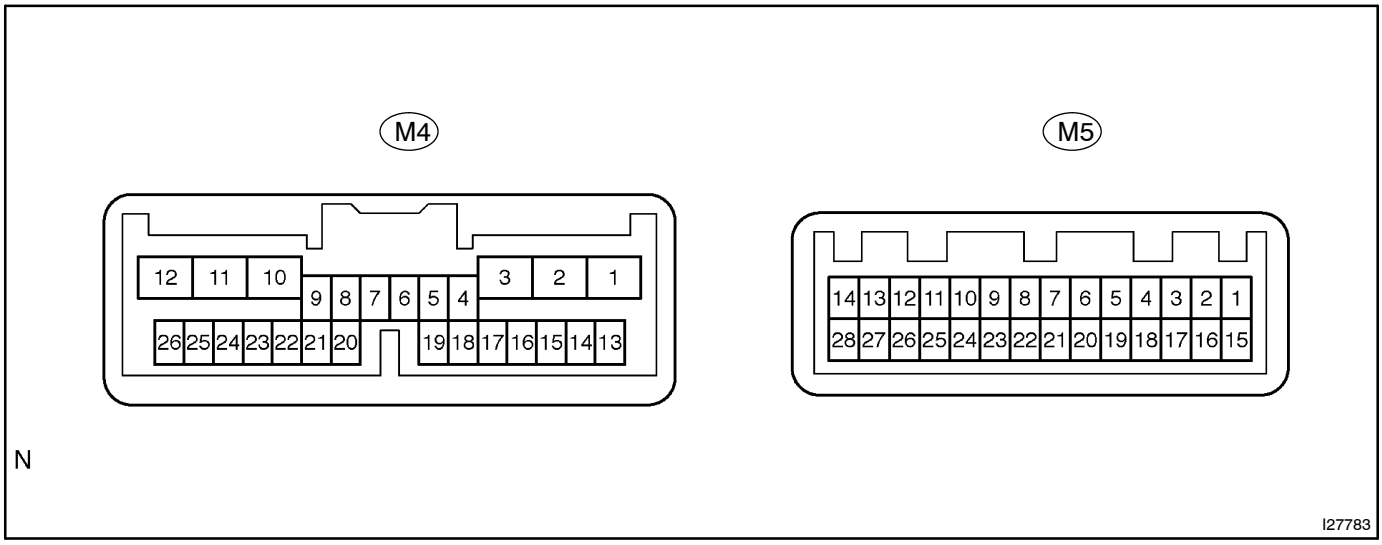
DICM9–01

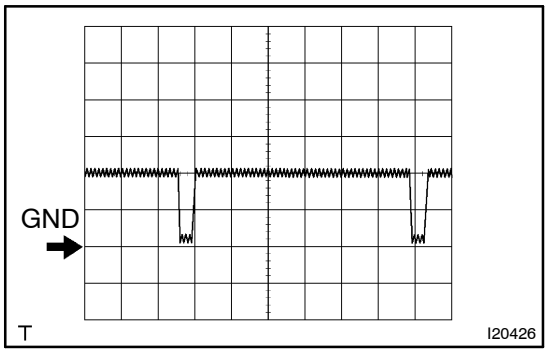
TERMINALS OF ECU

Multi–display:

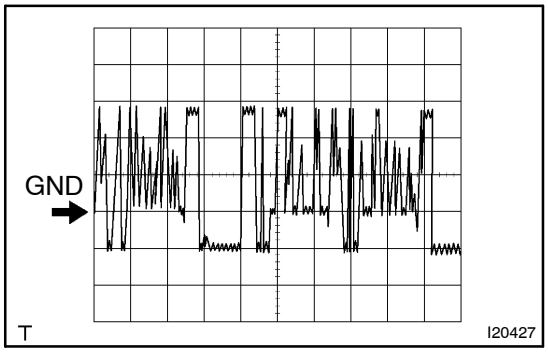


Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specification
GND1 (M4–3) – Body ground	W–B – Body ground	Ground	Always	Below 1 V
TX1+ (M4 –4) – GND1 (M4–3)	P – W–B	AVC–LAN communication signal	Turn ignition switch to ON	2 to 3 V
TX1– (M4–5) – GND1 (M4–3)	L–B – W–B	AVC–LAN communication signal	Turn ignition switch to ON	2 to 3 V
TC (M4 –7) – GND1 (M4–3)	P–B – W–B	Diagnosis ON signal	Turn ignition switch to the ON position	9 to 14 V
IG (M4 –10) – GND1 (M4–3)	B–W – W–B	Ignition (ON)	Turn ignition switch OFF → ON	Below 1 V → 10 to 14 V
ACC (M4 –11) – GND1 (M4–3)	GR – W–B	Accessory (ON)	Turn ignition switch OFF → ACC or ON	Below 1 V → 10 to 14 V
B1 (M4–12) – GND1 (M4–3)	L–W – W–B	Battery	Always	10 to 14 V
PKB (M4 –16) – GND1 (M4–3)	R–W – W–B	Parking brake signal	Turn parking brake switch ON →OFF	Below 1 V → 10 to 14 V
SPD (M4 –25) – GND1 (M4–3)	V – W–B	Speed signal from combination meter	See ”vehicle signal check mode”	
SGND (M5 –3) – GND1 (M4–3)	W–B – W–B	Screen noise or other types of noise occurs	Ignition switch OFF	Below 1 V
MIN+ (M5 –4) – GND1 (M4–3)	B – W–B	Microphone voice signal	See ”microphone check”	–
MIN– (M5–5) – Body ground	W – Body ground	Microphone voice signal	See ”microphone check”	–
MACC (M5 –6) – GND1 (M4–3)	Y–G – W–B	Microphone Accessory	Turn ignition switch OFF → ON	Below 1 V → 10 to 14 V
TX3+ (M5 –11) – GND1 (M4–3)	P–L – W–B	AVC–LAN communication signal	Turn ignition switch to ON	2 to 3 V
TX3– (M5–12) – GND1 (M4–3)	P–B – W–B	AVC–LAN communication signal	Turn ignition switch to ON	2 to 3 V
TX+ (M5 –13) – GND1 (M4–3)	P – W–B	AVC–LAN communication signal	Turn ignition switch to ON	2 to 3 V
TX– (M5–14) – GND1 (M4–3)	L – W–B	AVC–LAN communication signal	Turn ignition switch to ON	2 to 3 V

SGND (M5 –17) – GND1 (M4–3)	Shielded – W–B	Screen noise or other types of noise occurs	Ignition switch OFF	Below 1 V
MCO+ (M5 –18) – GND1 (M4–3)	B – W–B	Microphone voice signal	See ”microphone check”	–
MCO– (M5–19) – GND1 (M4–3)	W – W–B	Microphone voice signal	See ”microphone check”	–
IVO+ (M5 –21) – GND1 (M4–3)	O – W–B	Telephone voice signal (buletooth)	See ”microphone check”	–
IVO– (M5–22) – GND1 (M4–3)	W – W–B	Telephone voice signal (buletooth)	See ”microphone check”	–
VR (M5 –23) – GND1 (M4–3)	B – W–B	Video return signal	Turn ignition switch OFF	Below 1 V
R (M5 –24) – GND1 (M4–3)	Y – W–B	Display signal (red)	Navigation display is on	Pulse generation *2
G (M5 –25) – GND1 (M4–3)	W – W–B	Display signal (green)	Navigation display is on	Pulse generation *2
B (M5 –26) – GND1 (M4–3)	R – W–B	Display signal (blue)	Navigation display is on	Pulse generation *2
SYNC (M5 –27) – GND1 (M4–3)	G – W–B	Display signal (synchronize)	Navigation display is on	Pulse generation* 1
VG (M5 –28) – Body ground	Shielded – Body ground	Shielded ground	Always	Below 1 V

