision: October 2013 2014 Xterra NAM Α

D

Е

Н

M

INFOID:0000000009485185

#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

<u>Is the inspection result normal?</u> YES >> GO TO 3.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect microphone connector and Bluetooth® control unit connector B141.
- 3. Check continuity between microphone connector R8 and Bluetooth® control unit connector B141.

Microphone		Bluetooth <sup>®</sup> control unit		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
R8	4	B141	29	Yes	

4. Check continuity between microphone connector R8 and ground.

Microphone			Continuity	
Connector	Terminal	<u>—</u>	Continuity	
R8	4	Ground	No	

#### Is the inspection result normal?

YES >> Replace the Bluetooth<sup>®</sup> control unit. Refer to AV-113, "Removal and Installation".

NO >> Repair or replace harness or connectors.

# 3. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect microphone connector and Bluetooth® control unit connector B141.
- 3. Check continuity between microphone connector R8 and Bluetooth® control unit connector B141.

Microphone		Bluetooth <sup>®</sup> control unit		Continuity
Connector	Terminal	Connector Terminal		Continuity
R8	2	B141	8	Yes

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

#### FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## FRONT DOOR SPEAKER

## Diagnosis Procedure

INFOID:0000000009485186

Α

В

D

Е

F

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

# 1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

# 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

- Disconnect audio unit connector M44 and suspect front door speaker connector.
- Check continuity between audio unit connector M44 and suspect front door speaker connector.

Aud	io unit	Front door speaker		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	2	D12 (LH)  D112 (RH)	D42 (LU)	1	
M44	3		2	Yes	
IVI <del>44</del>	11		1	165	
	12		2		

Check continuity between audio unit connector M44 and ground.

Audio unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
	2		
M44	3		No
	11	_	INO
	12		

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# 3.check front door speaker signal

- Connect audio unit connector M44 and suspect front door speaker connector.
- Turn ignition switch to ACC. 2.
- Push audio unit POWER switch.
- Check signal between the terminals of audio unit connector M44.

Audio unit connector M44			
(+)	(-)	Condition	Reference value
Terminal	Terminal		

**AV-89** Revision: October 2013 2014 Xterra NAM

ΑV

## **FRONT DOOR SPEAKER**

#### < DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

2	3		
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

## Is the inspection result normal?

>> Replace front door speaker. Refer to <u>AV-110, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-108, "Removal and Installation"</u>. YES

NO

## FRONT TWEETER

# **Diagnosis Procedure**

INFOID:0000000009485187

Α

В

D

Е

F

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

# 1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

# 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

- Disconnect audio unit connector M44 and suspect front tweeter connector.
- 2. Check continuity between audio unit connector M44 and suspect front tweeter connector.

Aud	io unit	Front tweeter		Continuity		
Connector	Terminal	Connector	Terminal	Continuity		
	2	M109 (LH)	M400 (LLI)	M400 (LLI)	1	
N44	3		2	Yes		
IVI <del>44</del>	M44 11 M111 (RH)	1	165			
	12	WITT (KII)	2			

3. Check continuity between audio unit connector M44 and ground.

Audio unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
	2		
M44	3		No
	11	_	NO
	12		

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# 3.check front door speaker signal

- 1. Connect audio unit connector M44 and suspect front tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push audio unit POWER switch.
- 4. Check signal between the terminals of audio unit connector M44.

Audio unit connector M44			
(+)	(-)	Condition	Reference value
Terminal	Terminal		

Revision: October 2013 AV-91 2014 Xterra NAM

AV

## **FRONT TWEETER**

## < DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

2	3		4.0
11	12	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

## Is the inspection result normal?

>> Replace front tweeter. Refer to <u>AV-109, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-108, "Removal and Installation"</u>. YES

NO

#### **REAR DOOR SPEAKER**

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## REAR DOOR SPEAKER

# Diagnosis Procedure

INFOID:0000000009485188

Α

В

D

Е

F

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

# 1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

# 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

- Disconnect audio unit connector M44 and suspect rear door speaker connector.
- Check continuity between audio unit connector M44 and suspect rear door speaker connector.

Aud	io unit	Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4	D207 (LH)	1	
N444	5		2	Yes
M44	13	D207 (DU)	1	
	14	D307 (RH)	2	

Check continuity between audio unit connector M44 and ground.

Audio unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
	4		
M44	5		No
	13	_	NO
	14		

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# 3.check front door speaker signal

- Connect audio unit connector M44 and suspect rear door speaker connector.
- Turn ignition switch to ACC. 2.
- Push audio unit POWER switch.
- Check signal between the terminals of audio unit connector M44.

Audio unit connector M44			
(+)	(-)	Condition	Reference value
Terminal	Terminal		

**AV-93** Revision: October 2013 2014 Xterra NAM ΑV

## **REAR DOOR SPEAKER**

#### < DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

4	5		4.0
13	14	Audio signal output	(V) 1 0 -1 + 2ms SKIB3609E

#### Is the inspection result normal?

>> Replace rear door speaker. Refer to <u>AV-111, "Removal and Installation"</u>. >> Replace audio unit. Refer to <u>AV-108, "Removal and Installation"</u>. YES

NO

[DISPLAY AUDIO]

## STEERING SWITCH

# **Diagnosis Procedure**

INFOID:0000000009485189

Α

D

Е

J

L

M

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

# 1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

- 1. Disconnect combination switch connector M102.
- 2. Check resistance between combination switch connector terminals.

Combination switch connector M102		Condition	Resistance (Ω)	
Terminal	Terminal	Condition	(Approx.)	
		Depress VOL DOWN switch.	1	
16		Depress VOL UP switch.	121	
		Depress 🗪 switch.	321	
	18	18	Depress MODE switch.	1
45		Depress △ switch.	121	
15	Depress ♥ switch.	Depress ∇ switch.	321	
		Depress <b>€</b> √ ≤ switch.	723	

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering wheel audio control switches. Refer to AV-112, "Removal and Installation".

# 2.CHECK HARNESS BETWEEN BLUETOOTH $^{\scriptsize (8)}$ CONTROL UNIT AND COMBINATION SWITCH

- Turn ignition switch OFF.
- Disconnect Bluetooth<sup>®</sup> control unit connector B141 and combination switch connector M30.
- 3. Check continuity between Bluetooth® control unit connector B141 and combination switch connector M30.

Bluetooth <sup>®</sup>	Bluetooth <sup>®</sup> control unit Con		ation switch	Continuity
Connector	Terminal	Connector Terminal		Continuity
	12		24	
B141	13	M30	25	Yes
	14		31	

4. Check continuity between Bluetooth® control unit connector B141 and ground.

Bluetooth <sup>®</sup> control unit		_	Continuity
Connector	Terminal	_	Continuity
	12		No
B141	13	Ground	
	14	=	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

## 3. SPIRAL CABLE CHECK

Check continuity between combination switch connectors M30 and M102.

Revision: October 2013 AV-95 2014 Xterra NAM

	Combination switch			Continuity
Connector	onnector Terminal Connector Terminal		Continuity	
	24		15	
M30	25	M102	16	Yes
	31		18	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace spiral cable. Refer to <u>SR-13</u>, "Removal and Installation".

## 4. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND AUDIO UNIT

- 1. Disconnect audio unit connector M44.
- 2. Check continuity between Bluetooth® control unit connector B141 and audio unit connector M44.

Bluetooth <sup>®</sup>	control unit	Audio unit		Continuity
Connector	Terminal	Connector Terminal		Continuity
	17		6	
B141	18	M44	16	Yes
	19		15	

3. Check continuity between Bluetooth® control unit connector B141 and ground.

Blue	Bluetooth <sup>®</sup> control unit		Continuity
Connector	Terminal	_	Continuity
	17		
B141	18	Ground	No
	19		

#### Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-108, "Removal and Installation".

NO >> Repair or replace harness or connectors.

#### MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## MICROPHONE SIGNAL CIRCUIT

# **Diagnosis Procedure**

INFOID:0000000009485190

Α

D

Е

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

# 1. CHECK HARNESS BETWEEN BLUETOOTH® CONTROL UNIT AND MICROPHONE

- 1. Turn ignition switch OFF.
- 2. Disconnect Bluetooth® control unit connector B141 and microphone connector.
- 3. Check continuity between Bluetooth® control unit connector B141 and microphone connector R8.

Bluetooth <sup>®</sup>	control unit	Microphone		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	7		1	
B141	8	R8	2	Yes
	29		4	

4. Check continuity between Bluetooth® control unit connector B141 and ground.

Bluetooth® control unit		_	Continuity
Connector Terminal			
	7		No
B141	8	Ground	
	29		

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

## 2. CHECK MICROPHONE POWER SUPPLY

- 1. Connect Bluetooth® control unit connector B141 and microphone connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between microphone connector R8 terminal 4 and ground.

Microphone		Ground	Value (Approx.)
Connector	Terminal	Ground	ναίας (Αρρίολ.)
R8	4	_	5V

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace Bluetooth<sup>®</sup> control unit. Refer to AV-113, "Removal and Installation".

#### ${f 3.}$ CHECK MICROPHONE SIGNAL

Check signal between Bluetooth<sup>®</sup> control unit connector B141 with CONSULT or and oscilloscope.

ΑV

M

Р

Revision: October 2013 AV-97 2014 Xterra NAM

## **MICROPHONE SIGNAL CIRCUIT**

[DISPLAY AUDIO]

Bluetooth <sup>®</sup> control unit connector B141			_	
(+)	(+) (-)		Reference signal	
Terminal	Terminal	-		
7	8	Speak into microphone.	(V) 2.5 2.0 1.5 1.0 0.5 0 0 + 2ms	

#### Is the inspection result normal?

>> Replace Bluetooth<sup>®</sup> control unit. Refer to <u>AV-113, "Removal and Installation"</u>. >> Replace microphone. Refer to <u>AV-115, "Removal and Installation"</u>. YES

NO

#### **USB CONNECTOR**

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

## **USB CONNECTOR**

Diagnosis Procedure

INFOID:0000000009485191

Α

В

D

Е

F

Н

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

# 1. CHECK USB INTERFACE HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect audio unit connector M64 and USB interface connector M214.
- 3. Check continuity between audio unit connector M64 and USB interface connector M214.

Audi	o unit	USB interface		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	53		4	
	54		1	
M64	55	M214	2	Yes
	56		3	
	57		5	

Check continuity between audio unit connector M64 and ground.

Audio unit			Continuity	
Connector Terminal				
M64	53	Ground	No	
1004	55	Ground	INO	

#### Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-119, "Removal and Installation".

NO >> Repair or replace harness or connectors.

AV

M

0

Р

Revision: October 2013 AV-99 2014 Xterra NAM

# SYMPTOM DIAGNOSIS

# **AUDIO SYSTEM**

Symptom Table

INFOID:0000000009485192

#### **RELATED TO AUDIO**

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-61, "On Board Diagnosis Function".
	No sound from all speakers.	Speaker circuit shorted to ground. Refer to AV-71. "Wiring Diagram".     Audio unit power supply and ground circuits malfunction. Refer to AV-86. "AUDIO UNIT: Diagnosis Procedure".
No sound comes out or the level of the sound is low.	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear door speaker LH, rear door speaker RH) does not output sound.	<ul> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between audio unit and speaker. Refer to: <ul> <li>AV-89, "Diagnosis Procedure" (front door speaker).</li> <li>AV-91, "Diagnosis Procedure" (front tweeter).</li> <li>AV-93, "Diagnosis Procedure" (rear door speaker).</li> <li>Malfunction in speaker. Refer to: <ul> <li>AV-110, "Removal and Installation" (front door speaker).</li> </ul> </li> <li>AV-109, "Removal and Installation" (front tweeter).</li> <li>AV-111, "Removal and Installation" (rear door speaker).</li> </ul> </li> <li>Malfunction in audio unit. Refer to AV-61, "On Board Diagnosis Function".</li> </ul>

Α

В

D

Е

F

Н

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-61, "On Board Diagnosis Function".
Noise is mixed with audio.	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front tweeter RH, rear door speaker LH, rear door speaker RH).	<ul> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between audio unit and speaker. Refer to:  - AV-89, "Diagnosis Procedure" (front door speaker).  - AV-91, "Diagnosis Procedure" (front tweeter).  - AV-93, "Diagnosis Procedure" (rear door speaker).</li> <li>Malfunction in speaker.</li> <li>Poor Installation of speaker (e.g. backlash and looseness). Refer to:  - AV-110, "Removal and Installation" (front door speaker).</li> <li>AV-109, "Removal and Installation" (front tweeter).</li> <li>AV-111, "Removal and Installation" (rear door speaker).</li> <li>Malfunction in audio unit. Refer to AV-61, "On Board Diagnosis Function".</li> </ul>
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder.  Refer to AV-116, "Location of Antenna".
No radio reception or poor reception.	Other audio sounds are normal.     Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	<ul> <li>Rod antenna is not fully connected to antenna base.</li> <li>Antenna base/rod connection (thread zone) has foreign material or corrosion inside.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Refer to AV-116, "Location of Antenna".</li> </ul>
No satellite radio reception.	Satellite radio antenna malfunction.	<ul> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Loose satellite radio antenna mounting nut. Refer to <u>AV-116</u>, "<u>Location of Antenna</u>".</li> </ul>
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

#### RELATED TO HANDS-FREE PHONE

- · Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

#### **Check Compatibility**

- Make sure the customer's Bluetooth® related concern is understood.
- Verify the customer's concern.

The customer's phone may be required, depending upon their concern.

**AV-101** Revision: October 2013 2014 Xterra NAM ΑV

M

0

Write down the customer's phone brand, model and service provider. NOTE:

It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.

- 4. Go to "www.nissanusa.com/bluetooth/".
- a. Using the website's search engine, find out if the customer's phone is on the approved list.
- b. If the customer's phone is NOT on the approved list:
   Stop diagnosis here. The customer needs to obtain a Bluetooth<sup>®</sup> phone that is on the approved list before any further action.
- c. If the feature related to the customer's concern shows as "N" (not compatible): Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
- d. If the feature related to the customer's concern shows as "Y" (compatible): Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	
Hands-free phone cannot be established.	<ul> <li>Hands-free phone operation can be made, but the communication cannot be established.</li> <li>Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>	Malfunction in audio unit.  Replace audio unit. Refer to AV-108, "Removal and Installation".
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other	Sound operation function is normal.	
party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-97, "Diagnosis Procedure".
	<ul> <li>The voice recognition can be controlled.</li> <li>Steering switch's VOL UP and VOL</li> <li>DOWN switch works, but  does not work.</li> </ul>	Steering switch malfunction. Replace steering switch. Refer to AV-112,  "Removal and Installation".
The system cannot be operated.	Steering switch's   Note of the steering switches do not work.	Steering switch signal circuit malfunction. Refer to AV-95, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-95, "Diagnosis Procedure".

#### NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO]

Α

В

D

Е

F

M

#### NORMAL OPERATING CONDITION

Description INFOID:000000009485193

#### RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

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

- 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 the waves sent directly from the broadcast station arriving at the antenna at a different time from the waves which reflect off mountains or buildings.

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 determine the cause.

#### NOTE:

The source of the noise can be found easily by listening to the noise while removing the fuses of electrical components, one by one.

Type of Noise and Possible Cause

C	Occurrence condition	Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	Ignition components
The occurrence of the noise is lin	ked with the operation of the fuel pump.	Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	Motor case ground     Motor
The noise occurs constantly, not just under certain conditions.		<ul><li>Rear defogger coil malfunction</li><li>Open circuit in printed heater</li><li>Poor ground of antenna feeder line</li></ul>
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		<ul><li> Ground wire of body parts</li><li> Ground due to improper part installation</li><li> Wiring connections or a short circuit</li></ul>

#### RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth <sup>®</sup> enabled cellular phones may not be recognized by the in-vehicle phone module.  Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-100, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions:  • The vehicle is outside of the telephone service area.  • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.  • The cellular phone is locked to prevent it from being dialed.  NOTE:
	While a cellular phone is connected through the Bluetooth <sup>®</sup> wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth <sup>®</sup> Hands-Free Phone System cannot charge cellular phones.

Revision: October 2013 AV-103 2014 Xterra NAM

## **NORMAL OPERATING CONDITION**

## < SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO]

Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

[DISPLAY AUDIO] < PRECAUTION >

# **PRECAUTION**

#### **PRECAUTIONS**

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag 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
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Trouble Diagnosis

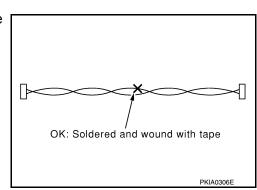
#### AV COMMUNICATION SYSTEM

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

#### Precaution for Harness Repair

#### AV COMMUNICATION SYSTEM

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



Α

D

Е

Н

INFOID:0000000009485195

INFOID:0000000009485196

M

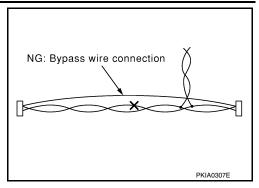
ΑV

Р

#### **PRECAUTIONS**

< PRECAUTION > [DISPLAY AUDIO]

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



Precaution for Work

INFOID:0000000009485197

• When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.

- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- · Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

## **PREPARATION**

< PREPARATION > [DISPLAY AUDIO]

# **PREPARATION**

# **PREPARATION**

**Special Service Tools** 

INFOID:0000000009485198	В
-------------------------	---

Α

С

 $\mathsf{D}$ 

Е

(TechMate No.) Tool name	Description	
(J-46534) Trim Tool Set	Removing trim components  AWJIA0483ZZ	
	AWJIAU483ZZ	

# **Commercial Service Tools**

INFOID:0000000009485199

Tool name		Description	G
Power tool		Loosening nuts, screws and bolts	
			Н
			I
	PIIB1407E		

Κ

L

M

## ΑV

C

Р

[DISPLAY AUDIO]

# REMOVAL AND INSTALLATION

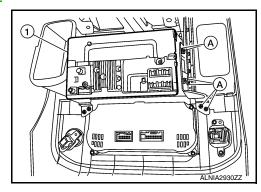
# **AUDIO UNIT**

## Removal and Installation

#### INFOID:0000000009485200

#### **REMOVAL**

- 1. Disconnect the negative battery terminal. Refer to PG-72, "Removal and Installation".
- 2. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
- 3. Remove the screws (A) from the bracket.
- 4. Remove the audio unit (1) from cluster lid C.



#### **INSTALLATION**

Installation is in the reverse order of removal.

