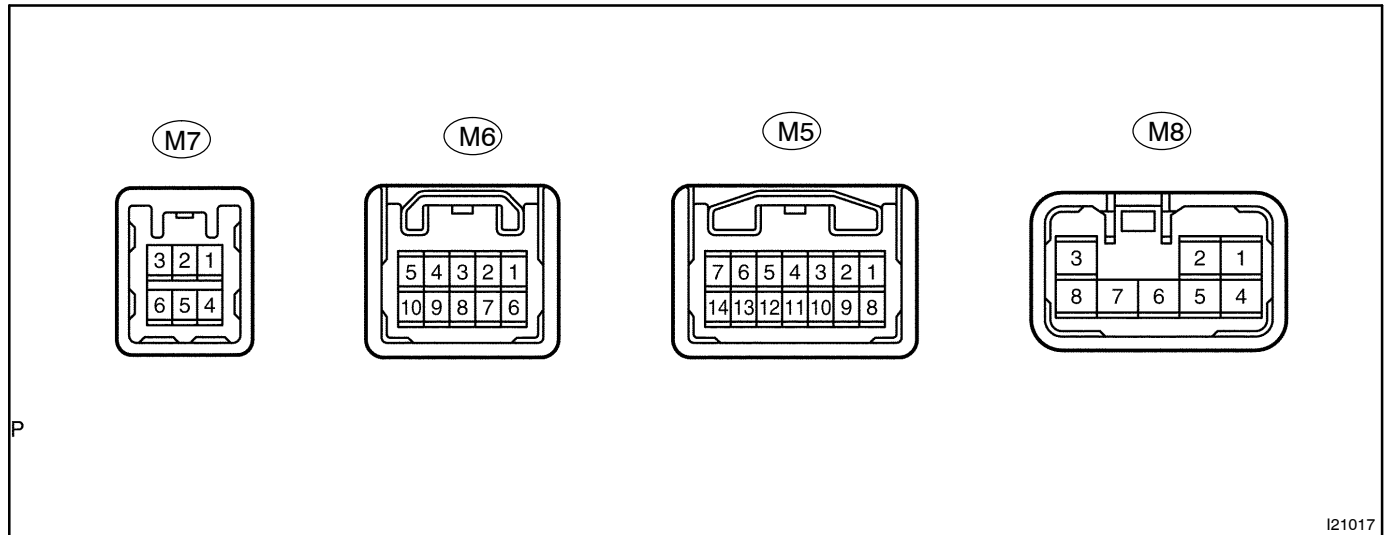


TERMINALS OF ECU

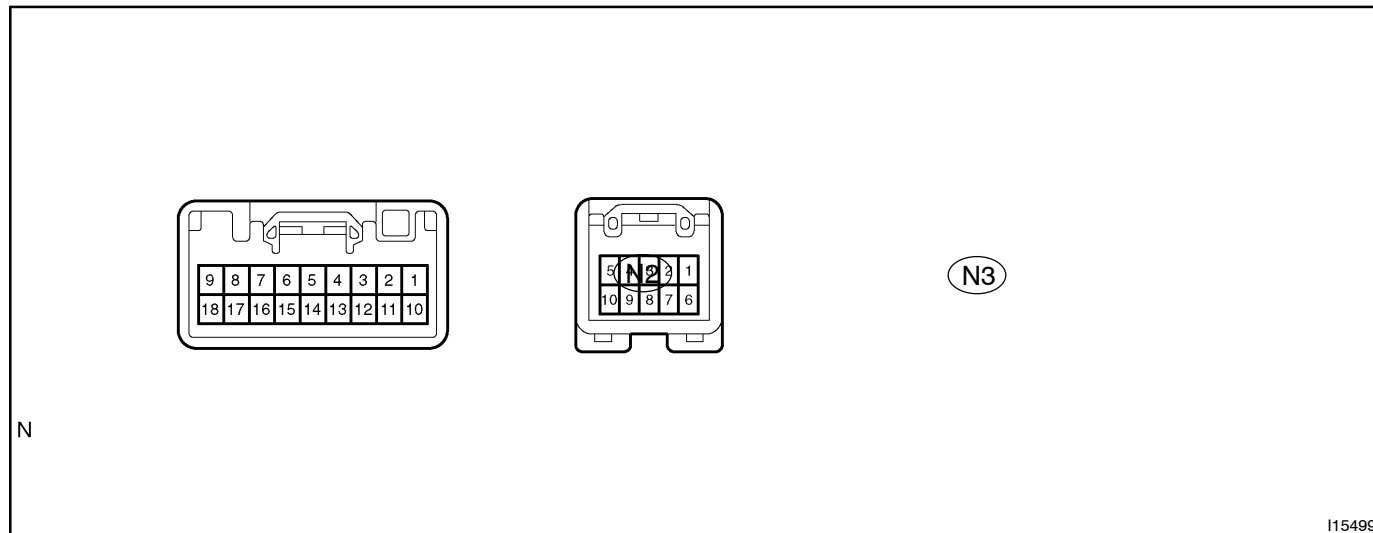
Multi-display:



