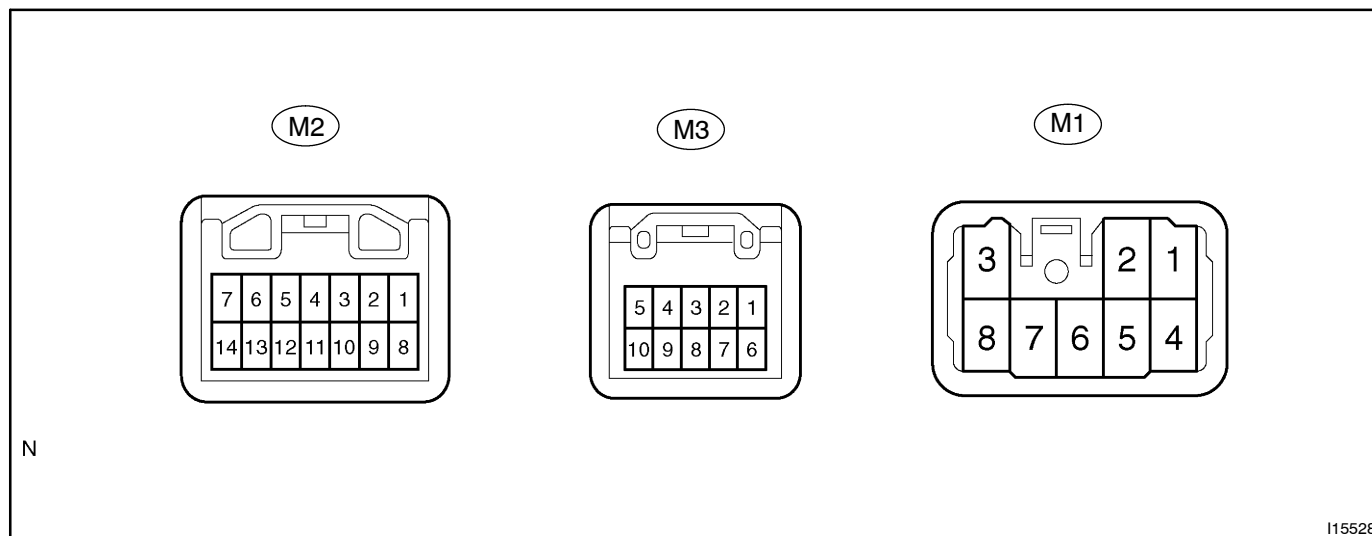


TERMINALS OF ECU

1. MULTI DISPLAY



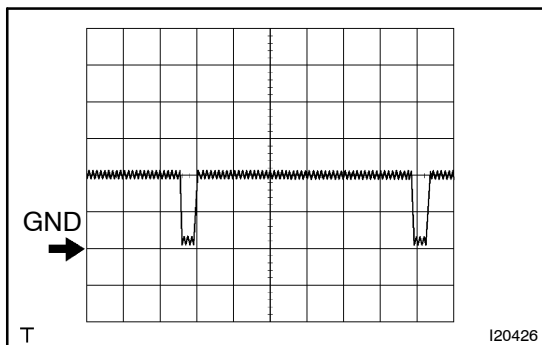
Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
M1-1 – M1-6 (+B1 – GND1)	R-G*3 – W-B R-L*4	Constant	10 – 14V
M1-2 – M1-6 (IG – GND1)	LG-R – W-B	Ignition switch OFF or ACC	Below 1V
		Ignition switch ON	10 – 14V
M1-4 – M1-6 (ACC – GND1)	GR – W-B	Ignition switch OFF	Below 1V
		Ignition switch ACC or ON	10 – 14V
M1-6 – Body ground (GND1 – Body ground)	W-B – Body ground	Constant	Below 1V
M2-3 (TX+)	G*3 Y*4	See "Service Check Mode"	–
M2-5 – M1-6 (SPD – GND1)	V-W – W-B	See "Vehicle Signal Check Mode"	–
M2-7 – M1-6 (PBEW – GND1)	L – W-B	Passenger seat belt buckle switch OFF (Belt unfastened)	Below 1V
		Passenger seat belt buckle switch ON (Belt fastened)	10 – 14V
M2-10 (TX-)	R*3 B*4	See "Service Check Mode"	–
M2-13 – M1-6 (PKB – GND1)	LG*3 – W-B B-W*4	See "Vehicle Signal Check Mode"	–
M2-14 – M1-6 (TC – GND1)	R-B*3 – W-B P-B*4	Ignition switch OFF and connect terminals TC and CG of DLC3.	Below 1V
M3-1 – M3-6 (VR – VG)	Y – Shielded	Ignition switch OFF	Below 1V
M3-2 – M3-6 (R – VG)	R – Shielded	Navigation map is switched	Pulse generation *2
M3-3 – M3-6 (B – VG)	B – Shielded	Navigation map is switched	Pulse generation *2
M3-6 – M1-6 (VG – GND1)	Shielded – W-B	Ignition switch OFF	Below 1V

M3-7 – M3-6 (G – VG)	W – Shielded	Navigation map is switched	Pulse generation *2
M3-8 – M3-6 (SYNC – VG)	G – Shielded	Navigation display is displayed	Pulse generation *1

