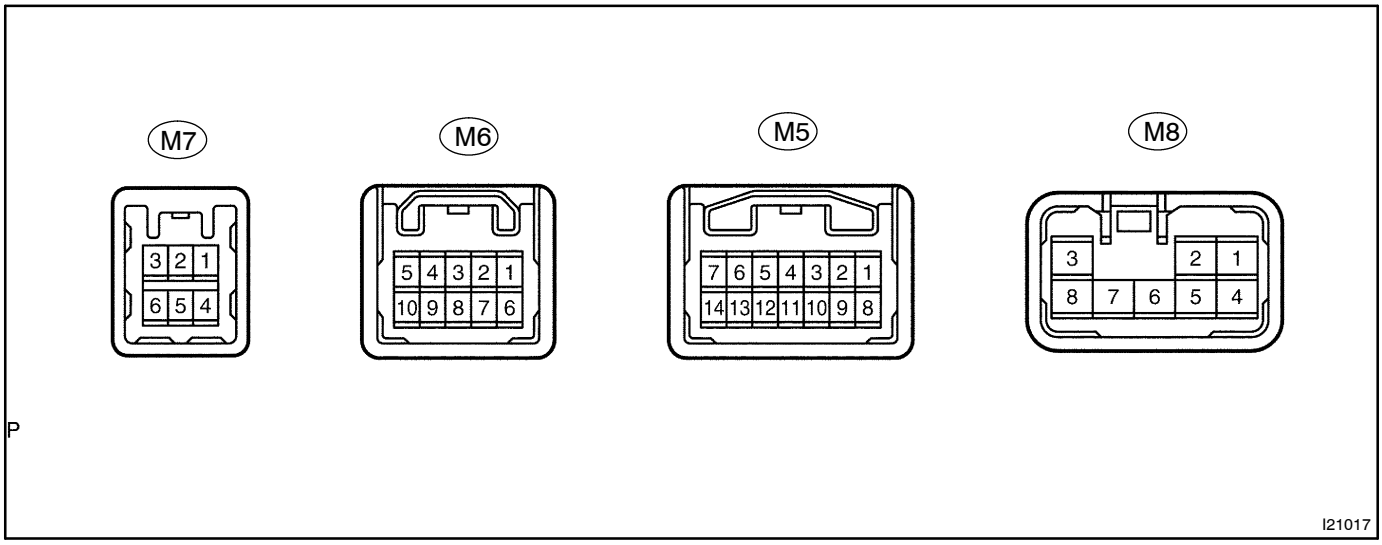
DI88N–03

TERMINALS OF ECU

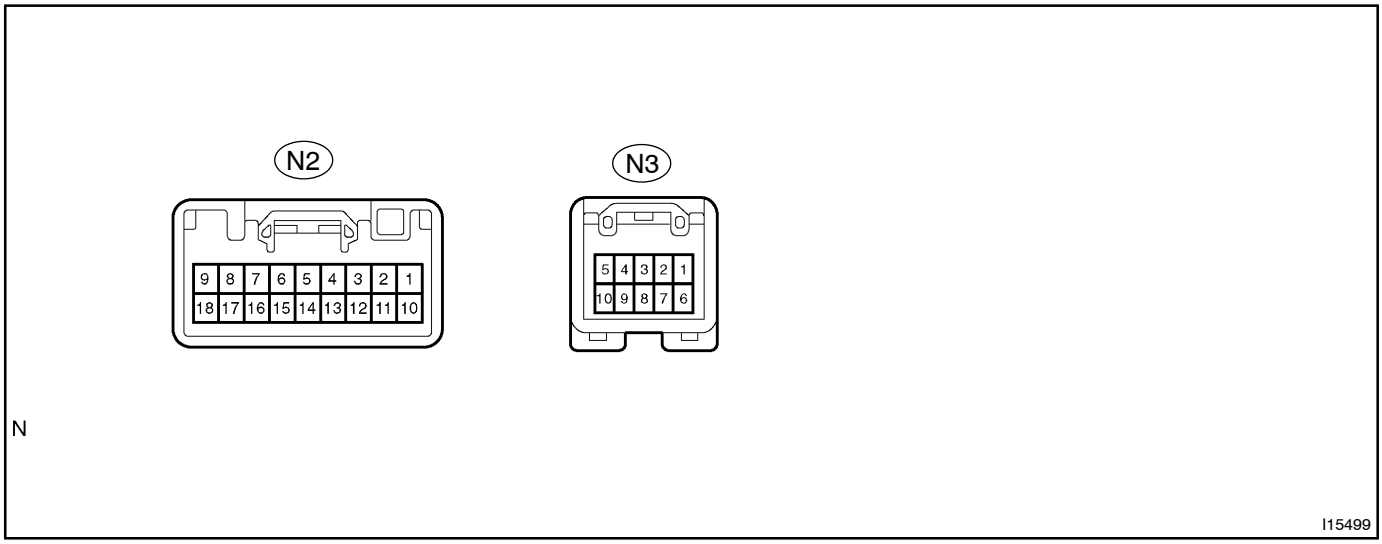
Multi–display:



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 (M5–5 ↔ M8–6)	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 ↔ M8–6)	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 ↔ M8–6)	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 ± 0.1 V *2	Screen color turns to blue
B ↔ VG (M6–3 ↔ M6–6)	Diagnosis display check screen is white (Using an oscilloscope)	0.7 ± 0.1 V *2	Screen color turns to yellow
TX+ (M6–5)	AVC–LAN communication circuit	–	Navigation system does not operate.
VG ↔ GND1 (M6–6 ↔ M8–6)	Constant	Continuity	Screen noise or other types of noise occur. / Navigation system does not operate.
SYNC ↔ GND1 (M6–8 ↔ M8–6)	–	–	–

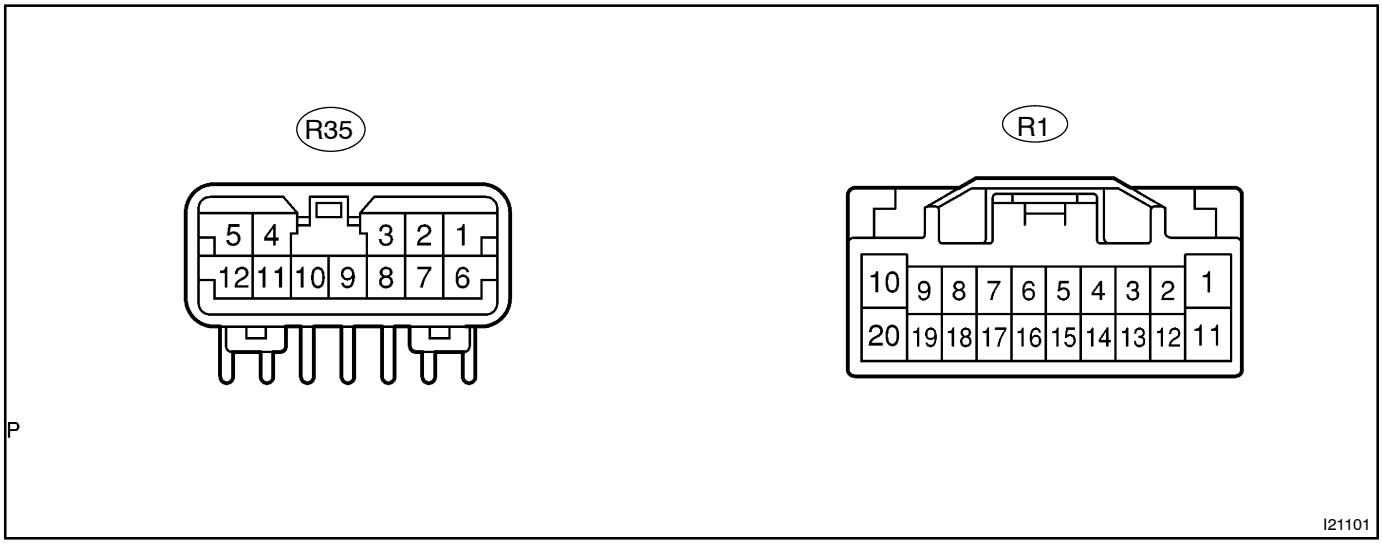
TX– (M6–10)	AVC–LAN communication circuit	–	Navigation system does not operate.
NTSC ↔ SGD1 (M7–3 ↔ M7–6)	–	–	–
ILL+ ↔ GND1 (M8–8 ↔ M8–6)	Light control switch TAIL or HEAD	9 V or more	Switching between night and day mode cannot be done.
ILL– ↔ GND1 (M8–7 ↔ M8–6)	Light control switch TAIL or HEAD	9 V or more	Switching between night and day mode cannot be done.
+B ↔ GND1 (M7–8 ↔ M8–6)	Constant	10 – 14 V	Navigation system does not operate.
IG ↔ GND1 (M7–8 ↔ M8–6)	Ignition switch ON	10 – 14 V	Navigation system does not operate.
ACC ↔ GND1 (M7–8 ↔ M8–6)	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 memorized. (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 vehicle 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 operation.
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.