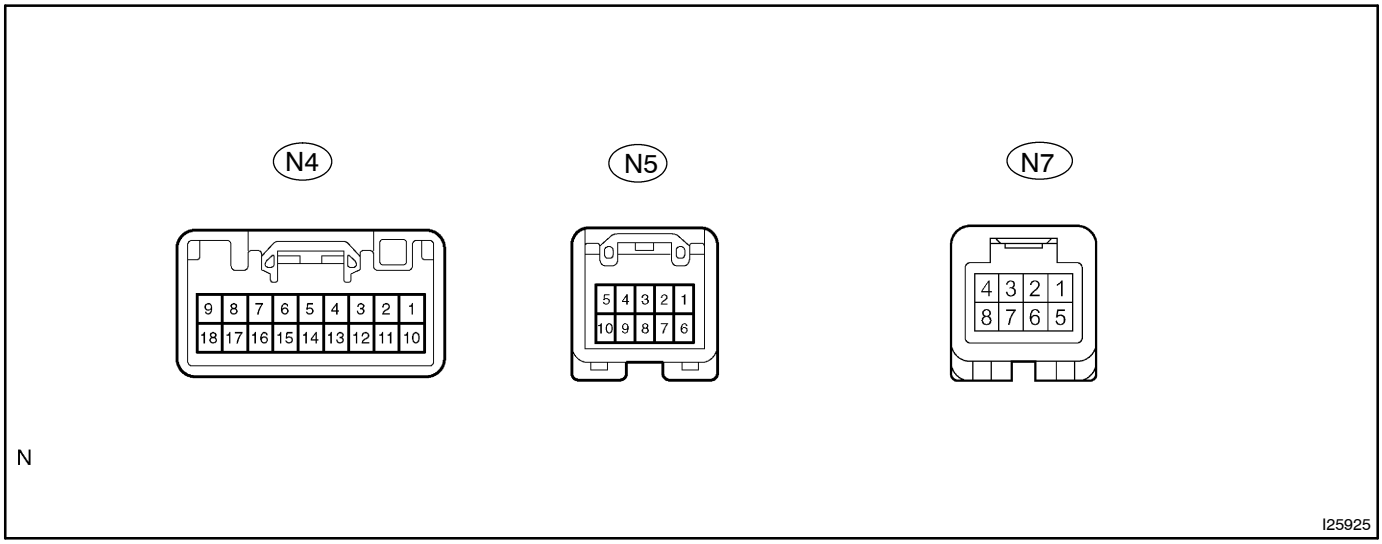


- *1: Oscilloscope wave
  Terminal to be measured: SYNC – GND1
  Setting for measurement: 500 mV/DIV 10 μs/DIV
  Condition: Navigation display is displayed.



- *2: Oscilloscope wave
  Terminal to be measured: R, G, B – GND1
  Setting for measurement: 200 mV/DIV 10 μs/DIV
  Condition: Navigation map is switched.

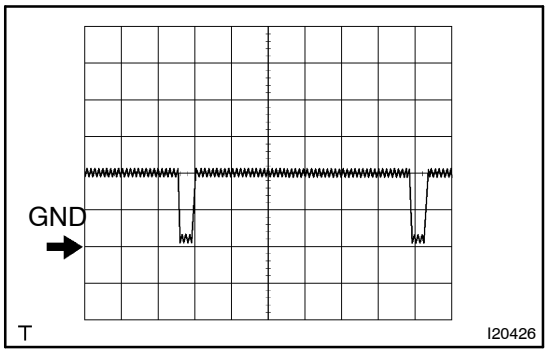
Navigation ECU



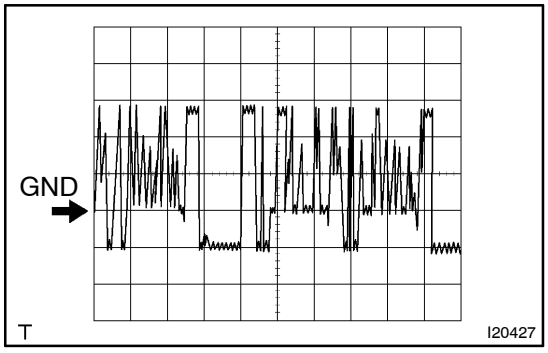
Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specification
AUI+ (N4–1) – GND (N4–17)	P – W–B*1 LG – W–B*2	Sound signal (input)	Audio system is playing	–
AUO+ (N4–2) – GND (N4–17)	P – W–B*1 LG – W–B*2	Sound signal (output)	Audio system is playing	–
SLD1 (N4–3) – Body ground	Shielded – Body ground	Shielded ground	Always	Below 1.0 V
SPD (N4 –5) – GND1 (N4–17)	V – W–B	Speed signal from combination meter	See ”Vehicle Signal Check Mode” (see page DI–175)	–
+B (N4 –9) – GND (N4 –17)	L–Y – W–B	Battery	Always	10 to 14 V
AUI– (N4–10) – GND (N4 –17)	V – W–B*1 L – W–B*2	Sound signal (input)	Audio system is playing	–
AUO– (N4–11) – GND (N4 –17)	V – W–B*1 L – W–B*2	Sound signal (output)	Audio system is playing	–
VOI+ (N4 –12) – Body ground	O – Body ground	Telephone voice signal (buletooth)	See ”microphone check”	–
VOI– (N4–13) – Body ground	W – Body ground	Telephone voice signal (buletooth)	See ”microphone check”	–
REV (N4 –14) – GND (N4 –17)	R–B – W–B	Reverse signal from combination meter	See ”Vehicle Signal Check Mode” (see page DI–175)	–
GND (N4 –17) – Body ground	W–B – Body ground	Ground	Always	Below 1 V
ACC (N4 –18) – GND (N4 –17)	GR – W–B	Accessory (ON)	Turn ignition switch OFF → ACC or ON	Below 1 V → 10 – 14 V
VR (N5 –1) – GND (N4 –17)	B – W–B	Video return signal	Turn ignition switch OFF	Below 1 V
R (N5 –2) – GND (N4 –17)	Y – W–B	Display signal (red)	Navigation display is on	Pulse generation *2
B (N5 –3) – GND (N4 –17)	R – W–B	Display signal (blue)	Navigation display is on	Pulse generation *2
TX+ (N5 –5) – GND (N4 –17)	P – W–B	AVC–LAN communication signal	Turn ignition switch to ACC	2 to 3 V
VG (N5 –6) – Body ground	Shielded – Body ground	Shielded ground	Always	Below 1 V
G (N5 –7) – GND (N4 –17)	W – W–B	Display signal (green)	Navigation display is on	Pulse generation *2