Terminal No. (Symbols)	Problem symptom when open circuit is detected.	Problem symptom when short circuit is detected.
M1-1 – M1-6 (+B1 – GND1)	Navigation system does not operate.	Navigation system does not operate.
M1-2 – M1-6 (IG – GND1)	Navigation system does not operate.	Navigation system does not operate.
M1-4 – M1-6 (ACC – GND1)	Navigation system does not operate.	Navigation system does not operate.
M1-6 – Body ground (GND1 – Body ground)	Navigation system does not operate.	Navigation system is normal.
M2-3 (TX+)	Screen is in disorder.	Screen is in disorder.
M2-5 – M1-6 (SPD – GND1)	All switch operation is available during driving.	All switch operation is available during driving.
M2-7 – M1-6 (PBEW – GND1)	Passenger seat belt warning does not light up.	Passenger seat belt warning remains lit.
M2-10 (TX-)	Screen is in disorder.	Screen is in disorder.
M2-13 – M1-6 (PKB – GND1)	The system can not enter diagnosis system mode.	Navigation system is normal.
M2-14 – M1-6 (TC – GND1)	Navigation system is normal.	The system can not exit service check mode.
M3-1 – M3-6 (VR – VG)	Screen noise or other types of noise occur.	Screen noise or other types of noise occur.
M3-2 – M3-6 (R – VG)	Screen color turns to blue.	Screen color turns to blue.
M3-3 – M3-6 (B – VG)	Screen color turns to yellow.	Screen color turns to yellow.
M3-6 – M1-6 (VG – GND1)	Screen noise or other types of noise occur.	Navigation system is normal.
M3-7 – M3-6 (G – VG)	Screen color turns to red-purple.	Screen color turns to red-purple.
M3-8 – M3-6 (SYNC – VG)	Synchronous pulse fluctuates rapidly in map screen.	Synchronous pulse fluctuates slowly in map screen.

*3: LHD Models

*4: RHD Models

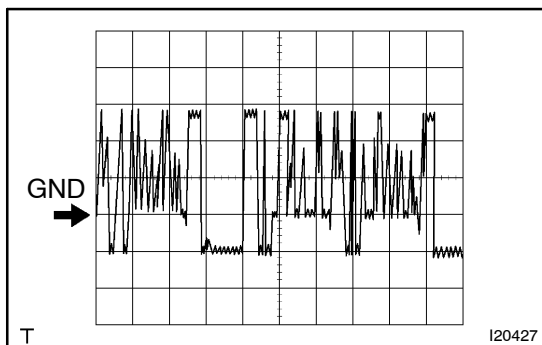


*1: Oscilloscope wave

Terminal to be measured: SYNC – GND1

Setting for measurement: 500 mV/DIV 10- μ s/DIV

Condition: Navigation display is displayed.



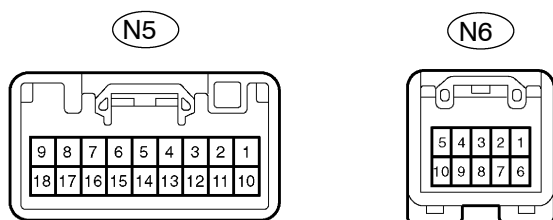
*2: Oscilloscope wave

Terminal to be measured: R, G, B – GND1

Setting for measurement: 200 mV/DIV 10- μ s/DIV

Condition: Navigation map is switched.

2. NAVIGATION ECU



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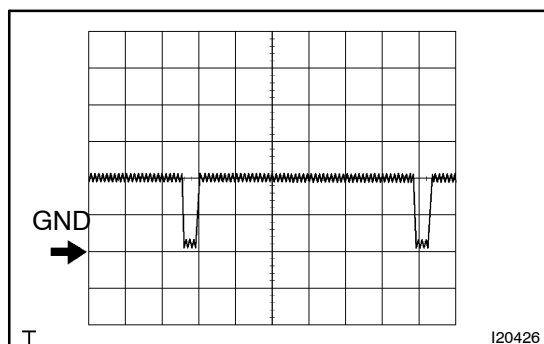
Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
N5-1 - N5-17 (AUI+ - GND)	P*3 - W-B G*4	Audio system is sounding	A waveform synchronized with sounds is output
N5-2 (AUO+)	P*3 LG*4	Sound quality test	-
N5-5 - N5-17 (SPD - GND)	Y-R - W-B	See "Vehicle Signal Check Mode"	-
N5-9 - N5-17 (+B - GND)	L-Y - W-B	Constant	10 - 14V
N5-10 - N5-17 (AUI- - GND)	V*3 - W-B G-B*4	Audio system is sounding	A waveform synchronized with sounds is output
N5-11 (AUO-)	V*3 L*4	Sound quality test	-
N5-14 (REV)	L*3 L-W*4	See "Vehicle Signal Check Mode"	-
N5-15 - N5-17 (MUT2 - GND)	G-R - W-B	Navigation voice sounding	Below 1V
N5-17 - Body ground (GND - Body ground)	W-B - Body ground	Constant	Below 1V
N5-18 - N5-17 (ACC - GND)	GR - W-B	Ignition switch OFF	Below 1V
		Ignition switch ACC or ON	10 - 14V
N6-1 - N6-6 (VR - VG)	Y - Shielded	Ignition switch OFF	Below 1V
N6-2 - N6-6 (R - VG)	R - Shielded	Navigation map is switched	Pulse generation *2
N6-3 - N6-6 (B - VG)	B - Shielded	Navigation map is switched	Pulse generation *2
N6-5 (TX+)	L	See "Service Check Mode"	-
N6-6 - N5-17 (VG - GND)	Shielded - W-B	Ignition switch OFF	Below 1V
N6-7 - N6-6 (G - VG)	W - Shielded	Navigation map is switched	Pulse generation *2
N6-8 - N6-6 (SYNC - VG)	G - Shielded	Navigation display is displayed	Pulse generation *1
N6-10 (TX-)	LG	See "Service Check Mode"	-