Symbols (Terminal No.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected.
			Problem symptoms when short circuit is detected.
TX3+ (M5-4)	AVC-LAN communication circuit	-	Navigation system does not operate.
SPD ↔ GND1 (M3-5 ↔ M7-6)	Ignition switch ON, and driving wheel rotated smoothly	Repeatedly changes from below 1 to 9 V	Fuel efficiency cannot be calculated.
TX1- (M5-10)	AVC-LAN communication circuit	-	Navigation system does not operate.
TX3- (M5-11)	AVC-LAN communication circuit	-	Navigation system does not operate.
PKB ↔ GND1 (M5-13 ↔ M7-6)	Ignition switch ON, and parking brake switch ON (parking brake pedal released)	5 V	The system cannot enter Diagnostic system mode.
TC ↔ GND1 (M5-14 ↔ M7-6)	Ignition switch OFF and connect terminals TC and E1 of check connector	Continuity	Navigation system is normal.
			The system does not exit Service check mode.
VR ↔ VG (M6-1 ↔ M6-6)	Constant	Continuity	Screen noise or other types of noise occur.
R ↔ VG (M6-2 ↔ M6-6)	Diagnosis display check screen is white (Using an oscilloscope)	$0.7 \pm 0.1 \text{ V} *2$	Screen color turns to blue
B ↔ VG (M6-3 ↔ M6-6)	Diagnosis display check screen is white (Using an oscilloscope)	$0.7 \pm 0.1 \text{ V} *2$	Screen color turns to yellow
TX+ (M6-5)	AVC-LAN communication circuit	-	Navigation system does not operate.
VG ↔ GND (M6-6 ↔ M7-6)	Constant	Continuity	Screen noise or other types of noise occur.
			Navigation system does not operate.
SYNC ↔ GND (M6-8 ↔ M7-6)	-	-	-