# FRONT TWEETER

# < REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

# FRONT TWEETER

# Removal and Installation

#### INFOID:0000000009485201

Α

В

C

D

Е

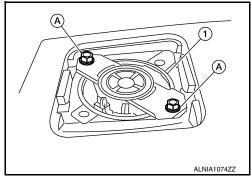
F

#### **REMOVAL**

#### **CAUTION:**

Use a suitable tool to prevent damage to the front tweeter grille and the instrument panel.

- 1. Remove the front tweeter grille.
- 2. Remove the front tweeter screws (A).
- 3. Pull out the front tweeter (1), then disconnect the harness connector from the front tweeter and remove.



#### **INSTALLATION**

Installation is in the reverse order of removal.

Н

J

<

L

M

ΑV

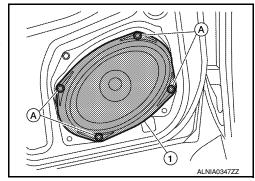
# FRONT DOOR SPEAKER

# Removal and Installation

#### INFOID:0000000009485202

# **REMOVAL**

- 1. Remove the front door finisher. Refer to INT-14, "Removal and Installation".
- 2. Remove the front door speaker screws (A).
- 3. Pull out the front door speaker (1).
- 4. Disconnect the harness connector from the front door speaker (1) and remove.



# **INSTALLATION**

Installation is in the reverse order of removal.

# **REAR DOOR SPEAKER**

# < REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

# **REAR DOOR SPEAKER**

# Removal and Installation

INFOID:0000000009485203

Α

В

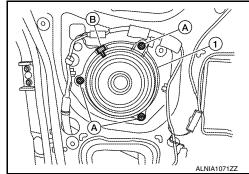
C

 $\mathsf{D}$ 

Е

# **REMOVAL**

- 1. Remove the rear door finisher. Refer to INT-14, "Removal and Installation".
- 2. Remove the rear door speaker screws (A).
- 3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



# **INSTALLATION**

Installation is in the reverse order of removal.

G

Н

1

K

L

M

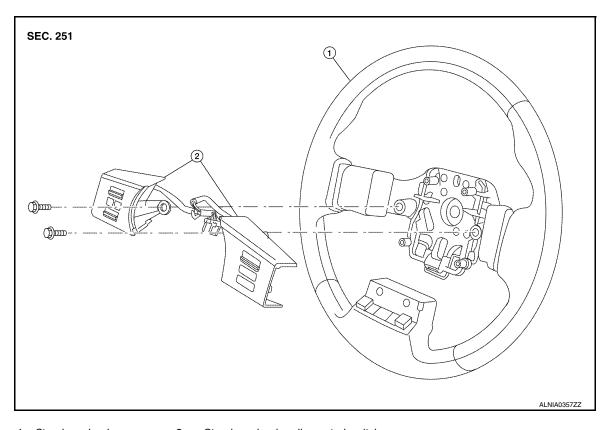
ΑV

0

# STEERING SWITCH

# Removal and Installation

INFOID:0000000009485204



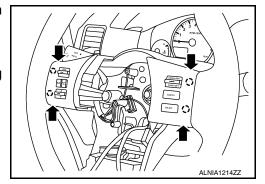
- 1. Steering wheel
- 2. Steering wheel audio control switches

# **REMOVAL**

- Remove the driver air bag module. Refer to <u>SR-11, "Removal and Installation"</u>.
- 2. Remove the steering wheel audio control switch assembly screws.
- 3. Disconnect the harness connectors from the steering wheel audio control switches.
- Remove the steering wheel audio control switches by pulling on steering wheel audio control switches to release the pawls.



Do not tilt steering wheel audio control switches during removal or damage may occur to the pawls.



#### INSTALLATION

Installation is in the reverse order of removal.

INFOID:0000000009485205

Α

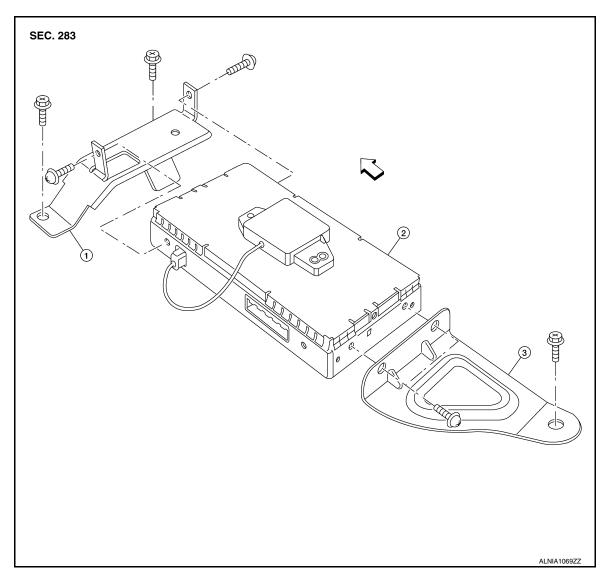
В

D

Е

# **BLUETOOTH CONTROL UNIT**

# Removal and Installation



- 1. Bluetooth control unit front bracket 2. Bluetooth control unit/antenna 3. Bluetooth control unit rear bracket
- ← Front

# **REMOVAL**

# NOTE:

Do not remove the RH front seat from the vehicle.

- Remove the RH front seat bolts, disconnect the harness connectors from the RH front seat. Refer to <u>SE-18</u>, "Exploded View".
- Tilt the RH front seat back to access the bluetooth control unit.

A۱/

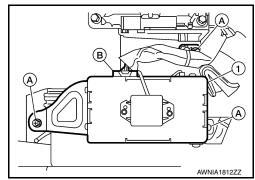
0

# **BLUETOOTH CONTROL UNIT**

# < REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

- Disconnect the harness connector (B) from the Bluetooth control unit.
- 4. Remove the Bluetooth control unit screws (A), then remove the Bluetooth control unit assembly (1).
- 5. Remove the Bluetooth control unit bracket screws and the Bluetooth control unit front and rear brackets.



# **INSTALLATION**

Installation is in the reverse order of removal.

# **MICROPHONE**

# < REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

# **MICROPHONE**

# Removal and Installation

#### INFOID:0000000009485206

Α

В

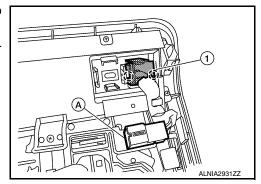
C

D

Е

# **REMOVAL**

- 1. Remove the roof console. Refer to <a href="INT-21">INT-21</a>, "Removal and Installation".
- 2. Release the pawls that retain the Bluetooth microphone (1) to the roof console.
- 3. Disconnect the harness connector (A) from the Bluetooth microphone (1) and remove.



# **INSTALLATION**

Installation is in the reverse order of removal.

G

Н

ı

K

L

M

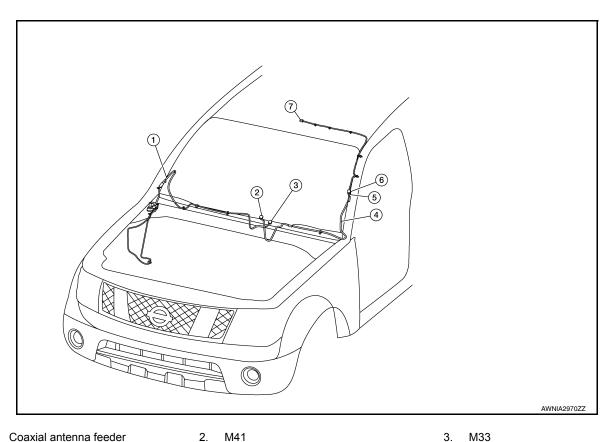
ΑV

[DISPLAY AUDIO]

INFOID:0000000009485207

# **AUDIO ANTENNA**

# Location of Antenna



- Coaxial antenna feeder

M33 3.

5. M67

M500 6.

M501

4.

# Removal and Installation

Satellite antenna feeder

INFOID:0000000009485208

# **REMOVAL**

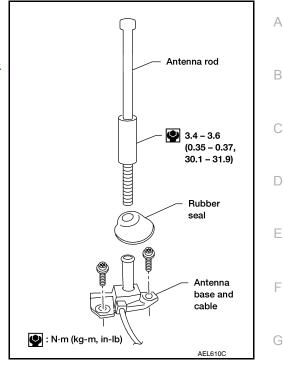
- 1. Remove instrument lower panel RH and glove box. Refer to IP-19, "Removal and Installation".
- Disconnect audio antenna cable from antenna feeder.

# **AUDIO ANTENNA**

#### < REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

- Remove antenna rod.
- 4. Remove rubber seal.
- Remove cowl top. Refer to EXT-20, "Removal and Installation".
- 6. Remove fender protector. Refer to EXT-22, "Removal and Installation".
- 7. Remove antenna base bolts.
- Remove antenna base and cable.



# **INSTALLATION**

Installation is in the reverse order of removal.

**CAUTION:** 

Always properly tighten the antenna rod during installation or the antenna rod may bend or break during vehicle operation.

Н

F

J

K

L

M

ΑV

0

# **SATELLITE RADIO ANTENNA**

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

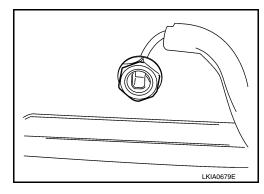
# SATELLITE RADIO ANTENNA

# Removal and Installation

#### INFOID:0000000009485209

# **REMOVAL**

- 1. Remove the roof console. Refer to INT-21, "Removal and Installation".
- 2. Disconnect the harness connector from the satellite radio antenna.
- 3. Remove the satellite radio antenna nut.
- 4. Remove the satellite radio antenna.



#### **INSTALLATION**

Installation is in the reverse order of removal.

# **USB CONNECTOR**

# < REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

# **USB CONNECTOR**

# Removal and Installation

INFOID:0000000009485210

# **REMOVAL**

- 1. Remove the center console assembly. Refer to IP-21, "Removal and Installation".
- 2. Push the pawl from the back of the center console to remove the USB interface.

# **INSTALLATION**

Installation is in the reverse order of removal.

D

C

Α

В

Е

F

G

Н

J

K

L

M

# ΑV

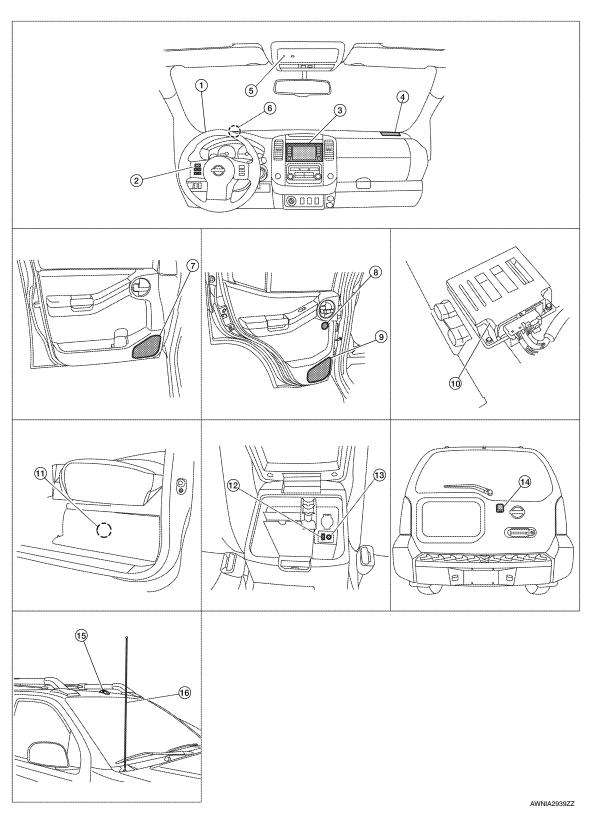
0

# SYSTEM DESCRIPTION

# **COMPONENT PARTS**

**Component Parts Location** 

INFOID:0000000009485257



# **COMPONENT PARTS**

# < SYSTEM DESCRIPTION >

# [NAVIGATION]

Α

В

D

Е

Н

- Front tweeter LH M109
- 2. Steering wheel audio control switches 3.
- AV control unit M38, M96, M97, M98, M99, M100

- Front tweeter RH M111
- 5. Microphone R8

GPS antenna (Underneath instrument 6.

- Front door speaker LH D12 Front door speaker RH D112
- Rear tweeter LH D208 Rear tweeter RH D308
- panel, forward of combination meter)

- 10. Audio amp. B158, B159 (Underneath passenger seat)
- Subwoofer B72 (Underneath rear LH
- Rear door speaker LH D207 Rear door speaker RH D307

13. AUX in jack M215

- 12. USB interface M214

16. Rod antenna

- 14. Rear view camera D506
- 15. Satellite antenna

# Component Description

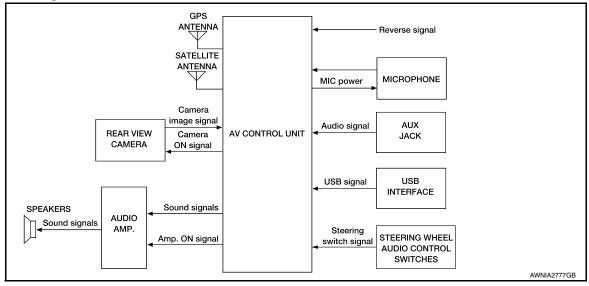
INFOID:0000000009485258

Part name	Description
AV control unit	<ul> <li>Operation of navigation and audio systems are integrated.</li> <li>Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB connection and AUX IN connection functions.</li> <li>Map data can be loaded from SD-card inserted in SD-card slot.</li> <li>Audio signals are output to audio amplifier.</li> <li>Inputs illumination signals required for display dimming control.</li> <li>Inputs signals for driving status recognition (vehicle speed and reverse).</li> <li>Touch panel functions can be operated by touching display directly.</li> </ul>
Map SD-card	A collection of Map data.
Audio amplifier	Receives audio signals from AV control unit and outputs audio signals to each speaker.
Front tweeters	
Front door speakers	
Rear tweeters	Outputs high, mid and low range audio signals from audio amp.
Rear door speakers	
Subwoofer	
Steering wheel audio control switches	<ul> <li>Operations for audio, hands-free phone and voice recognition are possible.</li> <li>Steering switch signal is output to combination meter.</li> <li>Combination meter outputs steering switch signal to AV control unit.</li> </ul>
Microphone	<ul> <li>Used for hands-free phone operations.</li> <li>Microphone signal is transmitted to AV control unit.</li> <li>Power is supplied from AV control unit.</li> </ul>
USB interface	USB sound and data signals are transmitted to AV control unit.
AUX input	Auxillary sound signals are transmitted to AV control unit.
Rear view camera	<ul> <li>Outputs image of vehicle rear to AV control unit.</li> <li>Power is supplied from AV control unit.</li> </ul>
Satellite antenna	Satellite radio signal is received and transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Rod antenna	AM/FM signal is received and transmitted to AV control unit.

# **SYSTEM**

System Diagram

INFOID:0000000009485259



# System Description

INFOID:0000000009485260

Refer to Owner's Manual for navigation and audio system operating instructions.

Audio function and display are built into AV control unit.

This navigation has the following functions.

- · Map data on SD-card
- Full support for playback of music from iPod® and USB device
- High resolution color 5.8 inch display with touch panel function
- FM/AM twin digital tuner
- USB mass storage connection
- Satellite radio
- Hands-free phone 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 AV control unit and display (touch panel) of the AV control unit.
- Guide sound during the operation of the navigation system is output from AV control unit to front speakers.
- AV 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. The vehicle location is displayed on the AV 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.

[NAVIGATION]

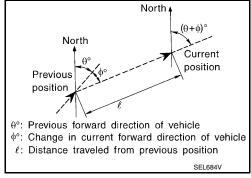
The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.

# · 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.



Туре	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.

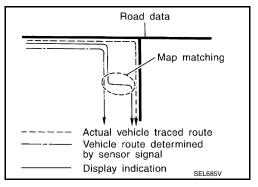
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

#### 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.

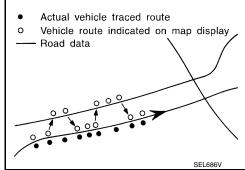


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

 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.

Routes 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.



Α

D

C

\_

Е

G

Н

J

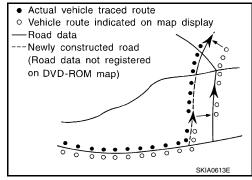
L

M

ΑV

Ρ

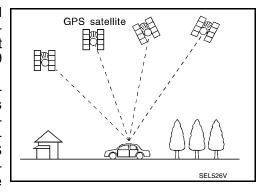
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
- The map-matching function may find another road and position the vehicle 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.

# SATELLITE RADIO FUNCTION

- Satellite radio function is built into AV control unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit outputs sound signal to each speaker.

#### 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 via AV control unit.

## REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

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

#### SYSTEM

# SYSTEM DESCRIPTION > [NAVIGATION] Sound signals are transmitted from USB connector and AUX jack to the AV control unit and output to each speaker and tweeter. iPod<sup>®</sup> is recharged when connected to USB connector and AUX jack. NOTE: Use the enclosed USB harness when connecting iPod<sup>®</sup> to USB connector and AUX jack. iPod<sup>®</sup> is a trademark of Apple inc., registered in the U.S. and other countries.

# SPEED SENSITIVE VOLUME SYSTEM

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

#### HANDS-FREE PHONE SYSTEM

- Bluetooth<sup>®</sup> control is built into AV control unit.
- The connection between cellular phone and AV control unit is performed with Bluetooth® communication.
- The voice guidance signal is input from the AV control unit and output to the front speakers when operating the cellular phone.

#### When A Call Is Originated

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

#### When Receiving A Call

- · Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

K

Α

В

D

Е

F

Н

M

ΑV

0

# **DIAGNOSIS SYSTEM (AV CONTROL UNIT)**

Description INFOID:000000009485261

The AV control unit on board diagnosis performs the functions listed in the table below:

	Mode	Item	Content
,	Version	_	Version data of the AV control unit is displayed.
User Configuration	Touch Display Calibration	_	Allows correction of the position detection accuracy of the touch panel.
	FM monitor	_	Monitors the dynamic values of the cur-
	AM monitor	_	rent tuner
Radio	XM monitor	_	Version data is displayed.
	XM functions	Clear XM Chipset NVM Reset All XM Settings Clear IGS XM CBM Debug Mode External Diag Mode	Current status is displayed.
System State	Running System Status	SD card slot Access Power Supply Speed Signal Direction Signal Illumination Signal GPS Antenna GPS Tracking Satellites Visible Satellites Tracked Microphone Current Steering wheel key Radio Antenna USB Device iPod® firmware version BT Status	The current system status is displayed.
	Speaker Test 4kHz Speaker Test 100Hz	_	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	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.
ξ	Self Test	SD Card Access     BT Module Access     Radio Antenna     GPS Antenna     XM Antenna	A system self test is executed and the results are stored into the error memory.