DIAGNOSTICS – LEXUS NAVIGATION SYSTEM

Terminal No. (Symbols)	Problem symptom when open circuit is detected.	Problem symptom when short circuit is detected.
N5-1 – N5-17 (AUI+ – GND)	Driver side speaker does not sound.	Driver side speaker does not sound.
N5-2 (AUO+)	Navigation voice does not sound.	Navigation voice does not sound.
N5-5 – N5-17 (SPD – GND)	Navigation operation is available during, or a cursor on present site does not move.	Navigation operation is available during, or a cursor on present site does not move.
N5-9 – N5-17 (+B – GND)	Map screen does not appear.	Map screen does not appear.
N5-10 – N5-17 (AUI- – GND)	Driver side speaker does not sound.	Driver side speaker does not sound.
N5-11 (AUO-)	Navigation voice does not sound.	Navigation voice does not sound.
N5-14 (REV)	Moving direction of the vehicle is different from that of the cursor.	Moving direction of the vehicle is different from that of the cursor.
N5-15 – N5-17 (MUT2 – GND)	Noise occurs when navigation phrase is changed.	Speaker does not sound.
N5-17 – Body ground (GND – Body ground)	Audio system is normal.	Audio system is normal.
N5-18 – N5-17 (ACC-GND)	Navigation system does not operate.	Fuse is blown.
N6-1 – N6-6 (VR – VG)	Screen noise or other types of noise occur.	Screen noise or other types of noise occur.
N6-2 – N6-6 (R – VG)	Screen color turns to blue.	Screen color turns to blue.
N6-3 – N6-6 (B – VG)	Screen color turns to yellow.	Screen color turns to yellow.
N6-5 (TX+)	Screen is in disorder.	Screen is in disorder.
N6-6 – N5-17 (VG – GND)	Screen noise or other types of noise occur.	Navigation system does not operate.
N6-7 – N6-6 (G – VG)	Screen color turns to red-purple	Screen color turns to red-purple.
N6-8 – N6-6 (SYNC – VG)	Synchronous pulse fluctuates rapidly in map screen.	Synchronous pulse fluctuates slowly in map screen.
N6 – 10(TX-)		

*3: LHD Models

*4: RHD Models

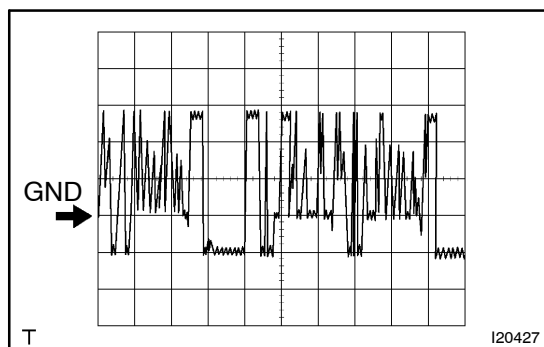


*1: Oscilloscope wave

Terminal to be measured: SYNC – GND1

Setting for measurement: 500mV/DIV 10 μ s/DIV

Condition: Navigation display is displayed



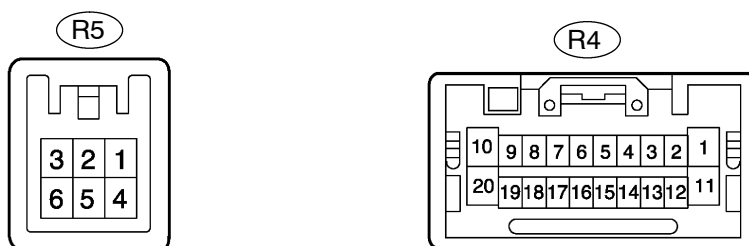
*2: Oscilloscope wave

Terminal to be measurement: R, G, B – GND1

Setting for measurement: 200mV/DIV 10 μ s/DIV

Condition: Navigation map is switched.

3. RADIO AND PLAYER



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Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
R5-2 (ATX+)	G*1 Y*2	See "Service Check Mode"	-
R5-3 (TXS+)	G	See "Service Check Mode"	-
R5-5 (ATX-)	R*1 B*2	See "Service Check Mode"	-
R5-6 (TXS-)	R	See "Service Check Mode"	-
R4-1 - R4-20 (+B - GND)	L-Y - BR	Constant	10 - 14V
R4-2 - R4-20 (ILL+ - GND)	G - BR	Light control switch TAIL or HEAD	10 - 14V
R4-5 (TX+)	G	See "Service Check Mode"	-
R4-7 - R4-20 (MUTE - GND)	Y - BR	Radio switch ON	Below 1V
R4-8 - R4-20 (R+ - GND)	B - BR	Audio system is sounding	A waveform synchronized with sound is output
R4-9 - R4-20 (L+ - GND)	R - BR	Audio system is sounding	A waveform synchronized with sound is output
R4-10 - Body ground (SGND - Body ground)	Shielded - Body ground	Constant	Below 1V
R4-11 - R4-20 (ACC - GND)	GR - BR	Ignition switch OFF	Below 1V
		Ignition switch ACC or ON	10 - 14V
R4-12 - R4-20 (ILL- - GND)	W-G - B-R	Light control switch HI or FLASH.	0 - 5V
R4-15 (TX-)	R	See "Service Check Mode"	-
R4-18 - R4-20 (R- - GND)	W - BR	Audio system is sounding	A waveform synchronized with sound is output
R4-19 - R4-20 (L- - GND)	G - BR	Audio system is sounding	A waveform synchronized with sound is output
R4-20 - Body ground (GND - Body ground)	BR - Body ground	Constant	Below 1V

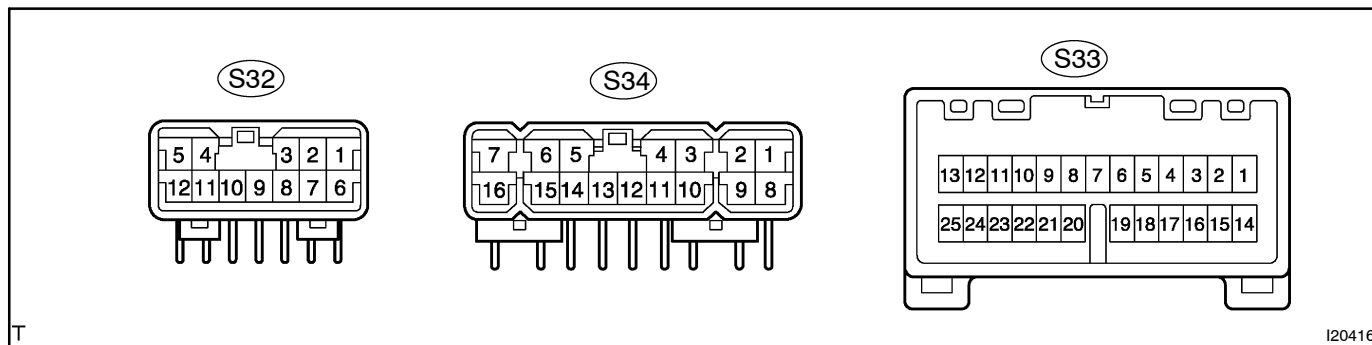
Terminal No. (Symbols)	Problem symptom when open circuit is detected.	Problem symptom when short circuit is detected.
R5-2 (ATX+)	Navigation system does not operate.	Navigation system does not operate.
R5-3 (TXS+)	Navigation system does not operate.	Navigation system does not operate.
R5-5 (ATX-)	Navigation system does not operate.	Navigation system does not operate.
R5-6 (TXS-)	Navigation system does not operate.	Navigation system does not operate.