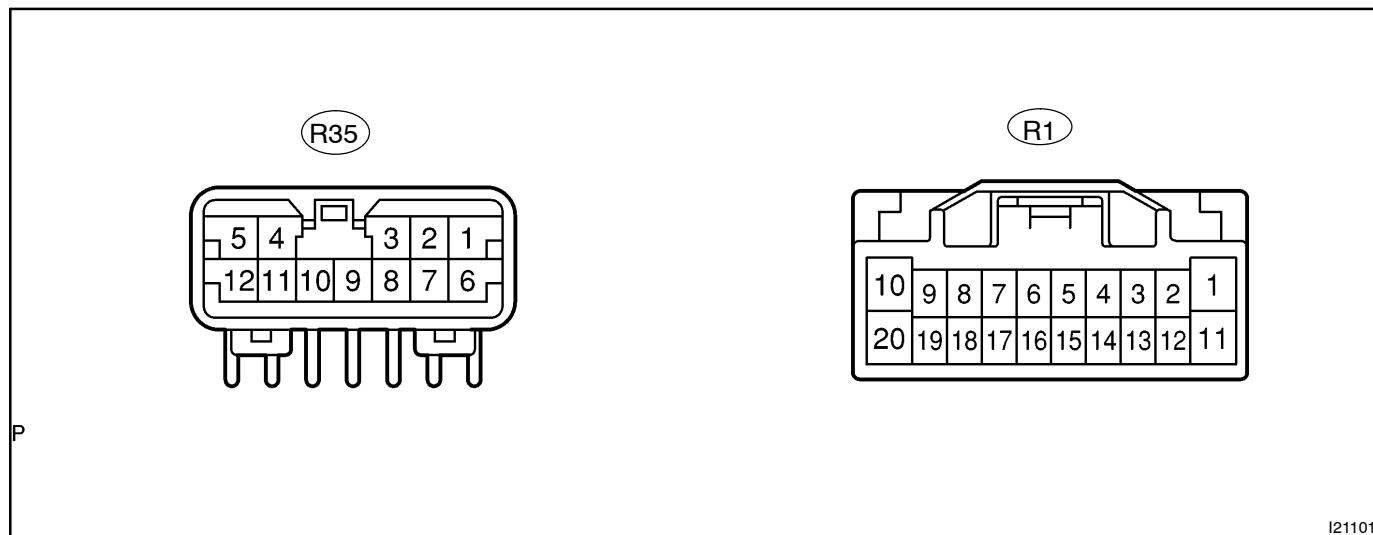
TX- (M6-10)	AVC-LAN communication circuit	-	Navigation system does not operate.
NTSC ↔ GND (M8-3 ↔ M7-6)	-	-	-
ILL+ ↔ GND (M8-7 ↔ M7-6)	Light control switch TAIL or HEAD	9 V or more	Switching between night and day mode cannot be done.
ILL- ↔ GND (M8-8 ↔ M7-6)	Light control switch TAIL or HEAD	9 V or more	Switching between night and day mode cannot be done.
+B ↔ GND (M7-1 ↔ M7-6)	Constant	10 – 14 V	Navigation system does not operate.
IG ↔ GND (M7-2 ↔ M7-6)	Ignition switch ON	10 – 14 V	Navigation system does not operate.
ACC ↔ GND (M7-4 ↔ M7-6)	Ignition switch ACC	10 – 14 V	Navigation system does not operate.

Navigation ECU



Symbols (Terminals NO.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected.
			Problem symptom when short circuit is detected.
AUI+ – GND (N2-1 – N2-17)	Radio switch ON	5 – 7 V	Driver's side speaker does not sound.
AUO+ – GND (N2-2 – N2-17)	Radio switch ON	5 – 7 V	Driver's side speaker does not sound.
SPD – GND (N2-5 – N2-17)	Ignition switch ON and driving wheel rotated slowly	Repeatedly changes from below 1 to 9 V	Navigation operation is available during, or a cursor on present site does not move.
+B – GND (N2-9 – N2-17)	Constant	10 – 14 V	The set route can not be memo- rized. (The route disappears by turning the ignition switch OFF.)
			Fuse is blown.
AUI- – GND (N2-10 – N2-17)	Radio switch ON	5 – 7 V	Driver's side speaker does not sound.
AUO- – GND (N2-11 – N2-17)	Radio switch ON	5 – 7 V	Driver's side speaker does not sound.
REV – GND (N2-14 – N2-17)	A/T shift position R	5 V	The direction of advance of the ve- hicle is different from that of the cursor.
GND – Body ground (N2-17 – Body ground)	Constant	Below 1 V	Audio system is normal.
ACC – GND (N2-18 – N2-17)	Ignition switch ACC or ON	10 – 14 V	Audio system does not sound.
VR – VG (N3-1 – N3-6)	Constant	Continuity	Screen noise or other types of noise occur.
			Navigation system does not op- eration.
R – VG (N3-2 – N3-6)	Diagnosis display check screen is white (Using an oscilloscope)	0.7 V ± 0.1 V*1	Screen color turns to blue.