Perform CONSULT diagnosis if the AV control unit on board diagnosis does not start or the screen does not display anything.

# On Board Diagnosis Function

INFOID:0000000009485262

# METHOD OF STARTING

- 1. Turn the ignition ON.
- 2. Turn the audio system OFF.

# **DIAGNOSIS SYSTEM (AV CONTROL UNIT)**

# < SYSTEM DESCRIPTION >

[NAVIGATION]

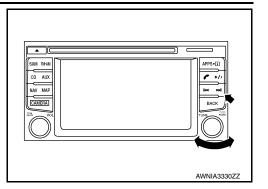
Α

В

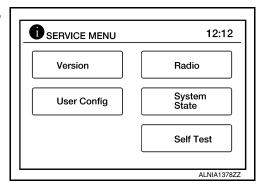
D

Е

While pressing the FORWARD SEEK button, turn the TUNE dial counterclockwise 3 or more clicks, then clockwise 3 or more clicks, then counterclockwise 3 or more clicks. When self diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



The trouble diagnosis initial screen is displayed, and Version, User Config, Radio, System State or Self Test can be selected.



# **CONSULT Function**

INFOID:0000000009485263

### CONSULT FUNCTIONS

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

Direct Diagnostic Mode	Description
ECU Identification	The AV control unit part number is displayed.
Self Diagnostic Result	The AV control unit self diagnostic results are displayed.
Data Monitor	The AV control unit input/output data is displayed in real time.
Configuration	<ul> <li>The vehicle specification can be read and saved.</li> <li>The vehicle specification can be written when replacing AV control unit.</li> </ul>
CAN Diag Support Mntr	The result of transmit/receive diagnosis of AV communication is displayed. The result of transmit/receive diagnosis of CAN communication is displayed.

## **ECU IDENTIFICATION**

The part number of AV control unit is displayed.

### SELF DIAGNOSTIC RESULT

Refer to AV-130, "DTC Index".

#### **DATA MONITOR**

Monitor Item [Unit]	Description
VHCL SPD SIG [On/Off]	Indicates vehicle speed signal received from combination meter on CAN communication line.
ILLUM SIG [On/Off]	Indicates condition of illumination signal for the AV control unit.
IGN SIG [On/Off]	Indicates condition of ignition signal.
REV SIG [On/Off]	Indicates condition of reverse signal received from BCM.

#### CONFIGURATION

Refer to AV-155, "CONFIGURATION (AV CONTROL UNIT): Description".

# CAN DIAG SUPPORT MNTR

Refer to LAN-48, "CAN Diagnostic Support Monitor".

**AV-127** Revision: October 2013 2014 Xterra NAM

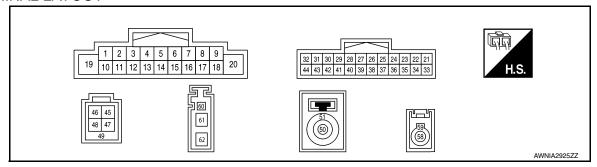
ΑV

# **ECU DIAGNOSIS INFORMATION**

# AV CONTROL UNIT

Reference Value

# TERMINAL LAYOUT



# PHYSICAL VALUES

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
1 (G/W)	Ground	Amp. ON signal	Output	ACC	_	Battery voltage
2 (W)	3 (B)	Sound signal front speaker LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
4 (P)	5 (B/R)	Sound signal rear speaker LH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
					Press and hold MODE switch.	0 V
					Press and hold $\Delta$ switch.	1.34 V
6 (BR)	15 (G)	Steering switch signal A	Input	ON	Press and hold $\nabla$ switch.	2.45 V
,					Press and hold 🗸 🌿 switch.	3.43 V
					Except for above.	5.0 V
7 (G/B)	Ground	ACC power supply	Input	ACC	_	Battery voltage
8 (L)	_	CAN (H)	Input/ Output	_	_	_
9 (R)	44 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage

# **AV CONTROL UNIT**

# < ECU DIAGNOSIS INFORMATION >

[NAVIGATION]

Α

В

 $\mathsf{D}$ 

Е

F

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
11 (Y)	12 (R)	Sound signal front speaker RH	Output	ON	Sound output	(V) 1 0 -1 + 2ms SKIB3609E
13 (L)	14 (B/W)	Sound signal rear speaker RH	Output	ON	Sound output	(V) 1 0 -1 ** 2ms SKIB3609E
					Press and hold VOL DOWN switch	0 V
16 (W)	15 (G)	Steering switch signal B	Input	ON	Press and hold VOL UP switch	1.34 V
, ,	, ,				Press and hold A switch	2.45 V
					Except for above	5.0 V
17 (P)	_	CAN (L)	Input/ Output	_	_	_
18 (SB)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	0 20 ms JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	_	Battery voltage
20 (B)	Ground	Ground	_	ON	_	0 V
23 (P)	_	MR output	_	_	_	_
28 (SB)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)  Selector lever in any position other than R (reverse)	Battery voltage
30 (B)	_	AUX L	Input	_	_	_
31 (R)	_	AUX ground	_	_	_	_
32 (W)	_	AUX R	Input	_	_	_
33	Shield	Camera ground		_	_	_
34 (G/Y)	_	Camera ON	_	ON	Selector lever in R (reverse)	6.0 V

# < ECU DIAGNOSIS INFORMATION >

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
36 (B)	35 (W)	Camera image signal	Input	ON	When camera image is displayed	(V) 0. 4 0 -0. 4 -0. 4 -0. 8 -0. 8 -0. 8 -0. 9 -0. 9
37 (W/G)	Ground	Ignition power supply	Input	ON or START	_	Battery voltage
42 (L)	Ground	Microphone power supply	Output	ON	_	5.0 V
43 (P)	41 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	(V) 1 0 -1 *** 2ms SKIB3609E
45 (R)	_	V BUS signal	_	_	_	_
46 (B)	_	USB ground	_	_	_	_
47 (G)	_	USB D+ signal	_	_	_	_
48 (W)	_	USB D– signal	_	_	_	_
49	_	Shield	_	_	_	_
50 (B)	Ground	GPS antenna signal	Input	ON	_	5.0 V
51	_	GPS Shield	_	_	_	_
58 (B)	Ground	Satellite antenna signal	Input	ON	_	5.0 V
59	_	SAT Shield	_		_	_
61 (B)	Ground	AM-FM main antenna	_	_	_	_

DTC Index

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-157, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-158, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-159, "DTC Logic"
U1229: iPod CERTIFICATION	AV-160, "DTC Logic"
U122F: Digital broadcasting connection error	AV-161, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-162, "DTC Logic"
U1258: XM ANTENNA CONN	AV-163, "DTC Logic"
U1263: USB OVERCURRENT	AV-164, "DTC Logic"

# **AV CONTROL UNIT**

# < ECU DIAGNOSIS INFORMATION >

# [NAVIGATION]

CONSULT Display	Reference Page
U1265: AMP ON TERMINAL	AV-165, "DTC Logic"
U12AA: Configuration Error	AV-166, "DTC Logic"
U12AB: FM Antenna error	AV-167, "DTC Logic"
U12AC: Display Temperature too High	AV-168, "DTC Logic"
U12AD: ECU Temperature too High	AV-169, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-170, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-171, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-172, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-173, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-174, "DTC Logic"

F

Α

В

С

 $\mathsf{D}$ 

Е

G

Н

K

ī

M

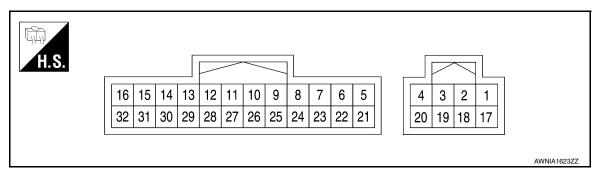
AV

0

# AUDIO AMP.

Reference Value

# **TERMINAL LAYOUT**



# PHYSICAL VALUES

	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
1 (Y)	Ground	Battery	Input	_	_	Battery voltage
2 (W)	18 (G)	Subwoofer	Output	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
3 (BR/W)	19 (BR)	Subwoofer	Output	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
4 (B)	Ground	Ground	_	ON	<del>-</del>	-
9 (G/W)	Ground	Amp. ON signal	Input	ON	_	Greater than 6.5 V
11 (G)	27 (B)	Rear door speaker LH	Output	ON	Receive audio signal	(V) 1 0 -1 1 ms

# **AUDIO AMP.**

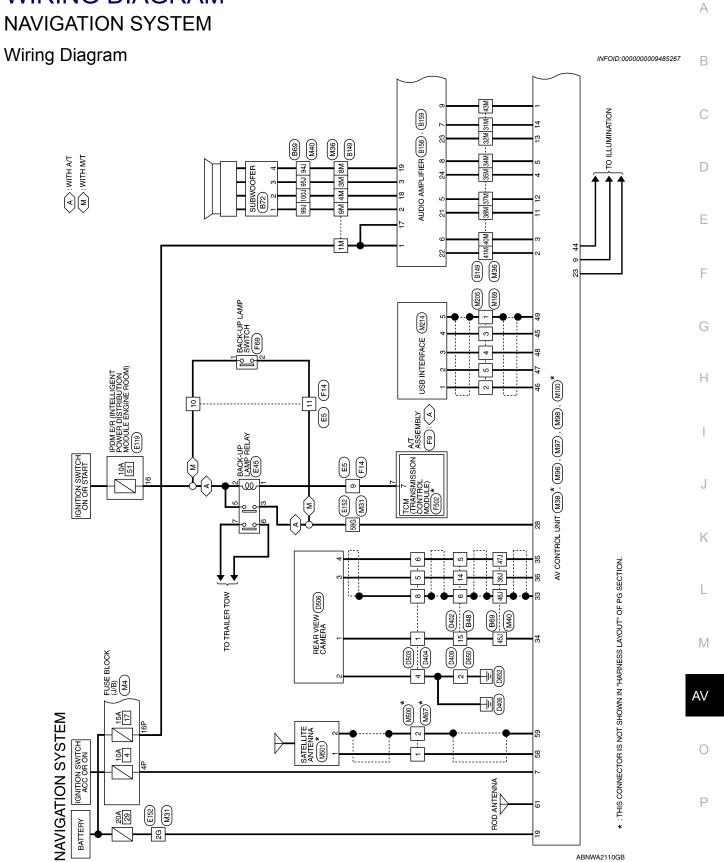
[NAVIGATION]

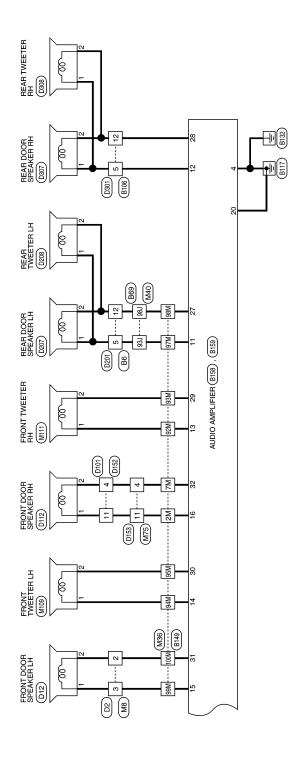
	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
12 (GR)	28 (BG)	Rear door speaker RH	Output	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
13 (W)	29 (P)	Front tweeter RH	Output	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
14 (Y)	30 (GR)	Front tweeter LH	Output	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
15 (BR)	31 (L)	Front door speaker LH	Output	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
16 (LG)	32 (R)	Front door speaker RH	Output	ON	Receive audio signal	(V) 1 0 -1 1 ms s
17 (R/B)	Ground	Battery	Input	_	-	Battery voltage
20 (B)	Ground	Ground	-	ON	-	-
21 (Y)	5 (R)	Audio sound signal front RH	Input	ON	Receive audio signal	(V) 1 0 -1   SKIA0177E

# < ECU DIAGNOSIS INFORMATION >

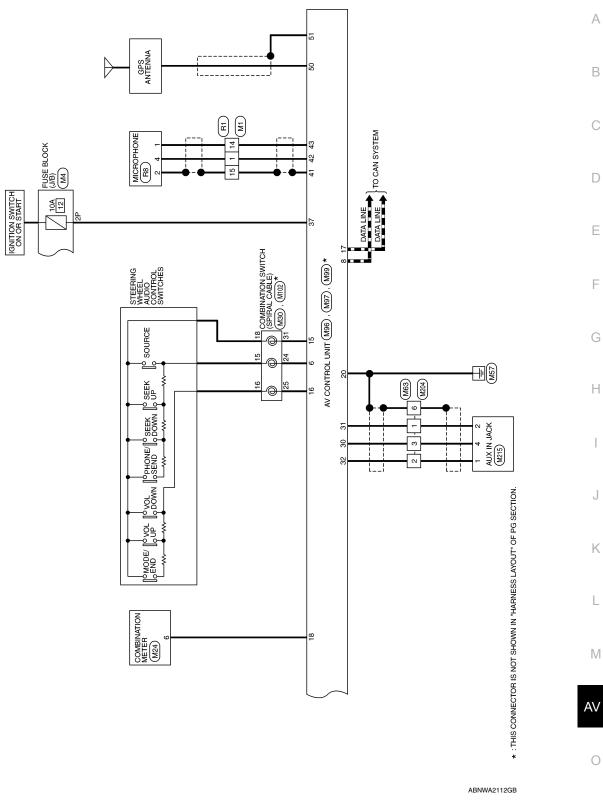
	minal color)	Description			Condition	Reference value
+	_	Signal name	Input/ Output	Ignition switch	Operation	(Approx.)
22 (W)	6 (B)	Audio sound signal front LH	Input	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
23 (L)	7 (B/W)	Audio sound signal rear RH	Input	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E
24 (P)	8 (B/R)	Audio sound signal rear LH	Input	ON	Receive audio signal	(V) 1 0 -1 1 ms SKIA0177E

# WIRING DIAGRAM





ABNWA2111GB



**AV-137** Revision: October 2013 2014 Xterra NAM

0

Connector Name | WIRE TO WIRE Connector Color BROWN

Connector Name FUSE BLOCK (J/B)

4W

Connector No.

Connector Color WHITE

Connector No.

# NAVIGATION SYSTEM CONNECTORS

Connector Name WIRE TO WIRE Connector Color WHITE	Connector No. M1	
Connector Color WHITE	Connector Name WIRE T	) WIRE
	Connector Color WHITE	

onnector No.	ž	o.		Ξ									
onnector Name WIRE TO WIRE	ž	am	е	×	RE	Τ:	Ó	×	R				
onnector Color WHITE	ű	olc	_	≶	   	ш							
						N	/	17					
i -	-	2	3	4	ъ	9	^	80	6	9 10 11 12	Ξ	12	
į.	13	13 14 15 16 17 18 19 20 21 22 23 24	15	16	17	18	19	20	21	22	23	24	
		I	П	П	П	П	П	П	П	П	П	Ī	

6 7 8 9 10 11 12	13 14 15 16 17 18 19 20 21 22 23 24	Signal Name	– (WITH NAVI)	– (WITH NAVI)	– (WITH NAVI)
2 3 4 5	14 15 16 17	Color of Wire	٦	۵	SHIELD
-	13 1	Terminal No. Wire	1	14	15

Signal Name	-	-	
Color of Wire	٦	BR	
Terminal No.	2	3	

Signal Name	-	_	-	
Color of Wire	M/G	G/B	B/B	
erminal No.	2P	4P	16P	

M30	Connector Name (SPIRAL CABLE)	GRAY
Connector No.	Connector Name	Connector Color GRAY



Signal Name	1	− (WITH NA\	1
Color of Wire	BR	Μ	9
Terminal No. Color of Wire	24	25	31

				22 21		
M24	COMBINATION METER	WHITE		9 8 7 6 5 4 3 29 28 27 26 25 24 23	Signal Name	SPEED OUT 8
				16 15 14 13 36 35 34 33	Color of Wire	SB
Connector No.	Connector Name	Connector Color	南 H.S.	20     19     18     17     16     15     14     13     12     11     10       40     39     38     37     36     35     34     33     32     31     30	Terminal No.	9

ABNIA4275GB

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

Κ

L

 $\mathbb{N}$ 

Confidence Name 10 WINE	I GIAN C		Connector No. M36	M36	Law		Terminal No.	Color of Wire	Signal Name
_			Connector Color WHITE	Nor WHIT			32M	_	1
_		-					34M	B/R	ı
						[F	35M	۵	ı
<u>5</u>	16 26 36 46 56				W2 341 341 241		37M	æ	ı
	66 76 86 96 106	_	i i		M8 9M		38M	Y	_
							40M	В	ı
11G 12G 13G 14G 15G 16G 17G 18G 1				11M 12M 13M	11M 12M 13M 14M 15M 16M 17M 18M 19M 20M 21M		41M	*	ı
226 236 246 2	22G 23G 24G 25G 26G 27G 28G 29G 30G			22M 23M	22M 23M 24M 25M 26M 27M 28M 29M 30M		43M	G/W	ı
316 326 336 346 3	31G 32G 33G 34G 35G 36G 37G 38G 39G 40G 41G			31M 32M 33M	31M 32M 33M 34M 35M 36M 37M 38M 39M 40M 41M		92M	Μ	I
426 436 446 4	42G 43G 44G 45G 46G 47G 48G 49G 50G			42M 43M	42M 43M 44M 45M 46M 47M 48M 49M 50M		93M	۵	ı
51G 52G 53G 54G 5	516 526 536 546 556 566 576 586 596 606 616			51M 52M 53M	51M 52M 53M 54M 55M 56M 57M 58M 59M 60M 61M		94M	<b>&gt;</b>	ı
62G 63G 64G 6	62G 63G 64G 65G 66G 67G 68G 69G 70G			62M 63M	62M 63M 64M 65M 66M 67M 68M 69M 70M		95M	GR	ı
716179617861786178617	756 766 776 786 796 806 816			2414 7014 7014	A TO		97M	σ	ı
82G 83G 84G 8	82G 83G 84G 85G 86G 87G 88G 89G 90G			82M83M	82M 83M 84M 85M 86M 87M 88M 89M 90M		98M	В	ı
							M66	BB	_
916	916 926 936 946 956				91M 92M 93M 94M 95M		100M	٦	-
						=1			
Ferminal No. Color of Wire	Signal Name		Terminal No.	Color of Wire	Signal Name				
2G Y	1		1M	B/B	I				
58G SB	ı		МZ	57	ı				
			3M	BR/W	ı				
			M4	G	1				
			MZ	Ж	ı				
			8M	BR	ı				
			M6	W	ı				
			31M	B/W	ı				

**AV-139** Revision: October 2013 2014 Xterra NAM

AV

of Signal Name	1	ı	- G	_	ı	ı	- /	1	ı	1	M75 WIRE TO WIRE WHITE	5 4 11 10 9 8 7 6	of Signal Name	ı	1	
S S>		45J G/Y	46J SHIELD	W L74	93J G	94J BR	95J BR/W	98J B	M F66	0001	Connector No. M75 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Wire	4 R	11 LG	
Connector No. M40 Connector Name WIRE TO WIRE	Connector Color WHITE				8 7 8		11.1 12.1 13.1 14.1 15.1 16.1 17.1 18.1 19.1 20.1 21.1	100   100	31,1 32,1 33,1 34,1 35,1 36,1 37,1 38,1 39,1 40,1 41,1	21.4   22.2   23.4   53.4   53.5   53.6   53.4	Connector No. M67 Connector Name WIRE TO WIRE Connector Color PINK	H.S.	Terminal No. Color of Signal Name	В П	2 SHIELD –	
Connector Name AV CONTROL UNIT	$\rightarrow$	Connector Color   GRAY			H.S.	61	[62]		Color of	60 61 B ANT MAIN 62	Connector No. M63 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Color of Wire	Е П	2 W -	3 В

Α

В

C

 $\mathsf{D}$ 

Е

F

G

Н

J

Κ

L

M

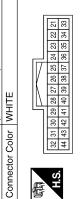
ΑV

M98	onnector Name AV CONTROL UNIT (WITH NAVI)	r GREEN	
onnector No.	onnector Name	onnector Color GREEN	

Connector Name AV CONTROL UNIT (WITH NAVI)

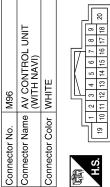
Connector No.