R4-1 – R4-20 (+B – GND)	Radio and player does not operate.	Fuse is blown.
R4-2 – R4-20 (ILL+ – GND)	Radio and player illumination does not light up..	Fuse is blown.
R4-5 (TX+)	Navigation system does not operate.	Navigation system does not operate.
R4-7 – R4-20 (MUTE – GND)	Pop sound etc.	Speaker does not sound.
R4-8 – R4-20 (R+ – GND)	Sound from right side speaker is small.	Sound from right side speaker is small.
R4-9 – R4-20 (L+ – GND)	Sound from left side speaker is small.	Sound from left side speaker is small.
R4-10 – Body ground (SGND – Body ground)	Audio system is normal.	Audio system is normal.
R4-11 – R4-20 (ACC – GND)	Navigation system does not operate.	Fuse is blown.
R4-12 – R4-20 (ILL– – GND)	Light control rheostat does not operate.	Light control rheostat does not operate.
R4-15 (TX–)	Navigation system does not operate.	Navigation system does not operate.
R4-18 – R4-20 (R– – GND)	Sound from right side speaker is small.	Sound from right side speaker is small.
R4-19 – R4-20 (L– – GND)	Sound from left side speaker is small.	Sound from left side speaker is small.
R4-20 – Body ground (GND – Body ground)	Navigation system does not operate.	Navigation system does not operate.

*1: LHD Models

*2: RHD Models

4. STEREO COMPONENT AMPLIFIER



Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
S32-1 – S34-13 (MR+ – GND)	B – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S32-2 – S34-13 (ML+ – GND)	R – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S32-4 – S34-13 (MMUT – GND)	Y – W-B	Radio switch ON	Below 1V
S32-6 – S34-13 (MR- – GND)	W – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S32-7 – S34-13 (ML- – GND)	G – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S32-9 (RTX-)	LG	See "Service Check Mode"	–
S32-10 (RTX+)	L	See "Service Check Mode"	–
S34-1 – S34-13 (FR+ – GND)	LG*1 – W-B G*2	Audio system is sounding	A waveform synchro- nized with sound is out- put
S34-2 – S34-13 (FL+ – GND)	P – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S34-3 – S34-13 (RR+ – GND)	W – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S34-4 – S34-13 (RL+ – GND)	B – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S34-5 – S34-13 (WFR+ – GND)	Y – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S34-6 – S34-13 (WFL+ – GND)	LG – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S34-7 – S34-13 (+B – GND)	L-R – W-B	Constant	10 – 14V
S34-8 – S34-13 (FR- – GND)	L*1 – W-B G-B*2	Audio system is sounding	A waveform synchro- nized with sound is out- put

S34-9 – S34-13 (FL- – GND)	V – W-B	Audio system is sounding	A waveform synchronized with sound is output
S34-10 – S34-13 (RR- – GND)	R – W-B	Audio system is sounding	A waveform synchronized with sound is output
S34-11 – S34-13 (RL- – GND)	Y – W-B	Audio system is sounding	A waveform synchronized with sound is output
S34-12 – Body ground (E – Body ground)	W-B – Body ground	Constant	Below 1V
S34-13 – Body ground (GND – Body ground)	W-B – Body ground	Constant	Below 1V
S34-14 – S34-13 (WFR- – GND)	B – W-B	Audio system is sounding	A waveform synchronized with sound is output
S34-15 – S34-13 (WFL- – GND)	L – W-B	Audio system is sounding	A waveform synchronized with sound is output
S34-16 – S34-13 (+B2 – GND)	L-R – W-B	Constant	10 – 14V
S33-1 – S34-13 (FR+ – GND)	G-W – W-B	Audio system is sounding	A waveform synchronized with sound is output
S33-2 – S34-13 (FL+ – GND)	V – W-B	Audio system is sounding	A waveform synchronized with sound is output
S33-3 – S34-13 (TMUT – GND)	LG-R – W-B	Cellular mobile telephone is being used	Below 1 V
S33-4 (TX+)	L	See "Service Check Mode"	–
S33-5 (MTX+)	G	See "Service Check Mode"	–
S33-9 – S34-13 (N-MU – GND)	G-R – W-B	Navigation voice sounding	Below 1 V
S33-11 – S34-13 (R+ – GND)	B – W-B	Audio system is sounding	A waveform synchronized with sound is output
S33-12 – S34-13 (L+ – GND)	R – W-B	Audio system is sounding	A waveform synchronized with sound is output
S33-13 – S34-13 (SPD – GND)	V-W – W-B	See "Vehicle Signal Check Mode"	–
S33-14 – S34-13 (FR- – GND)	BR – W-B	Audio system is sounding	A waveform synchronized with sound is output
S33-15 – S34-13 (FL- – GND)	P – W-B	Audio system is sounding	A waveform synchronized with sound is output
S33-17 (TX-)	LG	See "Service Check Mode"	–
S33-18 (MTX-)	R	See "Service Check Mode"	–
S33-20 – S34-13 (ACC – GND)	GR – W-B	Ignition switch OFF	Below 1V
		Ignition switch ACC or ON	10 – 14V