SYNC (N5 –8) – GND (N4 –17)	G – W–B	Display signal (synchronize)	Navigation display is on	Pulse generation* 1
TX– (N5–10) – GND (N4 –17)	L–B – W–B	AVC–LAN communication signal	Turn ignition switch to ACC	2 to 3 V
MIC+ (N7 –3) – GND (N4 –17)	B – W–B	Microphone voice signal	See "microphone check"	–
MIC– (N7–5) – GND (N4 –17)	W – W–B	Microphone voice signal	See "microphone check"	–

*1: LHD
*2: RHD

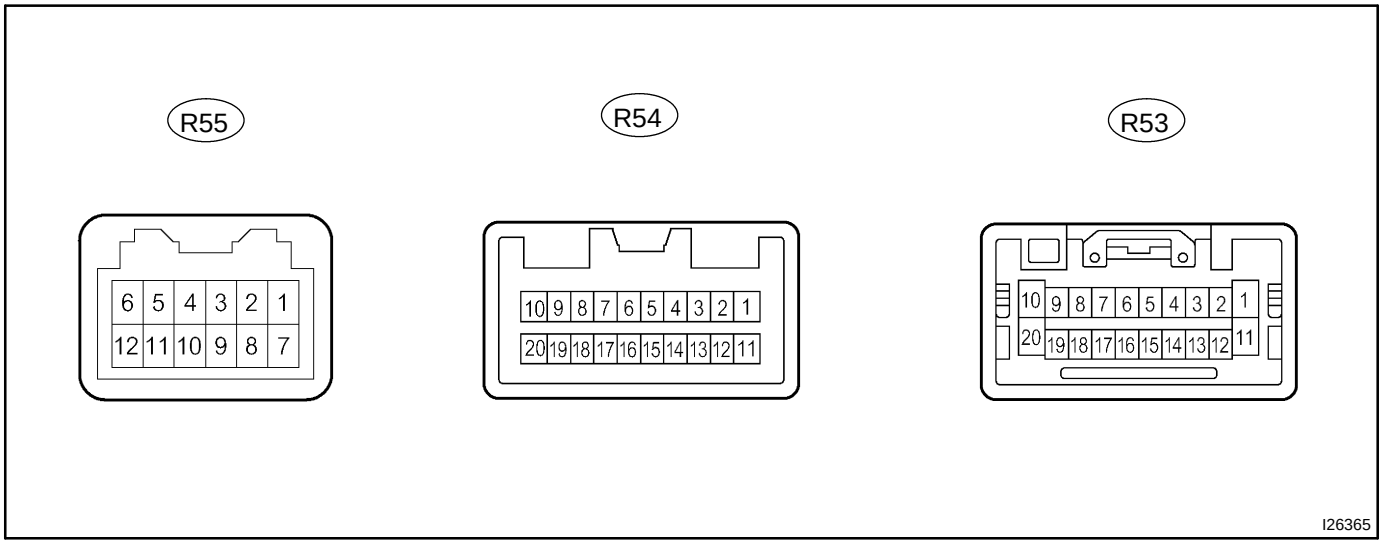


- *1: Oscilloscope wave
  Terminal to be measured: SYNC – GND1
  Setting for measurement: 500mV/DIV 10 μs/DIV
  Condition: Navigation display is displayed



- *2: Oscilloscope wave
  Terminal to be measured: R, G, B – GND1
  Setting for measurement: 200mV/DIV 10 μs/DIV
  Condition: Navigation map is switched.