48 47	Signal Name	VBUS	USB GND	USB D+	USB D-	SHIELD
4	Color of Wire	Ж	В	9	Ν	SHIELD
S.	Terminal No. Color of Wire	45	46	47	48	49



	_	
33		
34		
35		
36		
37		
38		
33		
40		
41		
42		
43		
44		
	_	

Signal Name	1	1	MR OUTPUT	ı	ı	1	1	REVERSE	1	AUX L (+)	AUX GND	AUX R (+)	CAM GND	CAMERA ON	VIDEO GND	CAM VIDEO	IGN	_	1	_	MIC GND	MIC VCC	MIC SIG	ILL CONT
Color of Wire	ı	-	Д	ı	-	_	ı	SB	1	В	ш	8	SHIELD	G/Y	Μ	В	M/G	_	_	_	SHIELD	٦	Ь	GR
Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44





Signal Name	AMP ON	FR SP LH (+)	FR SP LH (-)	RR SP LH (+)	RR SP LH (-)	STRG SW A	ACC	CAN-H	LIGHT SW	1	FR SP RH (+)	FR SP RH (-)	RR SP RH (+)	RR SP RH (-)	STRG SW GND	STRG SW B	CAN-L	SPD	+B	GND
Color of Wire	G/W	M	В	Ь	B/R	BB	G/B	_	ш	-	>	Н	٦	B/W	g	Μ	Д	SB	У	В
Terminal No.	1	2	8	4	5	9	7	æ	6	10	1	12	13	14	15	16	17	18	19	20

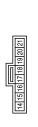
ABNIA4278GB

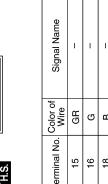
Р

0

**AV-141** Revision: October 2013 2014 Xterra NAM

Connector No.   M	M102
Connector Name (S	Connector Name COMBINATION SWITCH (SPIRAL CABLE)
Connector Color GRAY	RAY

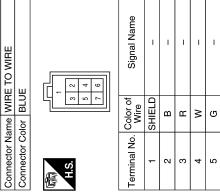


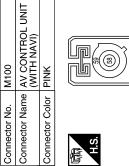




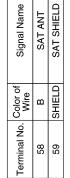
Signal Name	ı	_	I	
Color of Wire	GR	В	В	
Terminal No. Wire	15	16	18	

M169	WIRE TO WIRE	BLUE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color BLUE	









Connector No.	M111
Connector Name	Connector Name FRONT TWEETER RH
Connector Color BROWN	BROWN



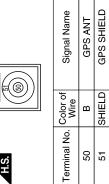
2 1

Signal Name	_	- (EXCEPT BASE AUDIO SYSTEM)
Color of Wire	M	А
Terminal No. Color of Wire	1	2

|--|

Connector No.





M109	Connector Name FRONT TWEETER	BROWN	
Connector No.	Connector Name	Connector Color BROWN	

王





Signal Name	- (EXCEPT BASE AUDIO SYSTEM)	- (EXCEPT BASE AUDIO SYSTEM)
Color of Wire	>	GR
Terminal No. Color of Wire	-	2

ABNIA4279GB

	INTERFACE		2 3 4	Signal Name	ı	1	_	1	I
. M214	me USB	lor BLUE	π -	Color of Wire	В	ŋ	M	œ	SHIELD
Connector No.	Connector Name USB INTERFACE	Connector Color BLUE	原 H.S.	Terminal No.	-	2	3	4	5
2	E TO WIRE	ш	- 01 4 00 p	Signal Name	1	1	1	ı	1
. M205	me WIRE	lor BLUE		Color of Wire	SHIELD	В	æ	>	ŋ
Connector No.	Connector Name WIRE TO WIRE	Connector Color BLUE	局 H.S.	Terminal No. Wire	-	2	ဗ	4	2
	TO WIRE	ш	- 4 - 2 - 0 - 0	Signal Name	ı	ı	ı	ı	
. M204	me WIRE	lor WHIT		Color of Wire	æ	8	В	SHIELD	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Color of Wire	-	2	က	9	

10	SATELLITE ANTENNA	BROWN		Signal Name	ı	1
. M501		_		Color of Wire	Ф	SHIELD
Connector No.	Connector Name	Connector Color	原南 H.S.	Terminal No.	-	2

			•			
JU	RE TO WIRE	K		Signal Name	ı	I
MSOO	me WIF	lor PINK		Color of Wire	В	SHIELD
Connector No.	Connector Name   WIRE TO WIRE	Connector Color	H.S.	Terminal No.	1	2

2	( IN JACK	TE	4 3 2 1	Signal Name	-	_	
. M215	me AU	lor WH		Color of Wire	*	ш	٥
Connector No.	Connector Name AUX IN JACK	Connector Color WHITE	南 H.S.	Terminal No.	ļ	7	,

ABNIA5752GB

Α

В

0

D

Е

F

G

Н

1

J

Κ

L

M

ΑV

0

Ρ

Connector No. E119  Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)  Connector Color WHITE    9 8   7   6	Terminal No. Color of Wire Signal Name  16 W/G REVERSE LAMP	Connector No. F9 Connector Name AT ASSEMBLY Connector Color GREEN  A.S. ASSEMBLY Connector Color GREEN  Terminal No. Color of Signal Name  7 LG -
Connector No. E45 Connector Name BACK-UP LAMP RELAY (WITH A/T) Connector Color BROWN	Terminal No. Color of Wire Signal Name  1 LG 2 W/G 3 SB 5 W/G 7 W/G 7 W/G	Terminal No. Color of Signal Name  2G Y 58G SB
Connector No. E5  Connector Name WIRE TO WIRE  Connector Color WHITE	Terminal No.         Color of Wire         Signal Name           9         LG         -           10         W/G         -           11         SB         -	Connector No.   E152   Connector Name   WIRE TO WIRE   Connector Name   WIRE TO WIRE   Connector Color   WHITE   S6 46 30 20 16   10   10   10   10   10   10   10

lo. F502	Connector Name TCM (TRANSMISSION CONTROL MODULE)	Connector Color GRAY	10 9 8 7 6 5 4	Color of Signal Name Wire	O REV LAMP RLY			
Connector No.		Connector C	原 H.S.	ne Terminal No. Color of Wire				
	잍							
F69	Connector Name BACK-UP LAMP SWITCH			Terminal No. Color of Signal Name		SB		

No. B48 Name WIRE TO WIRE Color WHITE      2   3   4   5   7     8   9   10   11   12   13   14   15   16     W			
	TO WIRE	<b>I</b> 1	
Na N		ກ   ຜູ້	5
Connector No. Connector Name Connector Color Connector Color Terminal No. V S S 6 SH 14	Connector No.	4 15	2

_			_				
	F	55		Φ			
	2	24 23 22 21 20 19 18 17 16 15 14 13		Signal Name			
	3	15		Ž	١,	۱.	
	4	19		la l	<u>'</u>	l '	
- 117	2	17		gi			
IV	9	8		0,			
- 11	7	6					
	8	20					
	6	21		<u>6</u> 9		ניז	۱ "
	11 10 9	22		흥호	2	W/G	a
	Ξ	23		3-		_	
	12	24		o.			
	Ų.	ė	J	Terminal No. Color of Wire	6	10	-

Connector Name WIRE TO WIRE Connector Color WHITE

F14

Connector No.

	WIRE TO WIRE	且	9 101 4 112	Signal Name	_
. B6		lor WHITE	1 5 8 8 6 8 8 6 9 8 8 8 8 8 8 8 8 8 8 8 8 8	Color of Wire	G
Connector No.	Connector Name	Connector Color	原 H.S.	Terminal No.	5

ABNIA4282GB

В

12

Revision: October 2013 AV-145 2014 Xterra NAM

Α

В

С

D

Е

F

G

Н

J

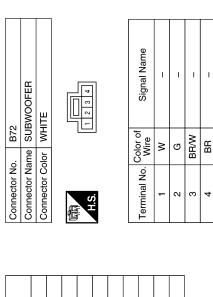
Κ

L

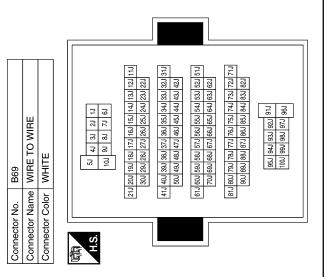
 $\mathbb{N}$ 

ΑV

0



		_	_		_			_	_	
Signal Name	-	-	I	-	-	-	_	_	-	_
Color of Wire	В	G/Υ	SHIELD	8	В	BR	BR/W	В	Μ	В
Terminal No. Wire	36J	45J	46J	47.1	93J	94J	95J	981	166	1001



90	WIRE TO WIRE	ITE	8 9 0 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	1	1
. B106		lor WHITE	6 7	Color of Wire	GR	BG
Connector No.	Connector Name	Connector Color	E.S.	Terminal No.	5	12

ABNIA5754GB

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

Κ

M

AV

0

Р

Name																Vame														
Signal Name		_	1	1		1	1	1		I	-	_	_	-	1	Signal Name			1	ı	I	ı	_	ı	1	1	1	1	1	I
Color of Wire	B/B	Ь	Я	Å	В	Μ	G/W	Μ	Ы	Υ	GR	В	В	BR	_	Color of	<b>X</b>	>	BB	LG	٨	8	L	Д	В	BG	۵	GR	٦	æ
Terminal No.	34M	35M	37M	38M	40M	41M	43M	92M	93M	94M	95M	97M	98M	99M	100M	Terminal No.	13	41	15	16	21	22	23	24	27	28	29	30	31	32
																				2	21									
Signal Name	ı	_	ı	I	ı	ı	ı	ı	ı								AUDIO AMPLIFIER	ш		11 10 9 8 7 6	27 26 25 24 23 22		Signal Name	_	-	1	-	-	ı	-
Color of Wire	B/B	ГG	BR/W	5	œ	BR	8	B/W	7								-	NOI WHILE		16 15 14 13 12	2 31 30 29 28	Color of	Wire	В	В	B/W	B/R	G/W	5	GR
Terminal No.	Ψ	ZM	ЭМ	4M	7M	8M	M6	31M	32M							Connector No.	Connector Name	Connector Color	€	ď		- -	l erminal No.	2	9	2	8	6	11	12
		7					<b>-</b>																							
Connector No. B149 Connector Name WIRE TO WIRE	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!			5M 4M 3M 2M 1M	10M 9M 8M 7M 6M			30M29M28M27M26M25M24M23M22M	41M40M39M38M37M36M35M34M33M32M31M	50M49M48M47M46M45M44M43M42M	61M 60M 59M 58M 57M 56M 55M 54M 53M 52M 51M	70M69M68M67M66M65M64M63M62M	81M 80M 79M 78M 77M 76M 75M 74M 73M 72M 71	90M89M88M 87M 86M 85M 84M 83M 82M		8	AUDIO AMPLIFIER	<u> </u>	<b>\bar{\bar{\bar{\bar{\bar{\bar{\bar{</b>	2 1	20 19 18 17	3	Signal Name	1	_	1	-	ı	ı	I
o. B149 ame WIRE	olor WHITE	-		<u>"</u>	<u>,</u>		21M20M19I	30M/29,	41M40M39	50M49I	61M60M591	70M69I	81M80M79	168M06	}		-	OIOL WHILE		4 3 2	20 16	Color of	Wire	Υ	M	BR/W	В	B/B	5	BR
Connector No.	Connector Color			V I	5							Г				Connector No.	Connector Name	Connector Color			5	1	l erminal No.	1	2	3	4	17	18	19

ABNIA5755GB

Revision: October 2013 AV-147 2014 Xterra NAM

Connector Color WHITE	Connector No. H8 Connector Name MICR Connector Color WHIT	Sonnector No. R8  Sonnector Name MICROPHONE  Sonnector Color WHITE	Connector No. D2 Connector Name WIRE TO WIRE Connector Color BROWN	ne WIRE or BROW	TO WIRE
		2 0 0	信 H.S.	6 7 8 8	3   4   5   8   9   10   11   12
Terminal No. Color of Wire	olor of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name

Connector Name WIRE TO WIRE

쮼

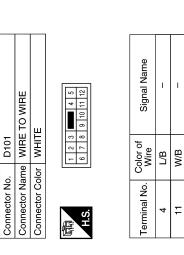
Connector No.

Connector Color WHITE	(成) (1234) (1.5.3.4)	Terminal No.   Color of   Signal Name	1 P – (WITH NAVI)	2 SHIELD – (WITH NAVI)	4 L – (WITH NAVI)
Connector Color WHITE	12 11 10 9 8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17 16 15 14 13	Terminal No. Color of Signal Name	L – (WITH NAVI)	P – (WITH NAVI)	SHIELD – (WITH NAVI)
Connector	南 H.S.	Terminal N	1	14	15

5 3

2 က

	Ξ					
	Connector Name FRONT DOOR SPEAKER RH			Signal Name	_	-
D112	FRON	WHITE		Color of Wire	M/B	L/B
ċ	ame	olo		Ö		
Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No.	1	2



AT DOOR SPEAKE	
me FRON Ior WHIT Color of Wire	
Connector No. D12 Connector Name FRONT DOOR SPEAKER LH Connector Color WHITE  ALS.  Terminal No. Wire Signal Name	Connector No

ABNIA5756GB

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

J

Κ

L

M

ΑV

WIRE TO WIRE	3 2 1 1 0 0 0 1	of Signal Name	1	1	
Connector No. D201 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Wire	5 L	12 0	
		ne			
D153 WIRE TO WIRE WHITE	7 7 8 8 9 10 11 4 4 12 12 12 12 12 12 12 12 12 12 12 12 12	or of Signal Name	ı		
Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Color of Wire	4	11	
		0			
Connector No. D152 Connector Name WIRE TO WIRE Connector Color WHITE	8 8 3 4 5 6 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	1	I	
Vo. D152 Vame WIRE	5 4 11 10	Color of Wire	Œ	ГG	
Connector No. D152 Connector Name WIRE T Connector Color WHITE	H.S.	Terminal No. Color of Wire	4	11	

_	RE TO WIRE	ПЕ	9 3 2 1	Signal Name	1	1
D301	ne WIF	or   WH	5 4 11 10	Solor of Wire	Г	0
Connector No.	Connector Name   WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Color of Wire	5	12
	WEETER LH			Signal Name	-	-
Connector No. D208	Connector Name REAR TWEETER LH	Connector Color BROWN		Ferminal No.   Color of   Signal Name   Wire		- 0

D207

Connector No.

ABNIA4286GB

Р

0

Revision: October 2013 AV-149 2014 Xterra NAM

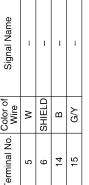


Connector Color BROWN

D308

Connector No.

Signal Name	1	-	-	1
Color of Wire	Μ	SHIELD	В	G/Y
Terminal No. Color of Wire	5	9	14	15



Signal Name	1	ı	
Color of Wire	Τ	0	

Signal Name	-	I	
Color of Wire	٦	0	
Terminal No.	1	2	

Signal Name	ı	ı	
Color of Wire		0	
Terminal No. Wire	1	2	





Signal Name	I	-	I	I	I
Color of Wire	G/Y	GR	В	>	SHIELD
Terminal No. Wire	-	4	5	9	8



D409

Connector No.

Connector No. D404

偃	H.S.

Signal Name	ı	
Color of Wire	В	
Terminal No.	2	





Signal Name	I	-	ı	I	-
Color of Wire	G/Y	GR	В	M	SHIELD
Terminal No. Color of Wire	-	4	2	9	8

ABNIA4287GB

D307	Connector Name   REAR DOOR SPEAKER RH	HITE
D3	뿚	≷
Connector No.	Connector Name	Connector Color WHITE



偃	H.S.

Signal Name

Terminal No. Wire

Signal Name

Terminal No.

П

ω 4

N

മ

В

В

Α

С

D

Е

F

G

Н

J

Κ

L

M

ΑV

0

Р

Revision: October 2013

Connector Name WIRE TO WIRE

Connector Name REAR VIEW CAMERA

D206

Connector No.

Connector Color WHITE

Connector No.