DIAGNOSTICS – LEXUS NAVIGATION SYSTEM

S33-21 – S34-13 (MUTE – GND)	Y – W-B	Radio switch ON	Below 1 V
S33-23 – S34-13 (R- – GND)	W – W-B	Audio system is sounding	A waveform synchronized with sound is output
S33-24 – S34-13 (L- – GND)	G – W-B	Audio system is sounding	A waveform synchronized with sound is output
S33-25 – S34-13 (SPDO – GND)	Y-R – W-B	See "Vehicle Signal Check Mode"	–

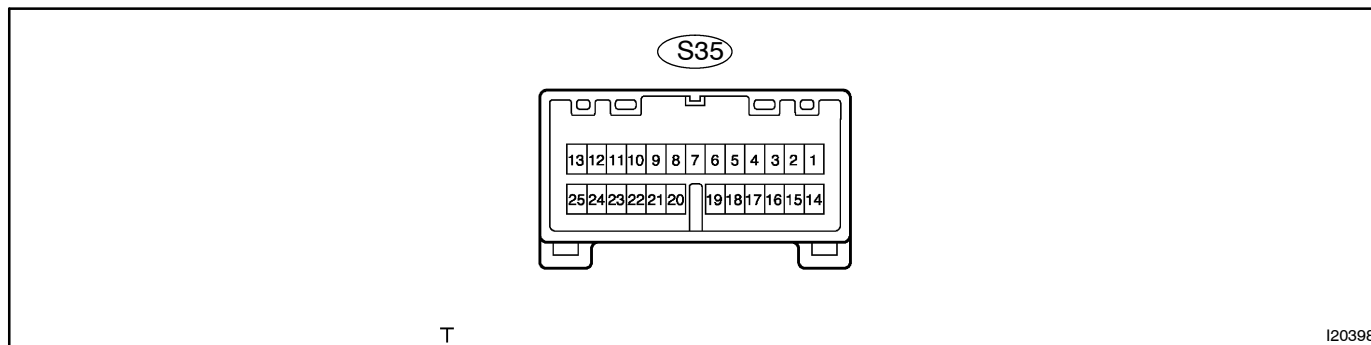
Terminal No. (Symbols)	Problem system when open circuit is detected.	Problem symptom when short circuit is detected.
S32-1 – S34-13 (MR+ – GND)	Sound from right side speaker is small.	Sound from right side speaker is small.
S32-2 – S34-13 (ML+ – GND)	Sound from left side speaker is small.	Sound from left side speaker is small.
S32-4 – S34-13 (MMUT – GND)	Pop sound etc.	Pop sound etc.
S32-6 – S34-13 (MR- – GND)	Sound from right side speaker is small.	Sound from right side speaker is small.
S32-7 – S34-13 (ML- – GND)	Sound from left side speaker is small.	Sound from left side speaker is small.
S32-9 (RTX-)	Navigation system does not operate.	Navigation system does not operate.
S32-10 (RTX+)	Navigation system does not operate.	Navigation system does not operate.
S34-1 – S34-13 (FR+ – GND)	Front right side speaker does not sound.	Front right side speaker does not sound.
S34-2 – S34-13 (FL+ – GND)	Front left side speaker does not sound.	Front left side speaker does not sound.
S34-3 – S34-13 (RR+ – GND)	Rear right side speaker does not sound.	Rear right side speaker does not sound.
S34-4 – S34-13 (RL+ – GND)	Rear left side speaker does not sound.	Rear left side speaker does not sound.
S34-5 – S34-13 (WFR+ – GND)	Woofer does not sound.	Woofer does not sound.
S34-6 – S34-13 (WFL+ – GND)	Woofer does not sound.	Woofer does not sound.
S34-7 – S34-13 (+B – GND)	If terminal 16 is disconnected, system does not function.	Fuse is blown.
S34-8 – S34-13 (FR- – GND)	Front right side speaker does not sound.	Front right side speaker does not sound.
S34-9 – S34-13 (FL- – GND)	Front left side speaker does not sound.	Front left side speaker does not sound.
S34-10 – S34-13 (RR- – GND)	Rear right side speaker does not sound.	Rear right side speaker does not sound.
S34-11 – S34-13 (RL- – GND)	Rear left side speaker does not sound.	Rear left side speaker does not sound.
S34-12 – Body ground (E – Body ground)	If terminal 13 is disconnected, system does not function.	If terminal 13 is disconnected, system does not function.
S34-13 – Body ground (GND – Body ground)	If terminal 12 is disconnected, system does not function.	If terminal 12 is disconnected, system does not function.

S34-14 – S34-13 (WFR- – GND)	Woofer does not sound.	Woofer does not sound.
S34-15 – S34-13 (WFL- – GND)	Woofer does not sound.	Woofer does not sound.
S34-16 – S34-13 (+B2 – GND)	If terminal 7 is disconnected, system does not function.	Fuse is blown.
S33-1 – S34-13 (FR+ – GND)	Right side tweeter speaker does not sound.	Right side tweeter speaker is small.
S33-2 – S34-13 (FL+ – GND)	Left side tweeter speaker does not sound.	Left side tweeter speaker is small.
S33-3 – S34-13 (TMUT – GND)	Mute cannot be activated during telephone call.	Speaker does not sound.
S33-4 (TX+)	Navigation system does not operate.	Navigation system does not operate.
S33-5 (MTX+)	Navigation system does not operate.	Navigation system does not operate.
S33-9 – S34-13 (N-MU – GND)	Pop sound etc.	Speaker does not sound.
S33-11 – S34-13 (R+ – GND)	Sound from right side speaker is small.	Sound from right side speaker is small.
S33-12 – S34-13 (L+ – GND)	Sound from left side speaker is small.	Sound from left side speaker is small.
S33-13 – S34-13 (SPD – GND)	All switch operation is available during driving.	All switch operation is available during driving.
S33-14 – S34-13 (FR- – GND)	Right side tweeter speaker does not sound.	Right side tweeter speaker is small.
S33-15 – S34-13 (FL- – GND)	Left side tweeter speaker does not sound.	Left side tweeter speaker is small.
S33-17 (TX-)	Navigation system does not operate.	Navigation system does not operate.
S33-18 (MTX-)	Navigation system does not operate.	Navigation system does not operate.
S33-20 – S34-13 (ACC – GND)	Navigation system does not operate.	Fuse is blown.
S33-21 – S34-13 (MUTE – GND)	Pop sound etc.	Audio system does not sound.
S33-23 – S34-13 (R- – GND)	Sound from right side speaker is small.	Sound from right side speaker is small.
S33-24 – S34-13 (L- – GND)	Sound from left side speaker is small.	Sound from left side speaker is small.
S33-25 – S34-13 (SPDO – GND)	All switch operation is available during driving.	Navigation operation is available during, or a cursor on present site does not move.