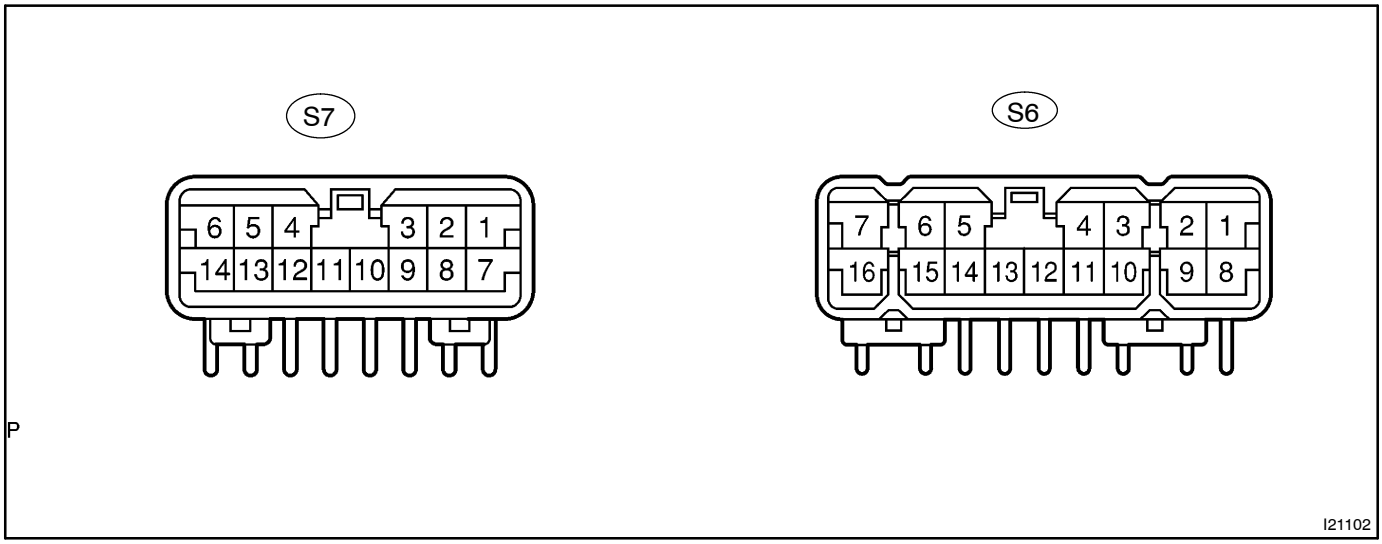
Radio receiver assembly



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

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.

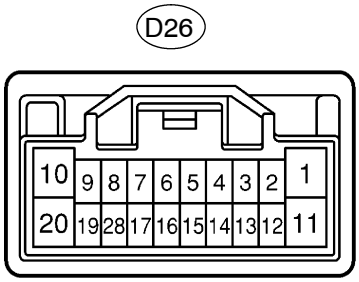
Stereo component amplifier



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)	–	–	–

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.

CD auto changer:



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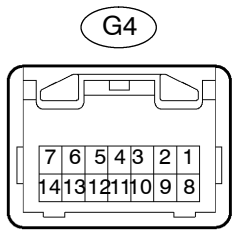
I21103

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	CD 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	CD 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:



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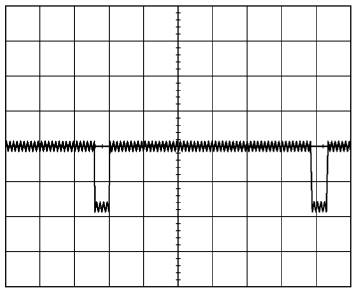
I13684

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 gound)	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 gound)	W–B ↔ Body ground	Constant	Continuity



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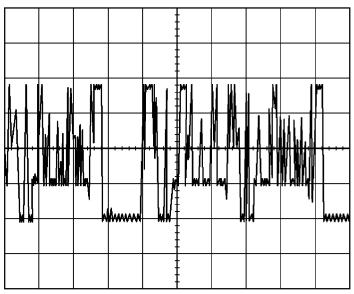
Oscilloscope

*1: wave1

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

I15531



N

Oscilloscope

*1: wave1

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

I15532