Connector Color WHITE

-2

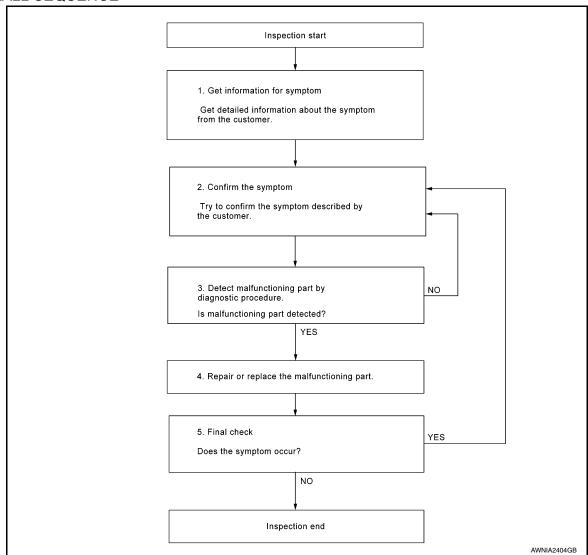
ABNIA4332GB

# **BASIC INSPECTION**

## DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

### **OVERALL SEQUENCE**



### **DETAILED FLOW**

## 1.GET INFORMATION FOR SYMPTOM

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

#### >> GO TO 2

# 2.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected. Refer to AV-201, "Symptom Table".

#### >> GO TO 3

# 3. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW	
< BASIC INSPECTION >	[NAVIGATION]
Is malfunctioning part detected?	
YES >> GO TO 4 NO >> GO TO 2	
4. REPAIR OR REPLACE THE MALFUNCTIONING PART	
<ol> <li>Repair or replace the malfunctioning part.</li> <li>Reconnect parts or connectors disconnected during Diagnostic Procedure.</li> </ol>	
>> GO TO 5	
5. FINAL CHECK	
Refer to confirmed symptom in step 2, and make sure that the symptom is not detected.	
Was the repair confirmed?	
YES >> Inspection End. NO >> GO TO 2	
140 17 00 102	

Revision: October 2013 AV-153 2014 Xterra NAM

### **INSPECTION AND ADJUSTMENT**

< BASIC INSPECTION > [NAVIGATION]

## INSPECTION AND ADJUSTMENT

### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT: Description

INFOID:0000000009485269

#### BEFORE REPLACEMENT

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

#### NOTE:

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing AV control unit.

#### AFTER REPLACEMENT

#### **CAUTION:**

When replacing AV control unit, you must perform "After Replace ECU" with CONSULT.

- Complete the procedure of "After Replace ECU" in order.
- If you set incorrect "After Replace ECU", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT: Work Procedure

INFOID:0000000009485270

## 1. SAVING VEHICLE SPECIFICATION

#### **P-CONSULT**

Enter "Re/Programming, Configuration" and perform "Before Replace ECU" to save or print current vehicle specification.

#### NOTE:

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing AV control unit.

>> GO TO 2.

## 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-218, "Removal and Installation".

>> GO TO 3.

## 3. WRITING VEHICLE SPECIFICATION

#### (P)CONSULT

- 1. Enter "Re/Programming, Configuration".
- 2. If "Before Replace ECU" operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press "Confirm" to write vehicle specification. Refer to <a href="AV-155">AV-155</a>, "CONFIGURATION (AV CONTROL UNIT): Work Procedure".
- 3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to <a href="AV-155">AV-155</a>, "CONFIGURATION (AV CONTROL UNIT): Work Procedure".

>> GO TO 4.

## 4. OPERATION CHECK

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

>> Work End.

# CONFIGURATION (AV CONTROL UNIT)

### INSPECTION AND ADJUSTMENT

< BASIC INSPECTION > [NAVIGATION]

## CONFIGURATION (AV CONTROL UNIT): Description

INFOID:0000000009485271

Α

В

D

Е

Н

Vehicle specification needs to be written with CONSULT because it is not written after replacing AV control unit.

Configuration has three functions as follows:

**Function** 

Description	
<ul> <li>Reads the vehicle configuration of current AV control unit.</li> <li>Saves the read vehicle configuration.</li> </ul>	
Writes the vehicle configuration with manual selection.	

**CAUTION:** 

"Before Replace ECU"

"After Replace ECU"

"Select Saved Data List"

 When replacing AV control unit, you must perform "Select Saved Data List" or "After Replace ECU" with CONSULT.

Writes the vehicle configuration with saved data.

- Complete the procedure of "Select Saved Data List" or "After Replace ECU" in order.
- If you set incorrect "Select Saved Data List" or "After Replace ECU", incidents might occur.
- · Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- Never perform "Select Saved Data List" or "After Replace ECU" except for new AV control unit.

## CONFIGURATION (AV CONTROL UNIT): Work Procedure

INFOID:0000000009485272

## 1. WRITING MODE SELECTION

CONSULT

Select "Reprogramming, Configuration" of AV control unit.

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

2.PERFORM "SAVED DATA LIST"

### (P)CONSULT

Automatically "Operation Log Selection" window will display if "Before Replace ECU" was performed. Select applicable file from the "Save Data List" and press "Confirm".

>> Work End.

# ${f 3.}$ PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

#### (P)CONSULT

- Select "After Replace ECU" or "Manual Configuration".
- 2. Identify the correct model and configuration list. Refer to <u>AV-156, "CONFIGURATION (AV CONTROL UNIT): Configuration List"</u>.
- 3. Confirm and/or change setting value for each item.

#### CAUTION:

Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.

4. Select "Next".

### **CAUTION:**

Make sure to select "Next", confirm each setting value and press "OK" even if the indicated configuration of brand new AV control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.

5. When "Completed", select "End".

>> GO TO 4.

### 4. OPERATION CHECK

Confirm that each function controlled by AV control unit operates normally.

K

ΑV

0

### **INSPECTION AND ADJUSTMENT**

< BASIC INSPECTION >

[NAVIGATION]

>> Work End.

# CONFIGURATION (AV CONTROL UNIT): Configuration List

INFOID:0000000009485273

#### CAUTION

Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SETTING ITEM		
Items Setting value		
SOUND SYSTEM	BASE ⇔ BOSE	
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA	

 $<sup>\</sup>Leftrightarrow$ : Items which confirm vehicle specifications

### **U1000 CAN COMM CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# DTC/CIRCUIT DIAGNOSIS

# U1000 CAN COMM CIRCUIT

DTC Logic

### DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

# Diagnosis Procedure

INFOID:0000000009485275

# 1. PERFORM SELF DIAGNOSTIC RESULT

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- Perform Self Diagnostic Result for MULTI AV.

## Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-14, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-40, "Intermittent Incident".

G

Α

В

D

Е

Н

M

ΑV

C

F

# **U1010 CONTROL UNIT (CAN)**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# U1010 CONTROL UNIT (CAN)

DTC Logic

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the AV control unit if the malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

## **U1217 AV CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# **U1217 AV CONTROL UNIT**

DTC Logic

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
BLUETOOTH MODULE [U1217]	Connection failure to the internal Blueooth <sup>®</sup> sub unit is detected.	Replace AV control unit if malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

D

Α

В

С

Ε

F

G

Н

J

K

L

M

ΑV

0

## **U1229 AV CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# U1229 AV CONTROL UNIT

DTC Logic

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
iPod CERTIFICATION [U1229]	iPod authentication chip error.	Replace AV control unit if malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

## **U122F AV CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# U122F AV CONTROL UNIT

DTC Logic (INFOID:0000000009485279)

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Digital broadcasting connection error [U122F]	Communication error with digital audio broadcast module internal to AV control unit.	Replace AV control unit if malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

D

Α

В

С

Е

F

G

Н

K

L

 $\mathbb{N}$ 

ΑV

0

[NAVIGATION]

## U1244 GPS ANTENNA

DTC Logic

### DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS ANTENNA CONN [U1244]	Open or short to ground is detected in GPS antenna connection.	GPS antenna disconnection.     Open or short to ground in GPS antenna signal circuit.

## Diagnosis Procedure

INFOID:0000000009485281

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

# 1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to <u>AV-227, "Location of Antenna"</u>. <u>Is inspection result normal?</u>

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

# 2. CHECK AV CONTROL UNIT VOLTAGE

- 1. Disconnect AV control unit connector M99.
- 2. Turn ignition switch ON.
- 3. Check voltage between AV control unit connector M99 and ground.

AV control unit		- Ground Voltage	
Connector	Terminal	Ground	voltage
M99	50	_	5.0 V

### Is inspection result normal?

YES >> Replace GPS antenna.

NO >> Replace AV control unit. Refer to AV-218, "Removal and Installation".

### **U1258 SATELLITE RADIO ANTENNA**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Α

В

D

Е

F

# U1258 SATELLITE RADIO ANTENNA

**DTC Logic** INFOID:0000000009485282

### DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
XM ANTENNA CONN [U1258]	Open or short to ground is detected in satellite antenna connection.	Satellite antenna disconnection.     Open or short to ground in satellite antenna signal circuit.

## Diagnosis Procedure

INFOID:0000000009485283

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

## 1. SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to AV-227, "Location of Antenna". Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

# 2.CHECK AV CONTROL UNIT VOLTAGE

- 1. Disconnect AV control unit connector M100.
- Turn ignition switch ON.
- Check voltage between AV control unit connector M100 and ground.

AV control unit		Ground	Voltage
Connector	Terminal	Ground	voltage
M100	58	_	5.0 V

### Is inspection result normal?

>> Replace satellite radio antenna. Refer to AV-230, "Removal and Installation". YES

>> Replace AV control unit. Refer to AV-218, "Removal and Installation". NO

ΑV

M

K

Р

**AV-163** Revision: October 2013 2014 Xterra NAM

[NAVIGATION]

## **U1263 USB**

DTC Logic

### DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	Device connected to USB interface.     Harness between the AV control unit and USB interface.

### DTC CONFIRMATION PROCEDURE

# 1. PERFORM SELF DIAGNOSTIC RESULT

- 1. If there is a device connected to the USB interface, disconnect it.
- 2. Turn ignition switch ON and wait for 2 seconds or more.
- Perform Self Diagnostic Result for MULTI AV.

#### Is DTC U1263 displayed?

YES >> Refer to AV-164, "Diagnosis Procedure".

NO >> Inspection End.

# Diagnosis Procedure

INFOID:0000000009485285

## 1. CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to AV-232, "Removal and Installation".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace USB interface harness. Refer to AV-232, "Removal and Installation".

## 2. CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to AV-199, "Diagnosis Procedure".

### Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-218. "Removal and Installation".

NO >> Replace USB interface harness. Refer to AV-232, "Removal and Installation".

### U1265 AUDIO AMP.

### < DTC/CIRCUIT DIAGNOSIS >

### [NAVIGATION]

## U1265 AUDIO AMP.

**DTC** Logic INFOID:000000009485286

CONSULT Display	DTC Detection Condition	Possible Cause
AMP ON TERMINAL [U1265]	Open or short to ground is detected in audio amp. ON signal circuit.	Open or short to ground in audio amp. ON signal circuit.

## Diagnosis Procedure

INFOID:0000000009485287

Α

В

D

Е

F

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

# 1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND AUDIO AMP.

- Turn ignition switch OFF.
- Disconnect AV control unit connector M96 and audio amplifier connector B158.
- 3. Check continuity between AV control unit connector M96 and audio amp. connector B158.

AV cor	ntrol unit	Audio a	amplifier	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M96	1	B158	9	Yes

Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
M96	1	_	No

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

## 2.CHECK AV CONTROL UNIT VOLTAGE

- Connect AV control unit connector M96.
- Turn ignition switch ON. 2.
- Check voltage between AV control unit connector M96 and ground.

AV control unit		Ground	Voltage
Connector	Terminal	Giodila	(Approx.)
M96	1	_	Battery voltage

### Is the inspection result normal?

YES >> Replace audio amplifier. Refer to AV-219, "Removal and Installation".

NO >> Replace AV control unit. Refer to AV-218, "Removal and Installation".

**AV-165** Revision: October 2013 2014 Xterra NAM

M

K

ΑV

### **U12AA CONFIGURATION ERROR**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

## **U12AA CONFIGURATION ERROR**

DTC Logic

### DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Configuration Error [U12AA]	AV control unit is not properly configured or configuration is corrupt.	Configuration data needs to be written.  Refer to AV-155, "CONFIGURATION (AV CONTROL UNIT): Work Procedure".

# Diagnosis Procedure

INFOID:0000000009485289

# 1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to <u>AV-155</u>, "CONFIGURATION (AV CONTROL <u>UNIT</u>): Work <u>Procedure"</u>.

### **U12AB ANTENNA**

### < DTC/CIRCUIT DIAGNOSIS >

### [NAVIGATION]

## **U12AB ANTENNA**

DTC Logic

### DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in rod antenna connection.	<ul><li>Rod antenna disconnection.</li><li>Open or short to ground in antenna feeder.</li></ul>

## Diagnosis Procedure

INFOID:0000000009485291

# 1.ROD ANTENNA INSPECTION

Visually inspect the rod antenna and antenna feeder. Refer to <u>AV-227, "Location of Antenna"</u>. <u>Is inspection result normal?</u>

YES >> Replace AV control unit. Refer to AV-218, "Removal and Installation".

NO >> Repair or replace malfunctioning components.

G

Α

В

C

D

Е

F

Н

ı

K

L

M

ΑV

C

## **U12AC AV CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# **U12AC AV CONTROL UNIT**

DTC Logic

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Display Temperature too High [U12AC]	Display temperature has exceeded maximum temperature. Display is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

## **U12AD AV CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# **U12AD AV CONTROL UNIT**

DTC Logic

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ECU Temperature too High [U12AD]	AV control unit temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

D

Α

В

С

Ε

F

G

Н

K

L

M

ΑV

0

## **U12AE AV CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# **U12AE AV CONTROL UNIT**

DTC Logic

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Internal Amplifier temperature Warning [U12AE]	Internal amplifier temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

## **U12AF AV CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# **U12AF AV CONTROL UNIT**

DTC Logic

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CD Mechanism Temperature Warning [U12AF]	CD drive temperature has exceeded maximum temperature. CD drive is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

 $\square$ 

Α

В

С

Е

F

G

Н

J

K

L

 $\mathbb{N}$ 

ΑV

0

### **U12B0 POWER SUPPLY VOLTAGE**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

## U12B0 POWER SUPPLY VOLTAGE

DTC Logic

### DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes below 9V > 20s [U12B0]	AV control unit supply voltage exceeds lower limits.	Charging system malfunction.     AV control unit power supply or ground circuits.

## Diagnosis Procedure

INFOID:0000000009485297

# 1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to <a href="CHG-2">CHG-2</a>, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or <a href="CHG-2">CHG-2</a>, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning components.

# 2.CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUITS

Perform the AV control unit power supply and ground circuit diagnosis procedure. Refer to <u>AV-175, "AV CONTROL UNIT : Diagnosis Procedure"</u>.

### Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-218, "Removal and Installation".

NO >> Repair or replace harness or connectors.

### **U12B1 POWER SUPPLY VOLTAGE**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

## U12B1 POWER SUPPLY VOLTAGE

DTC Logic

### DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes High > 16V for 20s [U12B1]	AV control unit supply voltage exceeds upper limits.	Charging system malfunction.

## Diagnosis Procedure

INFOID:0000000009485299

# 1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-2, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-5, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

### Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-218, "Removal and Installation".

NO >> Repair or replace the malfunctioning components.

Н

Α

В

C

D

Е

F

J

K

Н

M

### ΑV

C

## **U1310 AV CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# U1310 AV CONTROL UNIT

DTC Logic

## DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (AV) [U1310]	Error during CAN controller hardware initialization (MCAN).	Replace AV control unit if malfunction occurs constantly.  Refer to AV-218, "Removal and Installation".

### POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

# POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009485301

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

D

Е

Н

Α

В

## 1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	29 (20A)
37	IGN power supply	12 (10A)

### Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

>> GO TO 2. NO

# 2. CHECK POWER SUPPLY CIRCUIT

Turn ignition switch OFF.

Disconnect AV control unit connector M96 and M97.

3. Check voltage between AV control unit connectors and ground.

AV control unit		Ground	Condition	Voltage	
Connector	Terminal	Cround	Condition	(Approx.)	
M96	19		Ignition switch: OFF	Battery voltage	
Wie	7	_	Ignition switch: ON		
M97	37		ignition switch. ON		

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

## 3.CHECK GROUND CIRCUIT

Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Johnson	Continuity
M96	20	_	Yes

### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

AUDIO AMP.

## AUDIO AMP.: Diagnosis Procedure

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

# 1.CHECK FUSE

Check that the following fuse is not blown.

**AV-175** Revision: October 2013 2014 Xterra NAM

INFOID:0000000009485302

### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Terminal No.	Signal name	Fuse No.
1	Battery power supply	17 (15A)
17	Battery power supply	17 (10A)

### Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect audio amplifier connector B158.
- 3. Check voltage between audio amplifier connector B158 and ground.

Audio a	Audio amplifier		Condition	Voltage	
Connector	Terminal	- Ground	Condition	(Approx.)	
B158	1		Ignition switch: OFF	Rattery voltage	
D 130	17	_	ignition switch. OFF	Ignition switch: OFF Battery voltage	battery voltage

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

# 3. CHECK GROUND CIRCUIT

Check continuity between audio amplifier connector B158 and ground.

Audio amplifier		Ground	Continuity
Connector	Terminal	Ground	Continuity
B158	4		Yes
	20	_	163

### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

### FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

### FRONT DOOR SPEAKER

## Diagnosis Procedure

INFOID:0000000009485303

Α

В

D

Е

F

Н

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

## 1. CONNECTOR CHECK

Check the AV control unit, audio amplifier and speaker connectors for the following:

- Proper connection
- Damage
- · Disconnected or loose terminals

### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

# 2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect audio amplifier connector B159 and suspect front door speaker connector.
- 2. Check continuity between audio amplifier connector B159 and suspect front door speaker connector.

Audio	amplifier	Front door speaker		Continuity				
Connector	Terminal	Connector	Terminal	Continuity				
	15	D12 (LH)	D12 /I U\	D12 /I U\	D12 /L LI)	D42 (LH)	1	
B159	31		2	Yes				
	16	D112 (RH)	1	165				
	32		2					

3. Check continuity between audio amplifier connector B159 and ground.

Audio amplifier		Ground	Continuity
Connector	Terminal	Ground	Continuity
B159	15		No
	31	_	
	16		INO
	32		

### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# 3.check front door speaker signal

- 1. Connect audio amplifier connector B159 and suspect front door speaker connector.
- 2. Turn ignition switch to ACC.
- Push AV control unit POWER switch.
- Check signal between the terminals of audio amplifier connector B159.

Audio amplifier connector B159			
(+)	(-)	Condition	Reference value
Terminal	Terminal		

Revision: October 2013 AV-177 2014 Xterra NAM

. . .

M

AV

### < DTC/CIRCUIT DIAGNOSIS >

15	31		
16	32	Audio signal output	1 0 -1 1 ms

### Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-221, "Removal and Installation".

NO >> GO TO 4.

# 4. CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect AV control unit connector M96 and audio amplifier connector B159.
- 2. Check continuity between AV control unit connector M96 and audio amplifier connector B159.