Radio receiver assembly

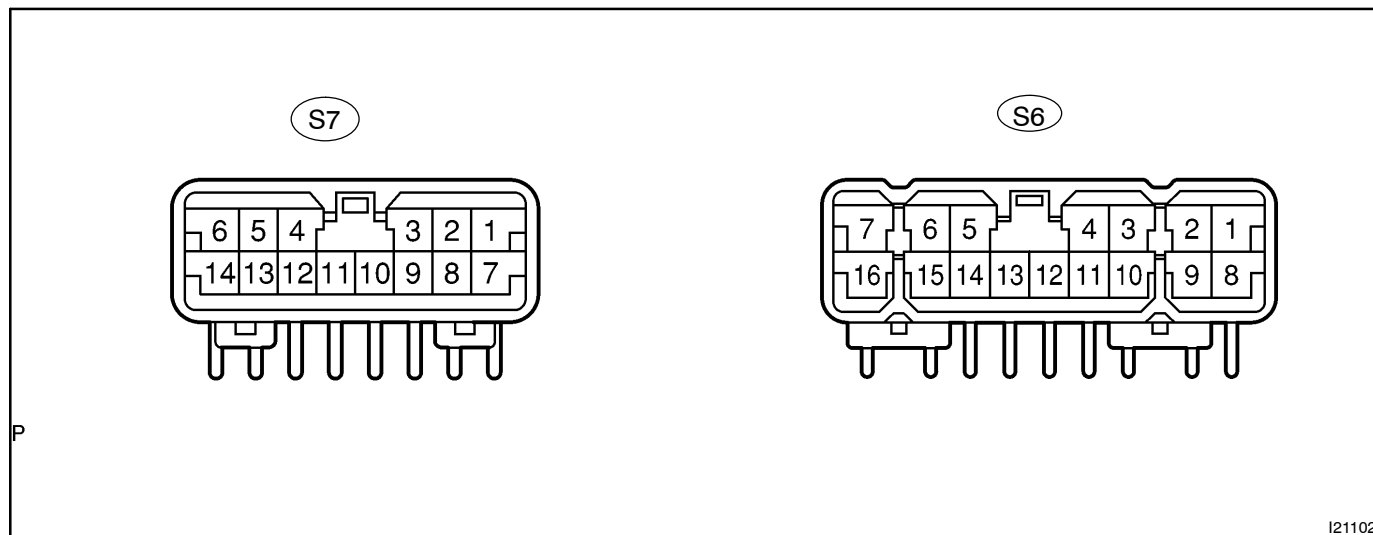


Symbols (Terminal No.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected.
			Problem symptoms when short circuit is detected.
B ↔ GND (R1-1 ↔ R1-20)	Constant	10 – 14 V	Audio system does not operate.
ILL+ ↔ GND (R1-2 ↔ R2-20)	Light control switch TAIL	10 – 14 V	Audio head unit illumination does not light up.
AMP ↔ GND (R1-3 ↔ R1-20)	–	–	–
TX+ (R1-5)	AVC-LAN Communication circuit	–	Audio system does not operate.
F.R ↔ GND (R1-8 ↔ R1-20)	Constant	10 – 14 V	Sound from front right speaker is small
F.L ↔ GND (R1-9 ↔ R1-20)	Constant	10 – 14 V	Sound from front left speaker is small
ACC ↔ GND (R1-11 ↔ R1-20)	Ignition switch ACC	10 – 14 V	Audio system does not operate.
ILL- ↔ GND (R1-12 ↔ R1-20)	Light control switch TAIL	Below 0.5 V	Audio head unit illumination does not light up.
ANT+ ↔ GND (R1-13 ↔ R2-20)	Radio switch ON	10 – 14 V	Antenna does not extend.
ILL- ↔ GND (R1-12 ↔ R2-20)	Light control switch TAIL	10 – 14 V	Fuse is blown.
TX- (R1-15)	AVC-LAN Communication circuit	–	Audio system does not operate.
R.R ↔ GND (R1-18 ↔ R1-20)	Constant	10 – 14 V	Sound from rear right side speaker is small.
R.L ↔ GND (R1-19 ↔ R1-20)	Constant	10 – 14 V	Sound from rear left side speaker is small.
GND ↔ Body ground (R1-20 ↔ Body ground)	Constant	Continuity	Audio system is normal.
CDR+ (R35-1)	–	–	Sound from right side speaker is small