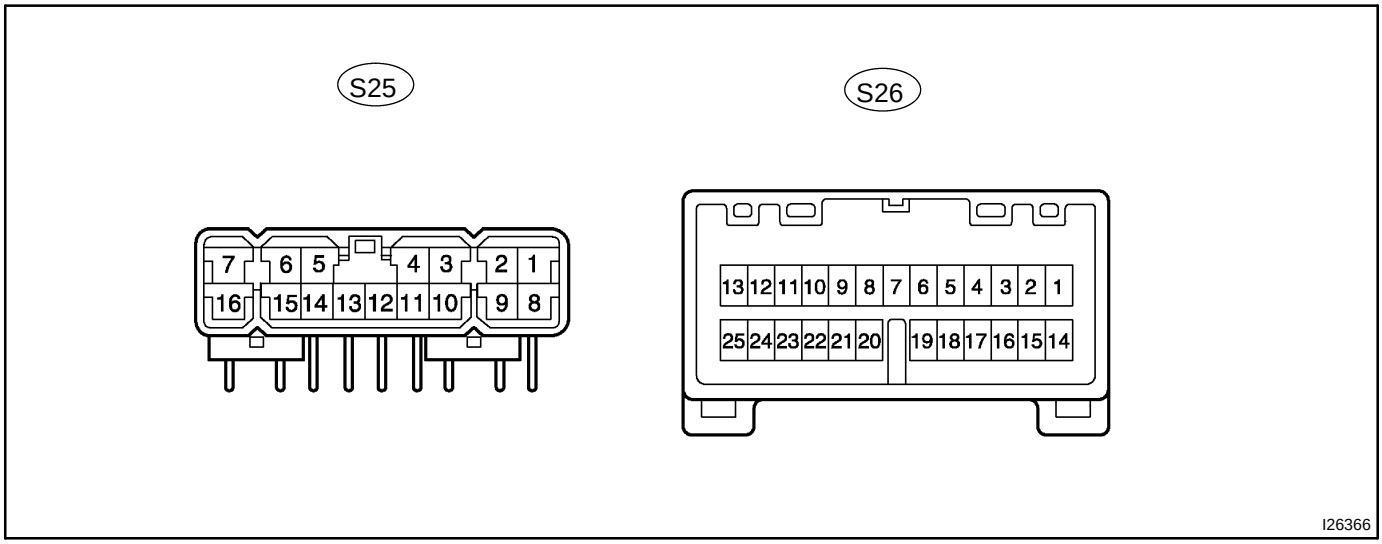
Radio receiver assembly



Symbols (Terminal No.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected. Problem symptoms when short circuit is detected.
BU ↔ GND (R53−1 ↔ R53−20)	Always	10 − 14 V	Audio system does not operate.
ILL+ ↔ GND (R53−2 ↔ R53−20)	Light control switch TAIL	10 − 14 V	Audio head unit illumination does not come on.
TX+ (R53−5)	AVC−LAN Communication circuit	−	Audio system does not operate.
MUTE ↔ GND (R53−7 ↔ R53−20)	−	−	−
R+ ↔ GND (R53−8 ↔ R53−20)	Always	10 − 14 V	Sound from right speaker is small
L+ ↔ GND (R53−9 ↔ R53−20)	Always	10 − 14 V	Sound from left speaker is small
ACC ↔ GND (R53−11 ↔ R53−20)	Ignition switch ACC	10 − 14 V	Audio system does not operate.
ILL− ↔ GND (R53−12 ↔ R53−20)	Light control switch TAIL	Below 0.5 V	Audio head unit illumination does not come on.
ANT ↔ GND (R53−13 ↔ R53−20)	Radio switch ON	10 − 14 V	Antenna does not extend.
TX− (R53−15)	AVC−LAN Communication circuit	−	Audio system does not operate.
R− ↔ GND (R53−18 ↔ R53−20)	Always	10 − 14 V	Sound from right side speaker is small.
L− ↔ GND (R53−19 ↔ R53−20)	Always	10 − 14 V	Sound from left side speaker is small.
GND ↔ Body ground (R53−20 ↔ Body ground)	Always	Continuity	Audio system is normal.
TX+ (R54−9)	Ignition Switch ACC	2 − 3 V	Navigation system does not operate.
TX− (R54−10)	Ignition Switch ACC	2 − 3 V	Navigation system does not operate.