*1: LHD Models, RHD models without Navigation System

*2: RHD Models with Navigation System

5. STEREO COMPONENT TUNER

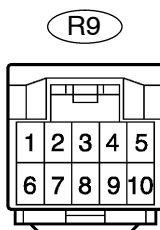


Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
S35-1 – S35-25 (B – GND)	L – Y – W-B	Constant	10 – 14V
S35-2 – S35-25 (SG – GND)	Shielded – W-B	Constant	Below 1V
S35-3 – S35-25 (R+ – GND)	B – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S35-4 – S35-25 (L+ – GND)	R – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S35-8 (ATX+)	L	See "Service Check Mode"	–
S35-9 (TXS+)	G	See "Service Check Mode"	–
S35-11 – S35-25 (MUTE – GND)	Y – W-B	Radio switch ON	Below 1V
S35-14 – S35-25 (ACC – GND)	GR – W-B	Ignition switch OFF	Below 1V
		Ignition switch ACC or OFF	10 – 14V
S35-16 – S35-25 (R- – GND)	W – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S35-17 – S35-25 (L- – GND)	G – W-B	Audio system is sounding	A waveform synchro- nized with sound is out- put
S35-20 (ATX-)	LG	See "Service Check Mode"	–
S35-21 (TXS-)	R	See "Service Check Mode"	–
S35-25 – Body ground (GND – Body ground)	W-B – Body ground	Constant	Below 1V

Terminal No. (symbols)	Problem symptom when open circuit is detected.	Problem symptom when short circuit is detected.
S35-1 – S35-25 (B – GND)	Navigation system does not operate.	Fuse is blown.
S35-2 – S35-25 (SG – GND)	Audio system is normal.	Audio system is normal.
S35-3 – S35-25 (R+ – GND)	Sound from right side speaker is small.	Sound from right side speaker is small.
S35-4 – S35-25 (L+ – GND)	Sound from left side speaker is small.	Sound from left side speaker is small.
S35-8 (ATX+)	Navigation system does not operate.	Navigation system does not operate.
S35-9 (TXS+)	Navigation system does not operate.	Navigation system does not operate.

S35-11 – S35-25 (MUTE – GND)	Pop sound, etc.	Speaker does not sound.
S35-14 – S35-25 (ACC – GND)	Navigation system does not operate.	Fuse is blown.
S35-16 – S35-25 (R – GND)	Sound from right side speaker is small.	Sound from right side speaker is small.
S35-17 – S35-25 (L – GND)	Sound from left side speaker is small.	Sound from left side speaker is small.
S35-20(ATX-)	Navigation system does not operate.	Navigation system does not operate.
S35-21 (TXS-)	Navigation system does not operate.	Navigation system does not operate.
S35-25 – Body ground (GND – Body ground)	Navigation system does not operate.	–

6. AUDIO AND REAR A/C CONTROL SWITCH



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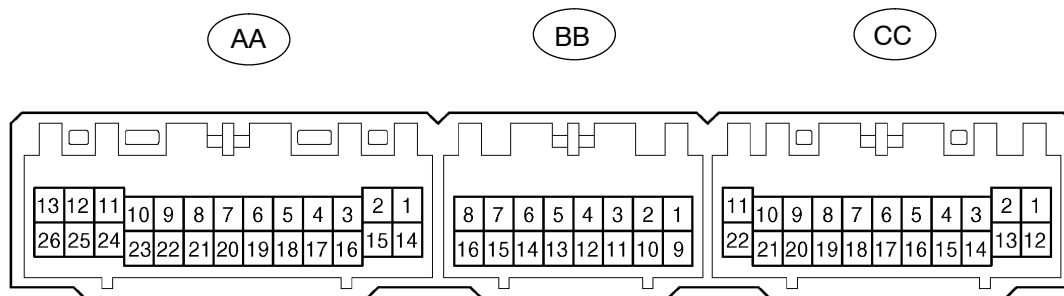
Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
*1A38-5 - A38-10 *2A38-12 - A38-8 (+B - GND)	L-W - W-B	Constant	10 - 14V
*1A38-1, *2A38-17 (TX+)	G	See "Service Check Mode"	-
*1A38-10 - Body ground *2A38-8 - Body ground (GND - Body ground)	W-B - Body ground	Constant	Below 1V
*1A38-9 - A38-10 *2A38-3 - A38-8 (ACC - GND)	GR - W-B	Ignition switch OFF	Below 1V
		Ignition switch ACC or ON	10 - 14V
*2A38-13 - A38-8 (LP+ - GND)	G - W-B	Light control switch OFF	Below 1V
		Light control switch TAIL or HEAD	10 - 14V
*2A38-7 - A38-8 (ILL- - GND)	W-B - W-B	Rear center arm-rest is opening (rear center arm-rest courtesy switch ON)	Below 1V
*1A38-6, *2A38-18 (TX-)	R	See "Service Check Mode"	-

Terminal No. (Symbols)	Problem symptom when open circuit is detected.	Problem symptom when short circuit is detected.
*1A38-5 - A38-10 *2A38-12 - A38-8 (+B - GND)	Navigation system does not operate.	Fuse is blown.
*1A38-1, *2A38-17 (TX+)	Navigation system does not operate.	Navigation system does not operate.
*1A38-10 - Body ground *2A38-8 - Body ground (GND - Body ground)	Navigation system does not operate.	-
*1A38-9 - A38-10 *2A38-3 - A38-8 (ACC - GND)	Navigation system does not operate.	Fuse is blown.
*2A38-13 - A38-8 (LP+ - GND)	Audio and rear A/C control switch illumination does not light up.	Audio and rear A/C control switch illumination does not light up.
*2A38-7 - A38-8 (ILL- - GND)	Audio and rear A/C control does not displayed.	Audio and rear A/C control display is normal.
*1A38-6, *2A38-18 (TX-)	Navigation system does not operate.	Navigation system does not operate.