AV control unit		Audio amplifier		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2		22	
M96	3	B159	6	Yes
	11		21	
	12		5	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
M96	2		
	3		No
	11	_	INO
	12		

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

## 5. CHECK PRE-AMP SIGNAL

- 1. Connect AV control unit connector M96 and audio amplifier connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push AV control unit POWER switch.
- 4. Check signal between the terminals of AV control unit connector M96.

AV control unit connector M96			
(+)	(-)	Condition	Reference value
Terminal	Terminal		
2	3		
11	12	Audio signal output	1 0 -1 1 ms 3 3KlAO177E

## FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >		
V D I C/CIRCUIT DIAGNOSIS /		

[NAVIGATION]

YES >> Replace audio amplifier. Refer to <u>AV-219, "Removal and Installation"</u>. NO >> Replace AV control unit. Refer to <u>AV-218, "Removal and Installation"</u>.

Α

В

С

D

Е

F

G

Н

J

K

L

M

ΑV

0

[NAVIGATION]

## FRONT TWEETER

## Diagnosis Procedure

INFOID:0000000009485304

Regarding Wiring Diagram information, refer to AV-135. "Wiring Diagram".

## 1. CONNECTOR CHECK

Check the AV control unit, audio amplifier and tweeter connectors for the following:

- · Proper connection
- Damage
- · Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

# 2.CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect audio amplifier connector B159 and suspect front tweeter connector.
- 2. Check continuity between audio amplifier connector B159 and suspect front tweeter connector.

Audio amplifier		Front tweeter		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	14	M400 (LLI)	1	Yes	
B159	30	M109 (LH)	2		
	13	M444 (DU)	1		
	29	M111 (RH)	2		

3. Check continuity between audio amplifier connector B159 and ground.

Audio amplifier		Ground	Continuity
Connector	Terminal	Giodila	Continuity
	14		
B159	30		No
	13	_	INO
	29		

### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

# 3.CHECK FRONT TWEETER SIGNAL

- 1. Connect audio amplifier connector B159 and suspect front tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push AV control unit POWER switch.
- 4. Check signal between the terminals of audio amplifier connector B159.

Audio amplifier connector B159			
(+)	(–)	Condition	Reference value
Terminal	Terminal		

#### < DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

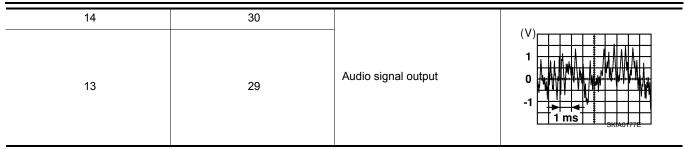
Α

В

D

Е

F



#### Is the inspection result normal?

YES >> Replace front tweeter. Refer to AV-220, "Removal and Installation".

NO >> GO TO 4.

## 4. CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect AV control unit connector M96 and audio amplifier connector B159.
- 2. Check continuity between AV control unit connector M96 and audio amplifier connector B159.

AV cor	ntrol unit	Audio amplifier		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	2	B159	22	
M96	3		6	Yes
	11		21	res
	12		5	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity	
Connector	Terminal	Ground		
M96	2		No	
	3			
	11	_		
	12			

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

### 5. CHECK PRE-AMP SIGNAL

- 1. Connect AV control unit connector M96 and audio amplifier connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push AV control unit POWER switch.
- Check signal between the terminals of AV control unit connector M96.

AV control unit	connector M96		
(+)	(–)	Condition	Reference value
Terminal	Terminal		
2	3		
11	12	Audio signal output	1 0 -1 1 ms 3KIA0177E

Is the inspection result normal?

#### **FRONT TWEETER**

< D1	CC/CIRCU	IIT DI	IAGN	CSIS :

[NAVIGATION]

YES >> Replace audio amplifier. Refer to <u>AV-219, "Removal and Installation"</u>. NO >> Replace AV control unit. Refer to <u>AV-218, "Removal and Installation"</u>.

#### **REAR DOOR SPEAKER**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

### REAR DOOR SPEAKER

### Diagnosis Procedure

INFOID:000000009485305

Α

В

D

Е

F

Н

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

### 1.CONNECTOR CHECK

Check the AV control unit, audio amplifier and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

## 2.CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

- Disconnect audio amplifier connector B159 and suspect rear door speaker connector.
- Check continuity between audio amplifier connector B159 and suspect rear door speaker connector.

Audio	amplifier	Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	11	D207 (LH)	1	
B159	27		2	Yes
	12	D307 (RH)	1	168
	28		2	

Check continuity between audio amplifier connector B159 and ground.

Audio amplifier		Ground	Continuity	
Connector	Terminal	Ground		
B159	11	_	No	
	27			
	12			
	28			

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

## 3.CHECK REAR DOOR SPEAKER SIGNAL

- Connect audio amplifier connector B159 and suspect rear door speaker connector.
- Turn ignition switch to ACC 2.
- Push AV control unit POWER switch.
- Check signal between the terminals of audio amplifier connector B159.

Audio amplifier connector B159			
(+)	(-)	Condition	Reference value
Terminal	Terminal		

**AV-183** Revision: October 2013 2014 Xterra NAM

M

ΑV

#### < DTC/CIRCUIT DIAGNOSIS >

11	27		
12	28	Audio signal output	1 0 -1 1 ms 3 SKAO177E

#### Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-222, "Removal and Installation".

NO >> GO TO 4.

## 4. CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect AV control unit connector M96 and audio amplifier connector B159.
- 2. Check continuity between AV control unit connector M96 and audio amplifier connector B159.

AV cor	ntrol unit	Audio amplifier		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4	B159	24	
M96	5		8	Voo
IVI90	13		23	Yes
	14		7	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
M96	4	No		
	5		No	
	13	_		
	14			

### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

### 5. CHECK PRE-AMP SIGNAL

- 1. Connect AV control unit connector M96 and audio amplifier connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push AV control unit POWER switch.
- 4. Check signal between the terminals of AV control unit connector M96.

AV control unit	connector M96		
(+)	(-)	Condition	Reference value
Terminal	Terminal		
4	5		
13	14	Audio signal output	1 0 -1 1 ms skdao1776

### **REAR DOOR SPEAKER**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

YES >> Replace audio amplifier. Refer to <u>AV-219, "Removal and Installation"</u>.

NO >> Replace AV control unit. Refer to <u>AV-218, "Removal and Installation"</u>.

Α

В

С

D

Е

F

G

Н

1

J

K

L

M

ΑV

0

[NAVIGATION]

### **REAR TWEETER**

### Diagnosis Procedure

INFOID:0000000009485306

Regarding Wiring Diagram information, refer to AV-135. "Wiring Diagram".

### 1.CONNECTOR CHECK

Check the AV control unit, audio amplifier and tweeter connectors for the following:

- · Proper connection
- Damage
- · Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

### 2.CHECK REAR TWEETER SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect audio amplifier connector B159 and suspect rear tweeter connector.
- 2. Check continuity between audio amplifier connector B159 and suspect rear tweeter connector.

Audio	amplifier	Rear tweeter		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	11	11 D208 (LH)	1	
B159	27		2	Yes
	12	D308 (RH)	1	165
	28		2	

3. Check continuity between audio amplifier connector B159 and ground.

Audio	Audio amplifier		Continuity	
Connector	Terminal	- Ground	Continuity	
	11		No	
B159	27			
D109	12	_	NO	
	28			

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

## 3.CHECK REAR TWEETER SIGNAL

- 1. Connect audio amplifier connector B159 and suspect rear tweeter connector.
- 2. Turn ignition switch to ACC.
- 3. Push AV control unit POWER switch.
- 4. Check signal between the terminals of audio amplifier connector B159.

Audio amplifier connector B159			
(+)	(–)	Condition	Reference value
Terminal	Terminal		

#### < DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

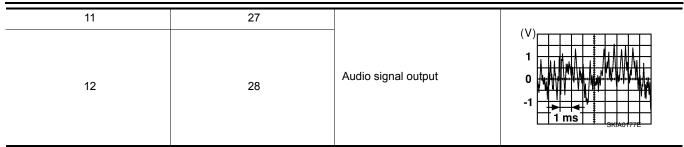
Α

В

D

Е

F



#### Is the inspection result normal?

YES >> Replace rear tweeter. Refer to AV-223, "Removal and Installation".

NO >> GO TO 4.

### 4. CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect AV control unit connector M96 and audio amplifier connector B159.
- 2. Check continuity between AV control unit connector M96 and audio amplifier connector B159.

AV cor	ntrol unit	Audio amplifier		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M96	4	B159	24	
	5		8	Yes
	13		23	res
	14		7	

Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
M96	4		No
	5		
	13		
	14		

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

### 5. CHECK PRE-AMP SIGNAL

- 1. Connect AV control unit connector M96 and audio amplifier connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push AV control unit POWER switch.
- 4. Check signal between the terminals of AV control unit connector M96.

AV control unit of	it connector M96		
(+)	(-)	Condition	Reference value
Terminal	Terminal		
4	5		
13	14	Audio signal output	1 0 -1 1 ms 3 3K(AO)77E

Is the inspection result normal?

#### **REAR TWEETER**

[NAVIGATION]

YES >> Replace audio amplifier. Refer to <u>AV-219, "Removal and Installation"</u>. NO >> Replace AV control unit. Refer to <u>AV-218, "Removal and Installation"</u>.

#### **SUBWOOFER**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [NAVIGATION]

### **SUBWOOFER**

### Diagnosis Procedure

INFOID:000000009485307

Α

В

D

Е

F

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

### 1.CONNECTOR CHECK

Check the AV control unit, audio amplifier and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

#### Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

### 2.CHECK SUBWOOFER SIGNAL CIRCUIT CONTINUITY

- Disconnect audio amplifier connector B158 and subwoofer connector.
- Check continuity between audio amplifier connector B158 and subwoofer connector.

Audio	amplifier	Subwoofer		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B158	2	B72	1	
	18		2	Yes
	3		3	res
	19		4	

Check continuity between audio amplifier connector B158 and ground.

Audio amplifier		Ground	Continuity
Connector	Terminal	Ground	Continuity
	2	_	No
B158	18		
	3		
	19		

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

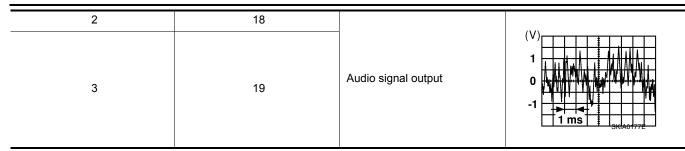
## 3.CHECK SUBWOOFER SIGNAL

- Connect audio amplifier connector B158 and subwoofer connector.
- Turn ignition switch to ACC 2.
- Push AV control unit POWER switch.
- Check signal between the terminals of audio amplifier connector B158.

Audio amplifier connector B158			
(+)	(-)	Condition	Reference value
Terminal	Terminal		

**AV-189** Revision: October 2013 2014 Xterra NAM ΑV

M



#### Is the inspection result normal?

YES >> Replace subwoofer. Refer to AV-224, "Removal and Installation".

NO >> GO TO 4.

## 4. CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

- 1. Disconnect AV control unit connector M96 and audio amplifier connector B159.
- 2. Check continuity between AV control unit connector M96 and audio amplifier connector B159.

AV cor	ntrol unit	Audio amplifier		Continuity
Connector	Terminal	Connector	Terminal	Continuity
	4	B159	24	
M96 -	5		8	Yes
	13		23	165
	14		7	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal	Ground	Continuity
M96	4	_	No
	5		
	13		
	14		

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

### 5. CHECK PRE-AMP SIGNAL

- 1. Connect AV control unit connector M96 and audio amplifier connector B159.
- 2. Turn ignition switch to ACC.
- 3. Push AV control unit POWER switch.
- 4. Check signal between the terminals of AV control unit connector M96.

AV control unit connector M96			
(+)	(-)	Condition	Reference value
Terminal	Terminal		
4	5		
13	14	Audio signal output	1 0 -1 1 ms sklao177E

#### **SUBWOOFER**

< DTC/CIRCUIT DIAGNOSIS > [NAVIGATION]

YES >> Replace audio amplifier. Refer to <u>AV-219, "Removal and Installation"</u>. NO >> Replace AV control unit. Refer to <u>AV-218, "Removal and Installation"</u>.

Α

В

С

D

Е

F

G

Н

1

J

K

L

M

ΑV

0

#### **AMP. ON SIGNAL CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

### AMP. ON SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:0000000009485308

Regarding Wiring Diagram information, refer to AV-135. "Wiring Diagram".

## 1. CHECK AUDIO AMPLIFIER AMP. ON SIGNAL

- 1. Turn audio system ON.
- 2. Check voltage between audio amplifier connector B159 and ground.

Audio amplifier		Ground	Voltage
Connector	Terminal	Ground	(Approx.)
B159	9	_	Greater than 6.5 V

#### Is inspection result normal?

YES >> Inspection End.

NO >> GO TO 2.

### 2. CHECK AV CONTROL UNIT AMP. ON SIGNAL

Check voltage between AV control unit connector M96 and ground.

AV control unit		Ground	Voltage	
Connector	Terminal	Oround	(Approx.)	
M96	1	_	Greater than 6.5 V	

#### Is inspection result normal?

YES >> Repair or replace harness or connectors.

NO >> Replace AV control unit. Refer to AV-218. "Removal and Installation".

#### REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

### REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:0000000009485309

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

## 1. CHECK REVERSE INPUT SIGNAL

D

Е

Н

Α

В

- Turn ignition switch ON.
- Shift the selector lever to R (reverse).
- Check voltage between AV control unit connector M97 and ground.

AV cor	trol unit	Ground	Condition	Voltage
Connector	Terminal	Cround	Condition	(Approx.)
M97	28	_	Selector lever in R (reverse)	Battery Voltage

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

## 2.CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

- Turn ignition switch OFF.
- 2. Disconnect AV control unit connector M97 and rear view camera connector.
- Check continuity between AV control unit connector M97 and rear view camera connector D506.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M97	34	D506	1	Yes

Check continuity between AV control unit connector M97 and ground.

AV cor	ntrol unit		Continuity
Connector	Terminal	Ground	Continuity
M97	34		No

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

## 3.CHECK CAMERA POWER SUPPLY VOLTAGE

- Connect AV control unit connector M97 and rear view camera connector.
- 2. Turn ignition switch ON.
- Shift the selector lever to R (reverse).
- Check voltage between AV control unit connector M97 and ground.

AV cor	AV control unit		Condition	Voltage
Connector	Terminal	Ground	Condition	(Approx.)
M97	34	_	Selector lever is in "R".	6.0 V

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to AV-218, "Removal and Installation".

### 4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

Turn ignition switch OFF.

**AV-193** Revision: October 2013 2014 Xterra NAM ΑV

M

#### REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

- 2. Disconnect AV control unit connector M97 and rear view camera connector.
- Check continuity between AV control unit connector M97 and rear view camera connector D506.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M97	36	D506	3	Yes

4. Check continuity between AV control unit connector M97 and ground.

AV control unit			Continuity
Connector	Terminal Ground		Continuity
M97	36		No

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

## 5. CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between AV control unit connector M97 and rear view camera connector D506.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M97	35	D506	4	Yes

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connectors.

### 6.CHECK CAMERA IMAGE SIGNAL

- 1. Connect AV control unit connector M97 and rear view camera connector.
- 2. Turn ignition switch ON.
- 3. Shift the selector lever to R (reverse).
- 4. Check signal between AV control unit connector M97 and ground.

AV control unit	Connector M97		
(+)	(-)	Condition	Reference value
Terminal	Terminal		
36	35	Camera image displayed.	(V) 0. 4 0 -0. 4 -40µs SKIB2251J

#### Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-218, "Removal and Installation".

NO >> Replace rear view camera. Refer to AV-233. "Removal and Installation".

#### [NAVIGATION]

### STEERING SWITCH

### Diagnosis Procedure

INFOID:0000000009485310

Α

В

D

Е

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

## 1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

- 1. Disconnect combination switch connector M102.
- 2. Check resistance between combination switch connector terminals.

Combination switch	Combination switch connector M102		Resistance ( $\Omega$ )
Terminal	Terminal	Condition	(Approx.)
		Depress VOL DOWN switch.	1
16	18	Depress VOL UP switch.	121
		Depress 🗪 switch.	321
		Depress MODE switch.	1
45		Depress △ switch.	121
15		Depress ∇ switch.	321
		Depress <b>€</b> √ ≤ switch.	723

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering wheel audio control switches. Refer to AV-225, "Removal and Installation".

### 2.CHECK HARNESS BETWEEN AV CONTROL UNIT AND COMBINATION SWITCH

- Turn ignition switch OFF.
- 2. Disconnect AV control unit connector M96 and combination switch connector M30.
- 3. Check continuity between AV control unit connector M96 and combination switch connector M30.

AV cont	AV control unit		ation switch	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	6		24		
M96	16	M30	25	Yes	
	15		31		

4. Check continuity between AV control unit connector M96 and ground.

AV control unit			Continuity	
Connector	Terminal	_	Continuity	
	6			
M96	16	Ground	No	
	15			

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

## 3. SPIRAL CABLE CHECK

Check continuity between combination switch connectors M30 and M102.

Revision: October 2013 AV-195 2014 Xterra NAM

V

 $\circ$ 

F

### **STEERING SWITCH**

[NAVIGATION]

	Combination switch			Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
	24		15		
M30	25	M102	16	Yes	
	31		18		

#### Is the inspection result normal?

>> Replace AV control unit. Refer to <u>AV-218, "Removal and Installation"</u>. >> Replace spiral cable. Refer to <u>SR-13, "Removal and Installation"</u>. YES

NO

#### MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

### MICROPHONE SIGNAL CIRCUIT

### Diagnosis Procedure

INFOID:0000000009485311

Α

В

D

Е

F

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

## 1. CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

- 1. Turn ignition switch OFF.
- Disconnect AV control unit connector M97 and microphone connector R8.
- 3. Check continuity between AV control unit connector M97 and microphone connector R8.

AV cor	ntrol unit	Micro	phone	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	41		2	
M97	42	R8	4	Yes
	43		1	

4. Check continuity between AV control unit connector M97 and ground.

AV co	ntrol unit	Ground	Continuity
Connector	Terminal	Ground	Continuity
	41		No
M97	42	_	
	43		

#### Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

### 2.CHECK MICROPHONE VCC VOLTAGE

- 1. Connect AV control unit connector M97.
- 2. Turn ignition switch ON.
- 3. Check voltage between terminals of AV control unit connector M97.

AV control unit		
(+)	(-)	Voltage (Approx.)
Terminal	Terminal	( )
42	41	5.0 V

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to AV-218, "Removal and Installation".