DIAGNOSTICS - LEXUS NAVIGATION SYSTEM

CDL+ (R35-2)	-	-	Sound from left side speaker is small
MUTE ↔ GND (R35-4 ↔ R1-20)	-	-	Pop sound etc.
			Audio system does not operate.
CDR- (R35-6)	-	-	Sound from right side speaker is small
CDL- (R35-7)	-	-	Sound from left side speaker is small
TXM+ ↔ GND (R35-9 ↔ R1-20)	AVC-LAN communication circuit	-	Audio system does not operate.
TXM+ (R35-10)	AVC-LAN communication circuit	-	Audio system does not operate.

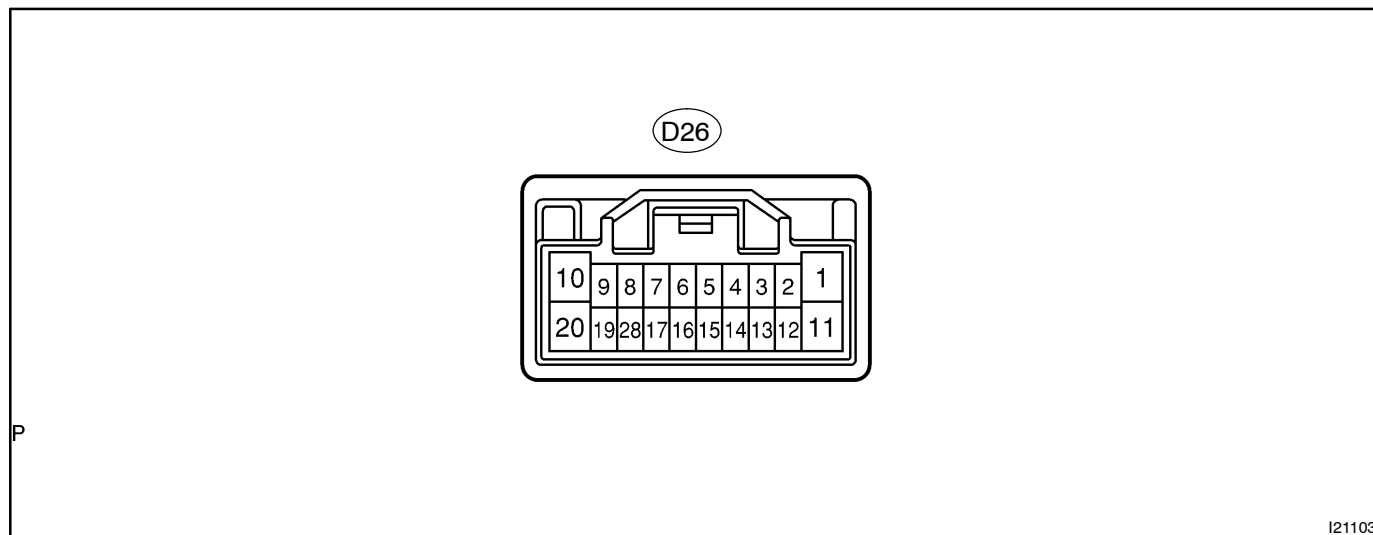
Stereo component amplifier



Symbols (Terminal No.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected.
FR+ ↔ GND1 (S6-1 ↔ S6-12)	Radio switch ON	5 – 7 V	RH side speaker does not sound.
FL+ ↔ GND1 (S6-2 ↔ S6-12)	Radio switch ON	5 – 7 V	LH side speaker does not sound.
RR+ ↔ GND1 (S6-3 ↔ S6-12)	Radio switch ON	5 – 7 V	Rear RH side speaker does not sound.
RL+ ↔ GND1 (S6-4 ↔ S6-12)	Radio switch ON	5 – 7 V	Rear LH side speaker does not sound.
WR+ ↔ GND1 (S6-5 ↔ S6-12)	Radio switch ON	5 – 7 V	Rear RH side speaker does not sound.
WL+ ↔ GND1 (S6-6 ↔ S6-12)	Radio switch ON	5 – 7 V	Rear LH side speaker does not sound.
+B ↔ GND1 (S6-7 ↔ S6-12)	Constant	10 – 14 V	All speaker does not sound