*1: w/ Rear Power Seat

*2: w/o Rear Power Seat

7. TELEPHONE TRANSCEIVER AND SPEAKER RELAY



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Terminals No	Symbols	Condition	STD Voltage (V)
AA1 – AA24	SPI+ – GND	Audio system is sounding	A waveform synchronized with sounds is output
AA2 – AA24	SPO+ – GND	Audio system is sounding	A waveform synchronized with sounds is output
AA3 – AA24	TLSW – GND	Steering pad switch is not operating	5 V
		"3" switch is pushed	3.8 V
		"2" switch is pushed	2.5 V
		"1" switch is pushed	1.2 V
		"TEL" switch is pushed	0 V
AA4 – AA24	TELI – GND	Ignition switch ACC	Below 1 V
AA5 – AA24	MACC – GND	Ignition switch ACC	5 V
AA6 – AA24	MICN – GND	Ignition switch ACC	5 V
AA7	TX+	See "Service Check Mode"	–
AA8 – AA21	SYNC – VG	Cellular phone display is displayed	Pulse generation *1
AA9 – AA21	R – VG	Cellular phone display is displayed	Pulse generation *2
AA10 – AA21	VR – VG	Ignition switch OFF or ACC	Below 1 V
AA12 – AA24	IG – GND1	Ignition switch OFF or ACC	Below 1 V
		Ignition switch ON	10 – 14 V
AA13 – AA24	+B – GND	Constant	10 – 14 V
AA14 – AA24	SPI– – GND	Audio system is sounding	A waveform synchronized with sounds is output
AA15 – AA24	SPO– – GND	During voice guidance of cellular phone	A waveform synchronized with sounds is output
AA16 – AA24	SW– – GND	Ignition switch OFF	Below 1 V
AA17 – AA24	CNRL – GND	LEXUS link system is operating	Below 1 V
AA18 – AA24	MUTE – GND	While communicating over cellular phone	Below 1 V
AA19 – Body ground	MIGND – Body ground	Constant	Below 1 V

DIAGNOSTICS – LEXUS NAVIGATION SYSTEM

AA20	TX-	See "Service Check Mode"	-
AA21 – AA24	VG – GND	Ignition switch OFF	Below 1 V
AA22 – AA21	G – VG	Cellular phone display is displayed	Pulse generation *2
AA23 – AA21	B – VG	Cellular phone display is displayed	Pulse generation *2
AA24 – Body ground	GND1 – Body ground	Constant	Below 1 V
AA25 – AA24	ACC – GND	Ignition switch OFF	Below 1 V
BB1	TX1+	See "Service Check Mode"	-
BB5 – BB16	R1 – VG1	Navigation map display is displayed	Pulse generation *2
BB6 – BB16	G1 – VG1	Navigation map display is displayed	Pulse generation *2
BB7 – BB16	B1 – VG1	Navigation map display is displayed	Pulse generation *2
BB8 – BB16	VR1 – VG1	Ignition switch OFF	Below 1 V
BB9	TX1-	See "Service Check Mode"	-
B15 – BB16	SYNC1 – VG1	Navigation map display is displayed	Pulse generation *1
BB16 – AA24	VG1 – GND	Ignition switch OFF	Below 1 V
CC1 – AA24	PCMCLK – GND	While communicating over cellular phone	Pulse generation (3 V)
CC2 – AA24	PCMRA – GND	While communicating over cellular phone	Pulse generation (3 V)
CC3 – AA24	ASYNCTXD – GND	Cellular phone display is displayed	Pulse generation (3 V)
CC4 – AA24	ASYNCRXD – GND	Cellular phone display is displayed	Pulse generation (3 V)
CC5 – AA24	CALL – GND	While communicating over cellular phone	Below 1 V
CC6 – AA24	PCMSYNC – GND	While communicating over cellular phone	Pulse generation (3 V)
CC10 – AA24	VBATX – GND	Cellular phone display is displayed	2 V or more
CC11 – AA24	VCHG – GND	Ignition switch OFF	Below 1 V
CC12 – Body ground	GND – Body ground	Constant	Below 1 V
CC13 – Body ground	GND – Body ground	Constant	Below 1 V
CC14 – Body ground	GND – Body ground	Constant	Below 1 V
CC18 – AA24	PCMTA – GND	While communicating over cellular phone	Pulse generation (3 V)
CC19 – AA24	S- – GND	Cellular phone display is displayed	Pulse generation *2
CC20 – AA24	IDVAL – GND	Ignition switch OFF	18.2 kΩ
CC21 – AA24	S+ – GND	Cellular phone display is displayed	5 V

Terminal No. (Symbols)	Problem symptom when open circuit is detected.	Problem symptom when short circuit is detected.
AA1 – AA24 (SPI+ – GND)	Sound from rear left side speaker is small.	Sound from rear left side speaker is small.
AA2 – AA24 (SPO+ – GND)	Sound from rear left side speaker is small.	Sound from rear left side speaker is small.
AA3 – AA24 (TLSW – GND)	Steering pad switch can not operate.	Steering pad switch can not operate.
AA4 – AA24 (TELI – GND)	Even when voice is recognized or registered, air conditioner blower is on.	Air conditioning blower is constantly operating.
AA5 – AA24 (MACC – GND)	No voice can be heard from cellular phone and voice recognition cannot be done.	No voice can be heard from cellular phone and voice recognition cannot be done.