### 3.CHECK MICROPHONE SIGNAL

- Connect microphone connector.
- 2. Check signal between terminals of AV control unit connector M97.

ΑV

M

Р

Revision: October 2013 AV-197 2014 Xterra NAM

### **MICROPHONE SIGNAL CIRCUIT**

[NAVIGATION]

AV control unit	connector M97			
(+)	(-)	Condition	Reference value	
Terminal	Terminal			
43	41	Speak into microphone.	(V) 1 0 -1 + 2ms SKIB3609E	

#### Is the inspection result normal?

>> Replace AV control unit. Refer to <u>AV-218, "Removal and Installation"</u>. >> Replace microphone. Refer to <u>AV-226, "Removal and Installation"</u>. YES

NO

#### **USB CONNECTOR**

<	DT	C/C	<b>IRCUIT</b>	F DIAGNOSIS :	>
---	----	-----	---------------	---------------	---

[NAVIGATION]

### **USB CONNECTOR**

### **Diagnosis Procedure**

INFOID:0000000009485312

Α

В

D

Е

F

Н

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

## 1. CHECK USB INTERFACE HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- Disconnect AV control unit connector M98 and USB interface connector M214.
- 3. Check continuity between AV control unit connector M98 and USB interface connector M214.

AV cont	rol unit	USB ir	terface	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	45		4	
	46		1	
M98	47	M214	2	Yes
	48		3	
	49		5	

Check continuity between AV control unit connector M98 and ground.

AV cor	ntrol unit	_	Continuity	
Connector	Connector Terminal		Continuity	
M98	45	- Ground No		
	47	Ground	INO	

#### Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-232, "Removal and Installation".

NO >> Repair or replace harness or connectors.

M

ΑV

0

F

#### **AUXILIARY INPUT JACK**

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

### **AUXILIARY INPUT JACK**

### Diagnosis Procedure

INFOID:0000000009485313

Regarding Wiring Diagram information, refer to AV-135, "Wiring Diagram".

## 1. CHECK AUX JACK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- Disconnect AV control unit connector M97 and AUX jack connector M215.
- 3. Check continuity between AV control unit connector M97 and AUX jack connector M215.

AV con	trol unit	AU	X jack	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	30		4	
M97	31	M215	2	Yes
	32		1	

4. Check continuity between AV control unit connector M97 and ground.

AV cor	ntrol unit		Continuity	
Connector	Terminal	_	Continuity	
M97	30	Ground	No	
IVI97	32	Giodila	NO	

#### Is the inspection result normal?

YES >> Replace the AUX jack. Refer to AV-229, "Removal and Installation".

NO >> Repair or replace harness or connectors.

### **MULTI AV SYSTEM**

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

# SYMPTOM DIAGNOSIS

### **MULTI AV SYSTEM**

Symptom Table

INFOID:0000000009485314

### **RELATED TO AUDIO**

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	AV control unit	Malfunction in AV control unit.  Refer to AV-126, "On Board Diagnosis  Function".

Е

Α

В

С

 $\mathsf{D}$ 

F

G

Н

1

K

L

M

ΑV

C

Symptoms	Check items	Probable malfunction location
	No sound from all speakers.	Speaker circuit shorted to ground.     Refer to AV-135. "Wiring Diagram".     Amp. ON signal circuit malfunction.     Refer to AV-192. "Diagnosis Procedure".     Audio amplifier power supply and ground circuits malfunction.     Refer to AV-175. "AUDIO AMP.: Diagnosis Procedure".
No sound comes out or the level of the sound is low.	Only a certain speaker (front door speaker LH, front door speaker RH, front tweeter LH, front tweeter RH, rear door speaker LH, rear door speaker RH, rear tweeter LH, rear tweeter RH, subwoofer) does not output sound.	<ul> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between AV control unit and audio amplifier. Refer to:</li> <li>AV-177, "Diagnosis Procedure" (front door speaker).</li> <li>AV-180, "Diagnosis Procedure" (front tweeter).</li> <li>AV-183, "Diagnosis Procedure" (rear door speaker).</li> <li>AV-186, "Diagnosis Procedure" (rear tweeter).</li> <li>AV-189, "Diagnosis Procedure" (subwoofer).</li> <li>Sound signal circuit malfunction between audio amplifier and speaker. Refer to:</li> <li>AV-177, "Diagnosis Procedure" (front door speaker).</li> <li>AV-180, "Diagnosis Procedure" (front tweeter).</li> <li>AV-183, "Diagnosis Procedure" (rear door speaker).</li> <li>AV-186, "Diagnosis Procedure" (rear tweeter).</li> <li>AV-189, "Diagnosis Procedure" (subwoofer).</li> <li>Malfunction in speaker. Refer to:</li> <li>AV-221, "Removal and Installation" (front door speaker).</li> <li>AV-222, "Removal and Installation" (front tweeter).</li> <li>AV-223, "Removal and Installation" (rear tweeter).</li> <li>AV-224, "Removal and Installation" (rear tweeter).</li> <li>AV-224, "Removal and Installation" (subwoofer).</li> <li>Malfunction in AV control unit. Refer to AV-126. "On Board Diagnosis Function".</li> <li>Malfunction in audio amplifier. Refer to AV-219, "Removal and Installation".</li> </ul>

### **MULTI AV SYSTEM**

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

Symptoms	Check items	Probable malfunction location
	Noise comes out from all speakers.	<ul> <li>Malfunction in AV control unit.         Refer to <u>AV-126</u>, "On Board Diagnosis <u>Function</u>".     </li> <li>Malfunction in audio amplifier.         Replace audio amp. Refer to <u>AV-219</u>, "Removal and Installation".     </li> </ul>
		<ul> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between AV control unit and audio amplifier. Refer to:</li> <li>AV-177. "Diagnosis Procedure" (front door speaker).</li> </ul>
		<ul> <li>AV-180. "Diagnosis Procedure" (front tweeter).</li> <li>AV-183. "Diagnosis Procedure" (rear door speaker).</li> <li>AV-186. "Diagnosis Procedure" (rear tweeter).</li> </ul>
		<ul> <li>AV-189. "Diagnosis Procedure" (subwoofer).</li> <li>Sound signal circuit malfunction between audio amplifier and speaker. Refer to:         <ul> <li>AV-177, "Diagnosis Procedure" (front</li> </ul> </li> </ul>
loise is mixed with audio.	Noise comes out only from a certain speaker (front door speaker LH, front door speaker LH)	door speaker).  - AV-180, "Diagnosis Procedure" (front tweeter).
	er RH, front tweeter LH, front tweeter RH, rear door speaker LH, rear door speaker RH, rear tweeter RH, subwoofer).	<ul> <li>AV-186, "Diagnosis Procedure" (rear tweeter).</li> <li>AV-189, "Diagnosis Procedure" (subwoofer).</li> </ul>
		<ul> <li>Malfunction in speaker.</li> <li>Poor Installation of speaker (e.g. backlash and looseness).</li> <li>Refer to:</li> </ul>
		<ul> <li>AV-221. "Removal and Installation" (front door speaker).</li> <li>AV-220. "Removal and Installation" (front tweeter).</li> </ul>
		<ul> <li>AV-222, "Removal and Installation" (rear door speaker).</li> <li>AV-223, "Removal and Installation" (rear tweeter).</li> <li>AV-224, "Removal and Installation" (sub-</li> </ul>
		woofer).  • Malfunction in AV control unit.  Refer to AV-126, "On Board Diagnosis  Function".
		Malfunction in audio amplifier.     Replace audio amplifier. Refer to AV-219.     "Removal and Installation".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	<ul> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Refer to <u>AV-227</u>, "<u>Location of Antenna</u>".</li> </ul>

Symptoms	Check items	Probable malfunction location
No radio reception or poor reception.	Other audio sounds are normal.     Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	<ul> <li>Antenna amp. ON signal circuit malfunction.</li> <li>Refer to <u>AV-192</u>, "<u>Diagnosis Procedure</u>".</li> <li>Rod antenna is not fully connected to antenna base.</li> <li>Antenna base/rod connection (thread zone) has foreign material or corrosion inside.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Refer to <u>AV-227</u>, "<u>Location of Antenna</u>".</li> </ul>
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result.  Refer to AV-127, "CONSULT Function".	<ul> <li>Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis.</li> <li>Refer to <u>AV-127, "CONSULT Function"</u>.</li> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Refer to <u>AV-227, "Location of Antenna"</u>.</li> </ul>
	There is no malfunction in the CONSULT self diagnosis result.  Refer to AV-127, "CONSULT Function".	<ul> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Loose satellite radio antenna mounting nut.</li> <li>Refer to <u>AV-227</u>, "<u>Location of Antenna</u>".</li> </ul>
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROU- BLE DIAGNOSIS" in the appropriate interi- or trim section.

#### RELATED TO HANDS-FREE PHONE

- Before performing diagnosis, confirm that the cellular phone being used by the customer is compatible with the vehicle.
- It is possible that a malfunction is occurring due to a version change of the phone even though the phone is
  a compatible type. This can be confirmed by changing the cellular phone to another compatible type, and
  check that it operates normally. It is important to determine whether the cause of the malfunction is the vehicle or the cellular phone.

#### **Check Compatibility**

- Make sure the customer's Bluetooth<sup>®</sup> related concern is understood.
- 2. Verify the customer's concern.

#### NOTE:

The customer's phone may be required, depending upon their concern.

3. Write down the customer's phone brand, model and service provider.

#### NOTE:

It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.

- 4. Go to "www.nissanusa.com/bluetooth/".
- a. Using the website's search engine, find out if the customer's phone is on the approved list.
- b. If the customer's phone is NOT on the approved list:
   Stop diagnosis here. The customer needs to obtain a Bluetooth<sup>®</sup> phone that is on the approved list before any further action.
- c. If the feature related to the customer's concern shows as "N" (not compatible):
  Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features".
- d. If the feature related to the customer's concern shows as "Y" (compatible): Perform diagnosis as per the following table.

### **MULTI AV SYSTEM**

[NAVIGATION]

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).		
Hands-free phone cannot be established.	<ul> <li>Hands-free phone operation can be made, but the communication cannot be established.</li> <li>Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>	Malfunction in AV control unit. Replace AV control unit. Refer to AV-218. "Removal and Installation".
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other	Sound operation function is normal.	
party with hands-free phone communication.	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to <u>AV-197</u> , " <u>Diagnosis Procedure</u> ".
	The voice recognition can be controlled. Steering switch's VOL UP and VOL  The voice recognition can be controlled.	Steering switch malfunction. Replace steering switch. Refer to AV-225,
	DOWN switch works, but  does not work.	"Removal and Installation".
The system cannot be operated.	Steering switch's $\mathcal{L}_{\psi}$ , VOL UP and VOL DOWN switches do not work.	Steering switch signal circuit malfunction. Refer to AV-195, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <u>AV-195</u> . " <u>Diagnosis Procedure"</u> .
RELATED TO NAVIGATION	All steering switches do not work.	
RELATED TO NAVIGATION  Symptoms	All steering switches do not work.  Check items	
		Refer to AV-195, "Diagnosis Procedure".
	Check items	Probable malfunction location  Malfunction in SD card. Malfunction in AV control unit. Refer to AV-126, "On Board Diagnosis
Symptoms	Check items  Navigation malfunction.	Probable malfunction location  Malfunction in SD card. Malfunction in AV control unit. Refer to AV-126, "On Board Diagnosis Function".  Steering switch signal circuit malfunction.
Symptoms	Check items  Navigation malfunction.  Steering switches malfunction.  Voice activated control malfunction.	Probable malfunction location  • Malfunction in SD card. • Malfunction in AV control unit. Refer to AV-126, "On Board Diagnosis Function".  Steering switch signal circuit malfunction. Refer to AV-195, "Diagnosis Procedure".  Microphone signal circuit malfunction. Refer to AV-197, "Diagnosis Procedure". Steering switch signal circuit malfunction.
Symptoms  Navigation system is inoperative.	Check items  Navigation malfunction.  Steering switches malfunction.  Voice activated control malfunction.	Probable malfunction location  • Malfunction in SD card. • Malfunction in AV control unit. Refer to AV-126, "On Board Diagnosis Function".  Steering switch signal circuit malfunction. Refer to AV-195, "Diagnosis Procedure".  Microphone signal circuit malfunction. Refer to AV-197, "Diagnosis Procedure". Steering switch signal circuit malfunction.
Symptoms  Navigation system is inoperative.  RELATED TO REAR VIEW CAN	Check items  Navigation malfunction.  Steering switches malfunction.  Voice activated control malfunction.	Probable malfunction location  • Malfunction in SD card.  • Malfunction in AV control unit. Refer to AV-126, "On Board Diagnosis Function".  Steering switch signal circuit malfunction. Refer to AV-195, "Diagnosis Procedure".  Microphone signal circuit malfunction. Refer to AV-197, "Diagnosis Procedure". Steering switch signal circuit malfunction. Refer to AV-197, "Diagnosis Procedure". Refer to AV-195, "Diagnosis Procedure".
Symptoms  Navigation system is inoperative.  RELATED TO REAR VIEW CAN	Check items  Navigation malfunction.  Steering switches malfunction.  Voice activated control malfunction.  IERA  Check items	Probable malfunction location  • Malfunction in SD card. • Malfunction in AV control unit. Refer to AV-126, "On Board Diagnosis Function".  Steering switch signal circuit malfunction. Refer to AV-195, "Diagnosis Procedure".  Microphone signal circuit malfunction. Refer to AV-197, "Diagnosis Procedure". Steering switch signal circuit malfunction. Refer to AV-195, "Diagnosis Procedure".  Steering switch signal circuit malfunction. Refer to AV-195, "Diagnosis Procedure".  Probable malfunction location  Reverse signal circuit malfunction between BCM and AV control unit.

[NAVIGATION]

### NORMAL OPERATING CONDITION

Description INFOID:0000000009485315

#### RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

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

- 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 the waves sent directly from the broadcast station arriving at the antenna at a different time from the waves which reflect off mountains or buildings.

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 determine the cause.

#### NOTE:

The source of the noise can be found easily by listening to the noise while removing the fuses of electrical components, one by one.

Type of Noise and Possible Cause

Occurrence condition		Possible cause
Occurs only when engine is ON. A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.		Ignition components
The occurrence of the noise is lin	ked with the operation of the fuel pump.	Fuel pump condenser
Noise only occurs when various	A cracking or snapping sound occurs with the operation of various switches.	Relay malfunction, AV control unit malfunction
electrical components are operating.	The noise occurs when various motors are operating.	Motor case ground     Motor
The noise occurs constantly, not just under certain conditions.		<ul><li>Rear defogger coil malfunction</li><li>Open circuit in printed heater</li><li>Poor ground of antenna feeder line</li></ul>
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		<ul><li> Ground wire of body parts</li><li> Ground due to improper part installation</li><li> Wiring connections or a short circuit</li></ul>

#### RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth <sup>®</sup> enabled cellular phones may not be recognized by the in-vehicle phone module.  Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in <u>AV-201</u> , "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions:  • The vehicle is outside of the telephone service area.  • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.  • The cellular phone is locked to prevent it from being dialed.  NOTE:
	While a cellular phone is connected through the Bluetooth <sup>®</sup> wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth <sup>®</sup> Hands-Free Phone System cannot charge cellular phones.

Wait until GPS satellites are visible by mov-

ing the vehicle.

SYMPTOM DIAGNOSIS >			2 10 1
Symptom		Cause and Counter measure	
		loud, it may be diffic	ve condition is not ideal or ambient sound is too cult to hear the other person's voice during a
Poor sound quality.		far away from the ir	Ilular phone in an area surrounded by metal or n-vehicle phone module to prevent tone quality reless connection disruption.
RELATED TO NAVIGATIO	V		
Basic Operation			
Symptom	Cause	:	Remedy
No image is shown.	Display brightness adjustme side.	nt is set fully to DARK	Adjust the display brightness.
No guide sound is heard.	Volume control is set to OFF	, MIN or MAX.	Adjust the audio guide volume.
Audio guide volume is too low or too high.	Audio guidance is not availat driving on a dark pink route.		System is not malfunctioning.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehi	cle is low.	Wait until the temperature inside the vehicle reaches the proper temperature.
Small black or bright spots appear on the screen.	Symptom peculiar to a liquic play unit).	d crystal display (dis-	System is not malfunction.
/ehicle Mark			
Symptom	Cause		Remedy
Map screen and BIRDVIEW™ Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ.  The same place name, street name, etc. may not be displayed every time on account of the data processing.		System is not malfunctioning.
Vehicle mark is not positioned correctly.	Vehicle is transferred by ferrignition switch is turned to C		Drive the vehicle for a while in the GPS satellite signal receiving condition.
Screen will not switch to nighttime mode after the lighting switch is turned ON.	The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done. Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.		Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.		Press "MAP" button to display the current location.
Vehicle mark will not be shown.	Current location is not displa	ayed.	Press "MAP" button to display the current location.
Accuracy indicator (GPS satellite mark) on the map screen stays	GPS satellite signal is intercential hicle is in or behind a buildir		Move the vehicle out to an open space.
gray.	GPS satellite signal cannot be received because D		Do not place anything on top of the meter display (instrument panel).

GPS satellites are not visible from current location.

### < SYMPTOM DIAGNOSIS >

[NAVIGATION]

Symptom	Symptom Cause	
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.
	Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle.	Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD–ROM will be released once a year.

### Destination, Passing Points and Menu Items Cannot be Selected/Set

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guide is turned OFF.	Turn route guide ON.
	Route information is not available on the dark pink route.	System is not malfunctioning.
After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.	Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.)	Drive on the recommended route.
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re—search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). However, the result is the same as that of the previous search.	Performed search with every conditions considered. However, the result is the same as that of the previous search.	System is not malfunctioning.
Passing points cannot be set.	More than five passing points were set.	Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.
When setting the route, the starting point cannot be selected.	The current vehicle location is always set as the starting point of a route.	System is not malfunctioning.
Some menu items cannot be selected.	The vehicle is being driven.	Stop the vehicle at a safe place and then operate the system.