FR- ↔ GND1 (S6-8 ↔ S6-12)	Radio switch ON	5 – 7 V	RH side speaker does not sound.
FL- ↔ GND1 (S6-9 ↔ S6-12)	Radio switch ON	5 – 7 V	LH side speaker does not sound.
RL- ↔ GND1 (S6-11 ↔ S6-12)	Radio switch ON	5 – 7 V	Rear LH side speaker does not sound.
GND1 ↔ Body ground (S6-12 ↔ Body ground)	Constant	Continuity	–
GND2 ↔ Body ground (S6-13 ↔ Body ground)	Constant	Continuity	–
WR- ↔ GND1 (S6-14 ↔ S6-12)	Radio switch ON	5 – 7 V	Rear RH side speaker does not sound.
WL- ↔ GND1 (S6-14 ↔ S6-12)	Radio switch ON	5 – 7 V	Rear LH side speaker does not sound.
+B2 ↔ GND2 (S6-7 ↔ S6-13)	Constant	10 – 14 V	All speaker does not sound
AMP (S7-1)	–	–	–

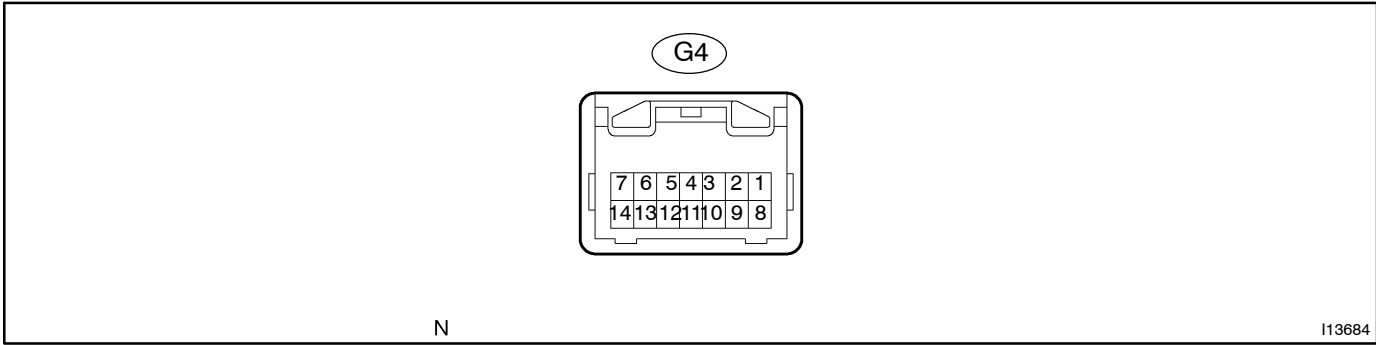
DIAGNOSTICS – LEXUS NAVIGATION SYSTEM

ACC ↔ GND1 (S7-2 ↔ S6-13)	Ignition switch ACC	10 – 14 V	Audio system does not operate.
BEEP (S7-4)	–	–	LH side speaker does not sound.
F.L ↔ GND1 (S7-5 ↔ S6-13)	Constant	10 – 14 V	Sound from front LH speaker is small.
F.R ↔ GND1 (S7-6 ↔ S6-13)	Constant	10 – 14 V	Sound from front RH speaker is small.
SGND ↔ GND1 (S7-11 ↔ S6-13)	–	5 – 7 V	–
MUTE ↔ GND1 (S7-12 ↔ S6-13)	Radio switch ON	5 – 7 V	Audio system does not operate.
R.L ↔ GND1 (S7-13 ↔ S6-13)	Constant	10 – 14 V	Sound from rear LH speaker is small.