AA6 – AA24 (MICIN – GND)	No voice can be heard from cellular phone and voice recognition cannot be done.	No voice can be heard from cellular phone and voice recognition cannot be done.
AA7 (TX+)	Cellular phone screen is disorder and navigation system does not operate.	Cellular phone screen is disorder and navigation system does not operate.
AA8 – AA21 (SYNC – VG)	Synchronous pulse fluctuates rapidly in map screen.	Synchronous pulse fluctuates rapidly in map screen.
AA9 – AA21 (R – VG)	Screen color turns to blue.	Screen color turns to blue.
AA10 – AA21 (VR – VG)	Navigation system is normal.	Navigation system is normal.
AA12 – AA24 (IG – GND1)	Navigation operation is available during, or a cursor on present site does not move.	Navigation operation is available during, or a cursor on present site does not move.
AA13 – AA24 (+B – GND)	Cellular phone does not operate.	Fuse is blown.
AA14 – AA24 (SPI – GND)	Sound from rear left side speaker is small.	Sound from rear left side speaker is small.
AA15 – AA24 (SPO – GND)	Sound from rear left side speaker is small.	Sound from rear left side speaker is small.
AA16 – AA24 (SW – GND)	Steering pad switch illumination does not light up and switch can not be operation.	Steering pad switch illumination does not light up and switch can not be operation.
AA17 – AA24 (CNRL – GND)	Activation of LEXUS link system cannot be detected.	Activation of LEXUS link system cannot be detected.
AA18 – AA24 (MUTE – GND)	Audio system sounds during communication over cellular phone.	Audio system does not sound.
AA19 – Body ground (MIGND – Body ground)	No voice can be heard from cellular phone and voice recognition cannot be done.	No voice can be heard from cellular phone and voice recognition cannot be done.
AA20 (TX–)	Cellular phone screen is disorder and navigation system does not operate.	Cellular phone screen is disorder and navigation system does not operate.
AA21 – AA24 (VG – GND)	Navigation system is normal.	Navigation system is normal.
AA22 – AA21 (G – VG)	Screen color turns to red–purple.	Screen color turns to red–purple.
AA23 – AA21 (B – VG)	Screen color turns to yellow.	Screen color turns to yellow.
AA24 – Body ground (GND1 – Body ground)	Cellular phone does not operate or operates abnormally. (Noise occurs during communication over cellular phone, noise appears on cellular phone screen, etc.)	Cellular phone does not operate or operates abnormally. (Noise occurs during communication over cellular phone, noise appears on cellular phone screen, etc.)
AA25 – AA24 (ACC – GND)	Cellular phone does not operate.	Cellular phone does not operate.
BB1 (TX1+)	Cellular phone screen is disorder and navigation system does not operate.	Cellular phone screen is disorder and navigation system does not operate.
BB5 – BB16 (R1 – VG1)	Screen color turns to red–purple.	Screen color turns to red–purple.
BB6 – BB16 (G1 – VG1)	Screen color turns to red–purple.	Screen color turns to red–purple.
BB7 – BB16 (B1 – VG1)	Screen color turns to yellow.	Screen color turns to yellow.
BB8 – BB16 (VR1 – VG1)	Navigation system is normal.	Navigation system is normal.

DIAGNOSTICS – LEXUS NAVIGATION SYSTEM

BB9 (TX1-)	Cellular phone screen is disorder and navigation system does not operate.	Cellular phone screen is disorder and navigation system does not operate.
B15 – BB16 (SYNC1 – VG1)	Synchronous pulse fluctuates rapidly in map screen.	Synchronous pulse fluctuates slowly in map screen.
BB16 – AA24 (VG1 – GND)	Navigation system is normal.	Navigation system is normal.
CC1 – AA24 (PCMCLK – GND)	No voice can be heard from cellular phone.	No voice can be heard from cellular phone.
CC2 – AA24 (PCMRA – GND)	No voice can be heard from cellular phone.	No voice can be heard from cellular phone.
CC3 – AA24 (ASYNCTXD – GND)	Communication between cellular phone and telephone tranceiever & speaker relay is impossible.	Communication between cellular phone and telephone tranceiever & speaker relay is impossible.
CC4 – AA24 (ASYNCRXD – GND)	Communication between cellular phone and telephone tranceiever & speaker relay is impossible.	Communication between cellular phone and telephone tranceiever & speaker relay is impossible.
CC5 – AA24 (CALL – GN)	Cellular phone does not operate.	Cellular phone does not operate.
CC6 – AA24 (PCMSYNC – GND)	Cellular phone does not operate.	Cellular phone does not operate.
CC10 – AA24 (VBATX – GND)	Connection of cellular phone cannot be detected.	Connection of cellular phone cannot be detected.
CC11 – AA24 (VCHG – GND)	Recharge and power supply to cellular phone cannot be done.	Recharge and power supply to cellular phone cannot be done.
CC12 – Body ground (GND – Body ground)	Noise occurs during communication over cellular phone.	Noise occurs during communication over cellular phone.
CC13 – Body ground (GND – Body ground)	Noise occurs during communication over cellular phone.	Noise occurs during communication over cellular phone.
CC14 – Body ground (GND – Body ground)	Noise occurs during communication over cellular phone.	Noise occurs during communication over cellular phone.
CC18 – AA24 (PCMTA – GND)	No voice can be heard from cellular phone.	No voice can be heard from cellular phone.
CC19 – AA24 (S- – GND)	Recharge and power supply to cellular phone cannot be done.	Recharge and power supply to cellular phone cannot be done.
CC20 – AA24 (IDVAL – GND)	Connection of cellular phone cannot be detected.	Connection of cellular phone cannot be detected.
CC21 – AA24 (S+ – GND)	Recharge and power supply to cellular phone cannot be done.	Recharge and power supply to cellular phone cannot be done.

8. CELLULAR MOBILE TELEPHONE SYSTEM WIRING DIAGRAM