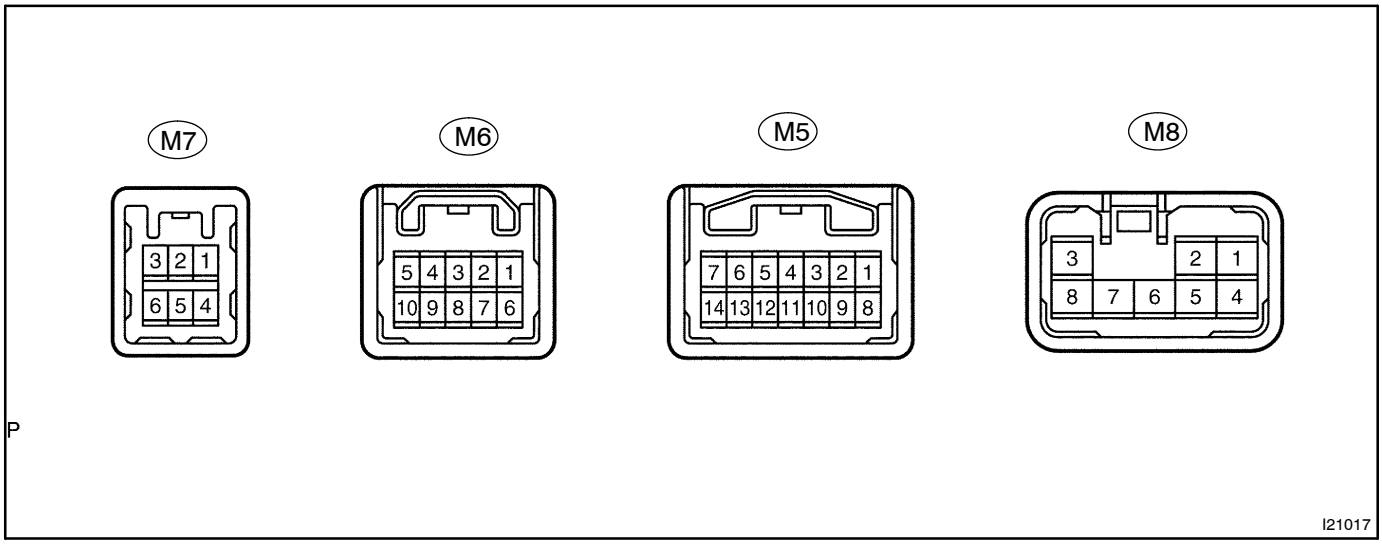
DI88N–03

TERMINALS OF ECU

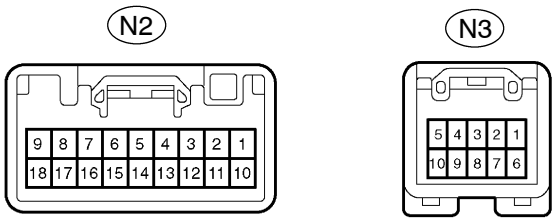
Multi–display:



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 to 9 V	1 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 E 1 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



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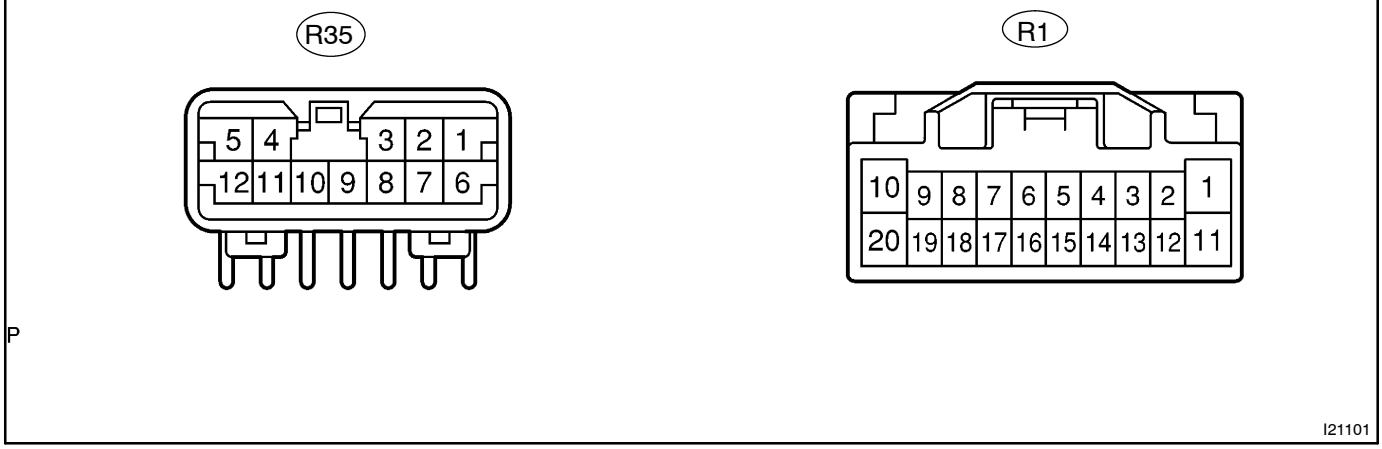
Symbols (Terminals NO.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected. Problem symptom when short circuit is detected.
AUI+ – GND (N2–1 – N2–17)	Radio switch ON	5 – 7 V	Driver's side speaker does not sound.
AUO+ – GND (N2–2 – N2–17)	Radio switch ON	5 – 7 V	Driver's side speaker 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.