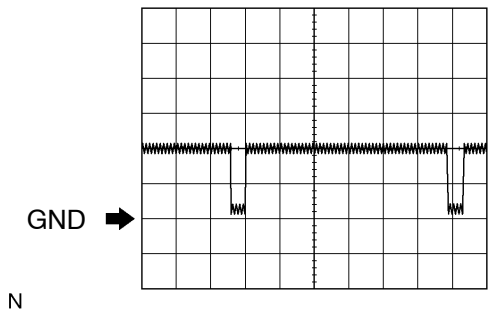
DVD auto changer:

Symbols (Terminal No.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected.
ACC ↔ GND (D26-1 ↔ D26-20)	Ignition switch ACC	10 – 14 V	DVD auto changer does not operate.
TXM+ ↔ GND (D26-3 ↔ D26-20)	AVC-LAN communication circuit	–	Audio system does not operate.
CDR+ (D26-5)	–	–	Sound from right side speaker is small.
CDL+ (D26-6)	–	–	Sound from left side speaker is small.
NTSC (D26-9)	–	–	–
+B ↔ GND (D26-10 ↔ D26-20)	Constant	10 – 14 V	DVD auto changer does not operate.
MUTE ↔ GND (D26-11 ↔ D26-20)	DISC switch ON	5 – 7 V	Audio system does not operate.
TXM- ↔ GND (D26-13 ↔ D26-20)	AVC-LAN communication circuit	–	Audio system does not operate.
CDR- (D26-15)	–	–	Sound from right side speaker is small.
CDL- (D26-16)	–	–	Sound from left side speaker is small.

Gateway ECU:



Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
IG ↔ GND (G4-2 ↔ G4-14)	GR ↔ W-B	Ignition switch ON.	10 – 14 V
MPD1 (G4-4)	w	Communication circuit (Gateway ECU and Center ECU)	–
GTX+ (G4-5)	BR	AVC-LAN communication circuit	–
CG ↔ Body ground (G4-7 ↔ Body ground)	W-B ↔ Body ground	Constant	Continuity
BATT ↔ GND (G4-8 ↔ G4-14)	G-W ↔ W-B	Constant	10 – 14 V
MPD2 (G4-11)	W	Communication circuit (Gateway ECU and Center ECU)	–
GTX- (G4-12)	Y	AVC-LAN communication circuit	–
GND ↔ Body ground (G4-7 ↔ Body ground)	W-B ↔ Body ground	Constant	Continuity

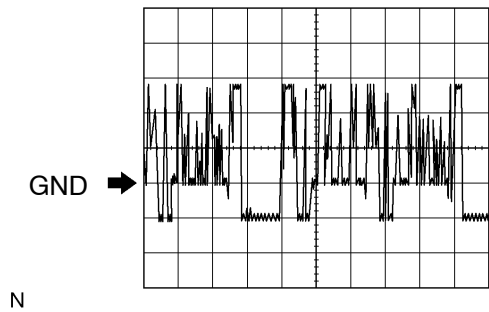


Oscilloscope

*1: wave1

- Measure terminal: SYNC ↔ GND1
- Measure set: 500 mV/DIV 10 μs/DV
- Condition: Navigation display is displayed

I15531



Oscilloscope

*1: wave1

- Measure terminal: R, G, B ↔ GND1
- Measure set: 200 mV/DIV 10 μs/DV
- Condition: Navigation map is switched

I15532