Voice Guide

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

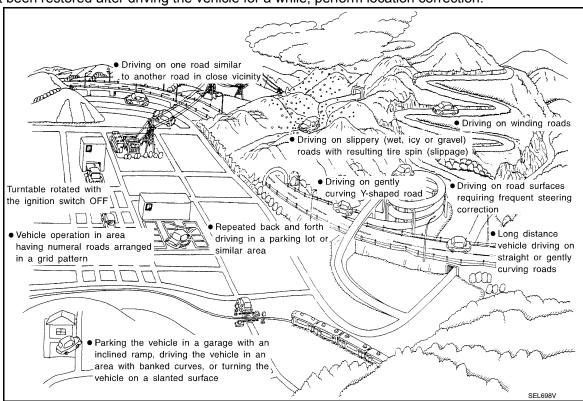
Symptom	Cause Remedy		
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.	
	The vehicle is not on the recommended route.	Return to the recommended route or research the route.	
	Voice guide is turned OFF.	Turn voice guide ON.	
	Route guide is turned OFF.	Turn route guide ON.	
Voice guide does not match the actual road pattern.	Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.	
Route Search			
Symptom	Cause	Remedy	
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) near- by and reset the destination and passing points onto it. Take care of the traveling direc- tion when there are separate up and down roads.	
	Starting point and the destination are too close.	Set the destination at more distant point.	
	Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.	Turn the time-regulating search conditions OFF. Turn "Avoid regulation time" in the search conditions OFF.	
Indicated route is intermittent.	In some areas, highways (gray routes) are not used for the search <sup>(Note)</sup> Therefore, the route to the current location or the passing points may be intermittent.	System is not malfunctioning.	
When the vehicle has passed the recommended route, it is deleted from the screen.	A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.)		
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).	
	A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.	Slightly move the starting point or the destina tion, or set the passing point on the route of your choice.	
	In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.	System is not malfunctioning.	
Landmarks on the map do not match the actual ones.	This can be happen due to omission or error in the map data.	As a rule, an updated map DVD-ROM will b released once a year. Wait until the latest map has become available.	
Recommended route is far from the starting point, passing points, and destination.	Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.	Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.	

Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

Examples of Current-Location Mark Displacement

[NAVIGATION]

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.



[NAVIGATION]

•	dition) –: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
	Y-intersections  ELK0192D	At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.	
_	Spiral roads		
	ELK0193D	When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.	
-	Straight roads	When driving on a long, straight road and	
		slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle is turned at a	If after travelling about 10 km (6
Road config-	ELK0194D	corner.	miles) the correct location has not been restored, perform lo-
ration	Zigzag roads	When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.	cation correction and, if necessary, direction correction.
	Roads laid out in a grid pattern		
		When driving where roads are laid out in a grid pattern, or where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.	
	ELK0196D		
	Parallel roads	When two roads are running in parallel (such as highway and sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.	

Revision: October 2013 AV-211 2014 Xterra NAM

[NAVIGATION]

Cause (cor	ndition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
	In a parking lot  Parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location.  When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	
Place	Turntable  Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6 miles) the correct location has
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	not been restored, perform lo- cation correction and, if neces- sary, direction correction.
	Road not displayed on the map screen  New road  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
Map data	Different road pattern (Changed due to repair)	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
	ELK0201D		Drive the vehicle for a while. If
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

#### < SYMPTOM DIAGNOSIS >

[NAVIGATION]

Cause (con	ndition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
	Just after the engine is started	If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location.	Wait for a short while before driving after starting the engine.
Precautions for driving	Continuous driving without stopping	When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.	Stop and adjust the orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to cor-	Position correction accuracy  Within 1 mm (0.04 in)  SEL701V	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
rect location	Direction when location is corrected  Direction calibration adjustment  SEL702V	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

Contents of Display Differ for Birdview<sup>™</sup> and the (Flat) Map Screen

Difference of the BIRDVIEW™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
- If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

M

#### < SYMPTOM DIAGNOSIS >

[NAVIGATION]

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

#### Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

- When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be "corrected" to the wrong road or to a location which is not on a road.
- · When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be "corrected" to a location which is not on a road.

#### Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

#### Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

#### **PRECAUTIONS**

[NAVIGATION] < PRECAUTION >

## **PRECAUTION**

### **PRECAUTIONS**

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag 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
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Trouble Diagnosis

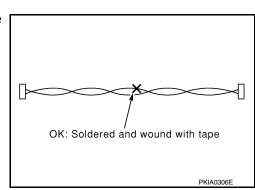
### AV COMMUNICATION SYSTEM

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

Precaution for Harness Repair

#### AV COMMUNICATION SYSTEM

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



Α

D

Е

Н

INFOID:0000000009485317

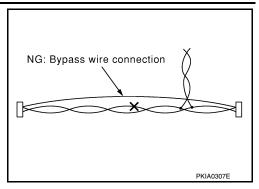
M INFOID:0000000009485318

ΑV

#### **PRECAUTIONS**

< PRECAUTION > [NAVIGATION]

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



Precaution for Work

INFOID:0000000009485319

• When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.

- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- · Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

### **PREPARATION**

[NAVIGATION] < PREPARATION > **PREPARATION** Α **PREPARATION Special Service Tools** INFOID:0000000009485320 В The actual shape of the tools may differ from those illustrated here. Tool number Description C (TechMate No.) Tool name Removing trim components (J-46534)  $\mathsf{D}$ Trim Tool Set Е AWJIA0483ZZ **Commercial Service Tools** INFOID:0000000009485321 Tool name Description Power tool Loosening nuts, screws and bolts Н PIIB1407E J

M

Р

**AV-217** Revision: October 2013 2014 Xterra NAM

# REMOVAL AND INSTALLATION

### AV CONTROL UNIT

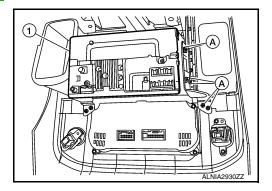
#### Removal and Installation

#### INFOID:0000000009485322

#### REMOVAL

#### **CAUTION:**

- Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.
- Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to <u>AV-154, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT: Work Procedure".</u>
- 1. Disconnect the negative battery terminal. Refer to PG-72, "Removal and Installation".
- 2. Remove cluster lid C. Refer to IP-15, "Removal and Installation".
- 3. Remove the screws (A) from the bracket.
- 4. Remove the audio unit (1) from cluster lid C.



#### **INSTALLATION**

#### **CAUTION:**

When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to <u>AV-154, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT: Work Procedure"</u>.

#### [NAVIGATION]

### AUDIO AMP.

### Removal and Installation

INFOID:0000000009485323

Α

В

D

Е

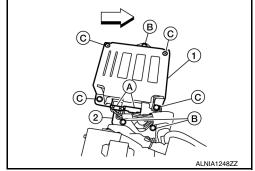
F

#### **REMOVAL**

#### NOTE:

Do not remove the RH front seat from the vehicle.

- 1. Remove the RH front seat bolts, disconnect the harness connectors from the RH front seat. Refer to <u>SE-18</u>, "Exploded View".
- 2. Tilt the RH front seat back to access the audio amp. (1) and remove the audio amp. kick shield screws (C).
  - ⟨□: Front
- 3. Disconnect the harness connectors (A) from the audio amp. and remove the audio amp. (1) from the bracket (2).
- 4. Remove the audio amp. bracket screws (B) and bracket (2).



#### INSTALLATION

Installation is in the reverse order of removal.

Н

J

K

L

M

ΑV

[NAVIGATION]

## FRONT TWEETER

### Removal and Installation

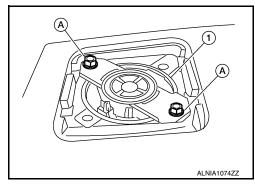
#### INFOID:0000000009485324

#### **REMOVAL**

#### **CAUTION:**

Use a suitable tool to prevent damage to the front tweeter grille and the instrument panel.

- 1. Remove the front tweeter grille.
- 2. Remove the front tweeter screws (A).
- 3. Pull out the front tweeter (1), then disconnect the harness connector from the front tweeter and remove.



#### **INSTALLATION**

### FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[NAVIGATION]

## FRONT DOOR SPEAKER

### Removal and Installation

#### INFOID:0000000009485325

Α

В

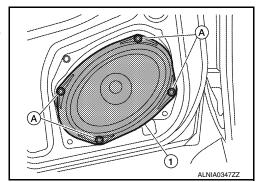
C

D

Е

#### **REMOVAL**

- 1. Remove the front door finisher. Refer to <a href="INT-14">INT-14</a>, "Removal and Installation".
- 2. Remove the front door speaker screws (A).
- 3. Pull out the front door speaker (1) and disconnect the harness connector from the front door speaker.
- 4. Remove the front door speaker (1).



#### **INSTALLATION**

Installation is in the reverse order of removal.

G

Н

ı

J

Κ

L

M

#### ΑV

0

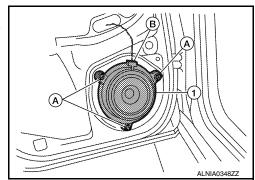
## **REAR DOOR SPEAKER**

## Removal and Installation

#### INFOID:0000000009485326

### **REMOVAL**

- 1. Remove the rear door finisher. Refer to <a href="INT-14">INT-14</a>, "Removal and Installation".
- 2. Remove the rear door speaker screws (A).
- 3. Disconnect the harness connector (B) from the rear door speaker (1) and remove.



#### **INSTALLATION**

### **REAR TWEETER**

## < REMOVAL AND INSTALLATION >

[NAVIGATION]

## **REAR TWEETER**

## Removal and Installation

INFOID:0000000009485327

Α

В

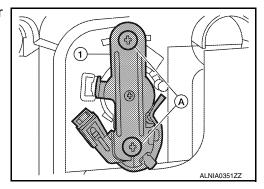
C

 $\mathsf{D}$ 

Е

### **REMOVAL**

- 1. Remove the rear door finisher. Refer to INT-14, "Removal and Installation".
- 2. Remove the rear door tweeter screws (A) and rear door tweeter (1).



#### **INSTALLATION**

Installation is in the reverse order of removal.

G

Н

J

Κ

L

M

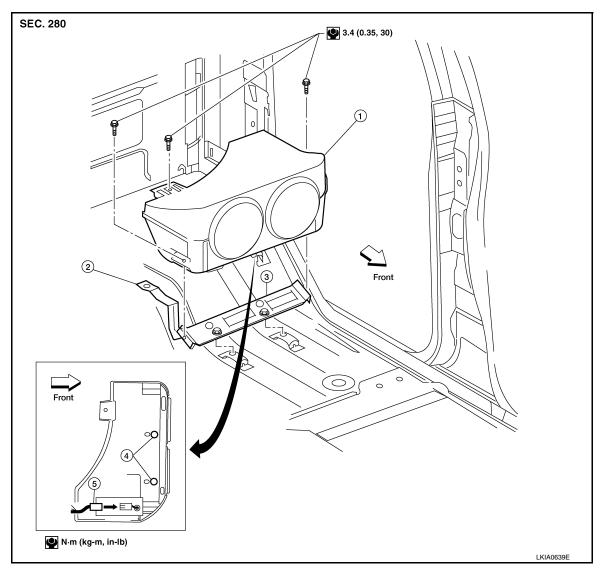
#### ΑV

0

## **SUBWOOFER**

## Removal and Installation

INFOID:0000000009485328



- 1. Subwoofer
- 4. Locating pin

- 2. Bracket
- 5. Connector
- 3. Locating pin plate

#### **REMOVAL**

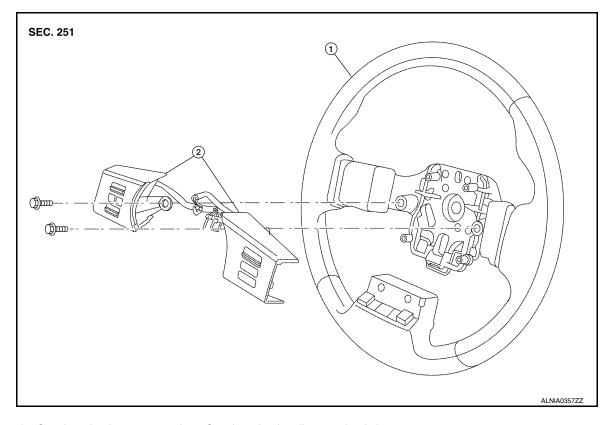
- 1. Position the LH rear seat cushion in the folded up position.
- 2. Remove storage box (RH). Refer to INT-23, "Component".
- 3. Remove the subwoofer screws.
- 4. Disconnect the harness connector from the subwoofer and remove.

#### **INSTALLATION**

INFOID:0000000009485329

## STEERING SWITCH

### Removal and Installation



1. Steering wheel

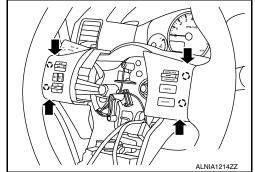
2. Steering wheel audio control switches

#### **REMOVAL**

- 1. Remove the driver air bag module. Refer to SR-11, "Removal and Installation".
- 2. Remove the steering wheel audio control switch assembly screws.
- 3. Disconnect the harness connectors from the steering wheel audio control switches.
- 4. Remove the steering wheel audio control switches by pulling on steering wheel audio control switches to release the pawls.



Do not tilt steering wheel audio control switches during removal or damage may occur to the pawls.



#### **INSTALLATION**

Installation is in the reverse order of removal.

Revision: October 2013 AV-225 2014 Xterra NAM

В

Α

С

D

Е

F

G

Н

K

M

AV

 $\bigcirc$ 

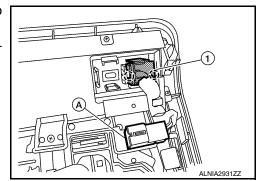
## **MICROPHONE**

## Removal and Installation

#### INFOID:0000000009485330

#### **REMOVAL**

- 1. Remove the roof console. Refer to INT-21, "Removal and Installation".
- 2. Release the pawls that retain the Bluetooth microphone (1) to the roof console.
- 3. Disconnect the harness connector (A) from the Bluetooth microphone (1) and remove.



#### **INSTALLATION**

### [NAVIGATION]

INFOID:0000000009485331

Α

В

D

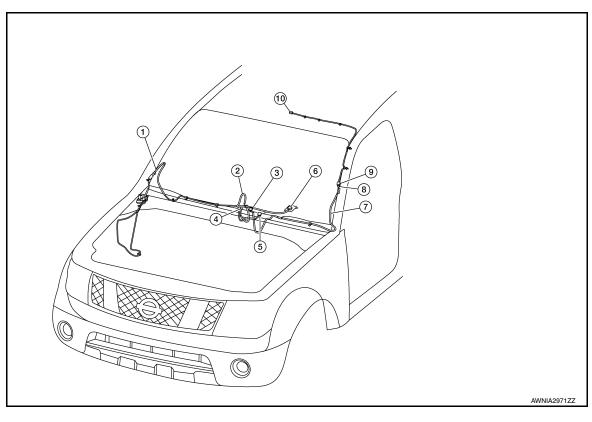
Е

F

Н

## **AUDIO ANTENNA**

## Location of Antenna



- 1. Coaxial antenna feeder
- 4. M99
- 7. Satellite antenna feeder
- 10. M501

- 2. GPS antenna feeder
- 5. M38
- 8. M67

- 3. M100
- 6. GPS antenna
- 9. M500

## Removal and Installation

#### **REMOVAL**

- 1. Remove instrument lower panel RH and glove box. Refer to IP-19, "Removal and Installation".
- 2. Disconnect audio antenna cable from antenna feeder.

INFOID:0000000009485332

Δ\/

M

K

L

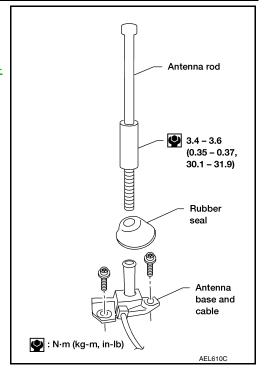
C

#### **AUDIO ANTENNA**

#### < REMOVAL AND INSTALLATION >

[NAVIGATION]

- 3. Remove antenna rod.
- 4. Remove rubber seal.
- 5. Remove cowl top. Refer to EXT-20, "Removal and Installation".
- 6. Remove fender protector. Refer to <u>EXT-22</u>, "Removal and Installation".
- 7. Remove antenna base bolts.
- 8. Remove antenna base and cable.



#### **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

Always properly tighten the antenna rod during installation or the antenna rod may bend or break during vehicle operation.

### **AUXILIARY INPUT JACK**

< REMOVAL AND INSTALLATION >

[NAVIGATION]

## **AUXILIARY INPUT JACK**

## Removal and Installation

INFOID:0000000009485333

#### Removal

- 1. Remove the center console. Refer to IP-21, "Removal and Installation".
- 2. Push the pawl from the back of the center console to remove the auxiliary input jack.

#### Installation

Installation is in the reverse order of removal.

D

C

Α

В

Е

F

0

Н

Κ

L

M

#### ΑV

### **SATELLITE RADIO ANTENNA**

< REMOVAL AND INSTALLATION >

[NAVIGATION]

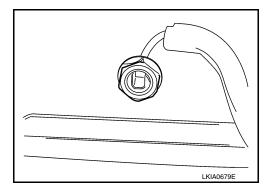
## SATELLITE RADIO ANTENNA

## Removal and Installation

#### INFOID:0000000009485334

### **REMOVAL**

- 1. Remove the roof console. Refer to INT-21, "Removal and Installation".
- 2. Disconnect the harness connector from the satellite radio antenna.
- 3. Remove the satellite radio antenna nut.
- 4. Remove the satellite radio antenna.



#### **INSTALLATION**

**GPS ANTENNA** [NAVIGATION] < REMOVAL AND INSTALLATION > **GPS ANTENNA** Α Removal and Installation INFOID:0000000009485335 **REMOVAL** В 1. Remove the combination meter. Refer to MWI-84, "Removal and Installation". 2. Remove the GPS antenna screw and the GPS antenna. C **INSTALLATION** Installation is in the reverse order of removal.  $\mathsf{D}$ Е F Н J K L

AV

M

C

## **USB CONNECTOR**

< REMOVAL AND INSTALLATION >

[NAVIGATION]

## **USB CONNECTOR**

## Removal and Installation

INFOID:0000000009485336

### **REMOVAL**

- 1. Remove the center console assembly. Refer to IP-21, "Removal and Installation".
- 2. Push the pawl from the back of the center console to remove the USB interface.

#### **INSTALLATION**

### **REAR VIEW CAMERA**

< REMOVAL AND INSTALLATION >

[NAVIGATION]

## **REAR VIEW CAMERA**

## Removal and Installation

INFOID:0000000009485337

Α

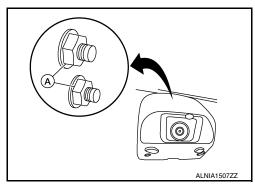
В

D

Е

### **REMOVAL**

- 1. Remove the back door lower finisher. Refer to <a href="INT-26">INT-26</a>, "Removal and Installation".
- 2. Remove the rear view camera nuts (A).



3. Disconnect the harness connector from the rear view camera and remove.

#### **INSTALLATION**

Installation is in the reverse order of removal.

G

Н

J

<

M

ΑV

F