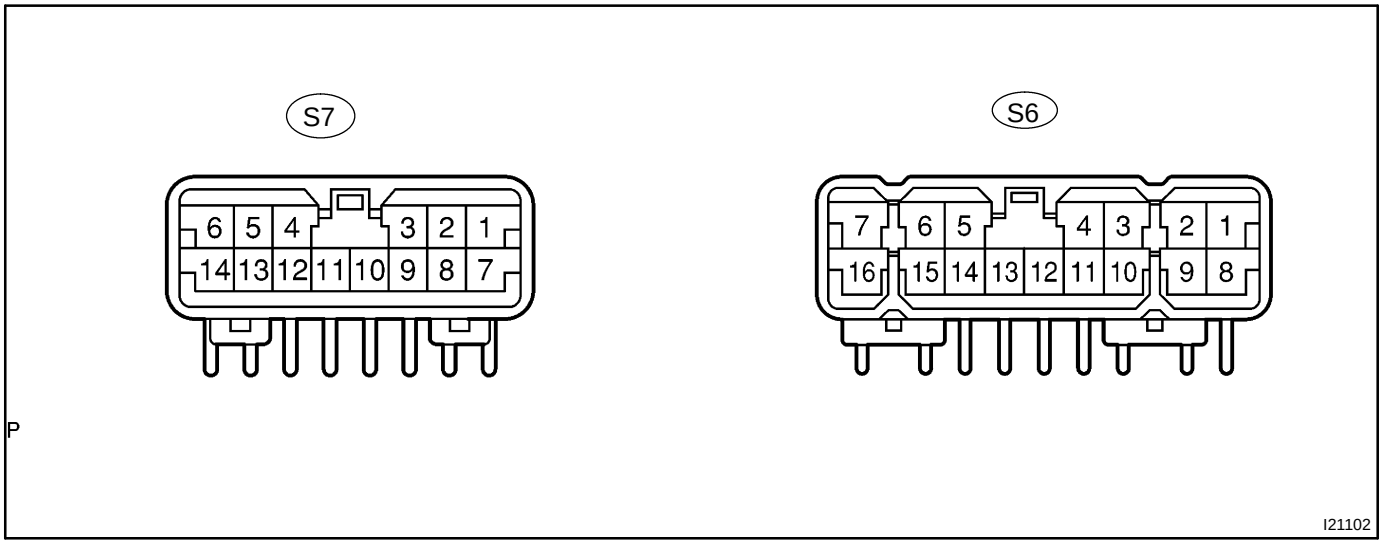
Radio receiver assembly



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.

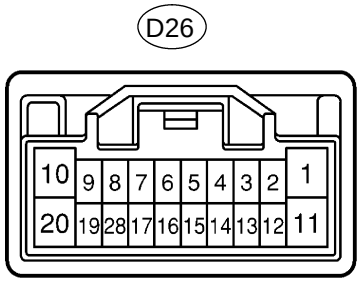
Stereo component amplifier



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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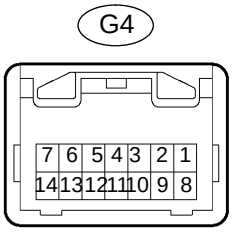
Symbols (Terminal No.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected.
ACC ↔ GND (D26−1 ↔ D26−20)	Ignition switch ACC	10 − 14 V	CD auto changer does not operate.
TXM+ ↔ GND (D26−3 ↔ D26−20)	AVC−LAN communication circuit	−	Audio system does not operate.
CDR+ (D26−5)	−	−	Sound 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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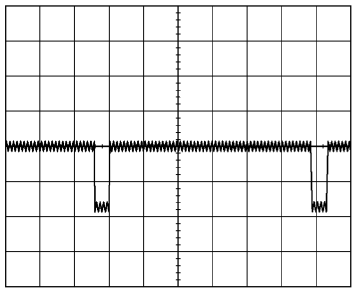
Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
IG ↔ GND (G4−2 ↔ G4−14	GR ↔ W−B	Ignition switch ON.	10 − 14 V
MPD1 (G4−4	w	Communication circuit (Gateway ECU and Center ECU)	−
GTX+ (G4−5)	BR	AVC−LAN communication circuit	−
CG ↔ Body ground (G4−7 ↔ Body gound)	W−B ↔ Body ground	Constant	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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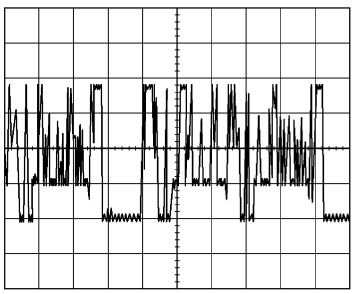
Oscilloscope

*1: wave1

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

I15531



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Oscilloscope

*1: wave1

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

I15532