R+ (R55−2)	−	−	Sound from right side speaker is small
R− (R55−3)	−	−	Sound from right side speaker is small
L+ (R55−4)	−	−	Sound from left side speaker is small
L− (R55−5)	−	−	Sound from left side speaker is small
MUTE (R55−6)	−	−	Pop sound etc.
			Speaker does not sound
TX+ (R55−9)	Ignition Switch ACC	2 − 3 V	Audio system does not operate.
TX− (R55−10)	Ignition Switch ACC	2 − 3 V	Audio system does not operate.

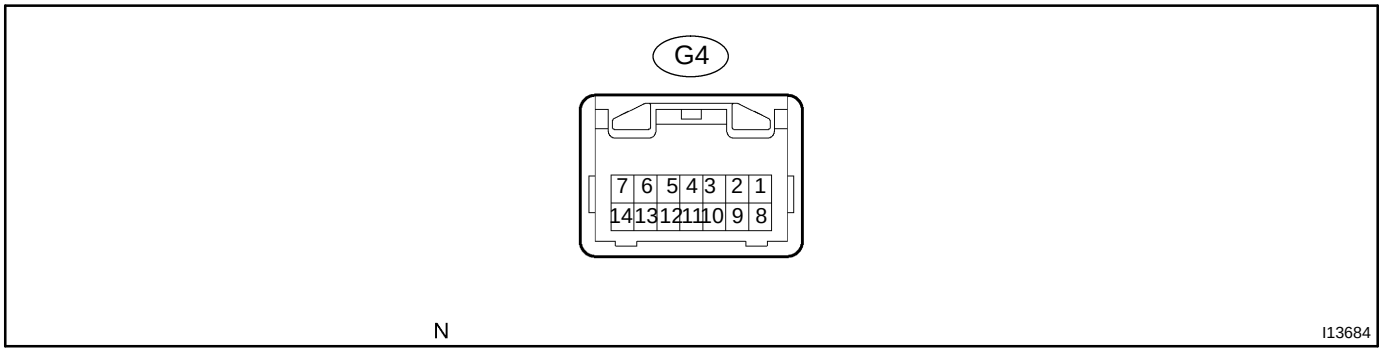
Stereo component amplifier



Symbols (Terminal No.)	Condition	STD Voltage (V)	Problem symptom when open circuit is detected.
FR+ ↔ E (S25−1 ↔ S25−12)	Radio switch ON	5 − 7 V	RH side speaker does not sound.
FL+ ↔ E (S25−2 ↔ S25−12)	Radio switch ON	5 − 7 V	LH side speaker does not sound.
RR+ ↔ E (S25−3 ↔ S25−12)	Radio switch ON	5 − 7 V	Rear RH side speaker does not sound.
RL+ ↔ E (S25−4 ↔ S25−12)	Radio switch ON	5 − 7 V	Rear LH side speaker does not sound.
WFR+ ↔ E (S25−5 ↔ S25−12)	Radio switch ON	5 − 7 V	Woofer speaker does not sound.
WFL+ ↔ E (S25−6 ↔ S25−12)	Radio switch ON	5 − 7 V	Woofer speaker does not sound.
+B ↔ E (S25−7 ↔ S25−12)	Always	10 − 14 V	All speakers do not sound
FR− ↔ E (S25−8 ↔ S25−12)	Radio switch ON	5 − 7 V	RH side speaker does not sound.
FL− ↔ E (S25−9 ↔ S25−12)	Radio switch ON	5 − 7 V	LH side speaker does not sound.
RR− ↔ E (S25−10 ↔ S25−12)	Radio switch ON	5 − 7 V	Rear RH side speaker does not sound.
RL− ↔ E (S25−11 ↔ S25−12)	Radio switch ON	5 − 7 V	Rear LH side speaker does not sound.
E ↔ Body ground (S25−12 ↔ Body ground)	Always	Continuity	−
GND2 ↔ Body ground (S25−13 ↔ Body ground)	Always	Continuity	−
WFR− ↔ E (S25−14 ↔ S25−12)	Radio switch ON	5 − 7 V	Woofer speaker does not sound.
WFL− ↔ E (S25−15 ↔ S25−12)	Radio switch ON	5 − 7 V	Woofer side speaker does not sound.
+B2 ↔ GND2 (S25−16 ↔ S25−13)	Always	10 − 14 V	All speakers do not sound

TX+ (S26−5)	Ignition switch ACC	2 − 3 V	Audio system does not operate.
N−MU ↔ E (S26−9 ↔ S25−12)	Radio switch ON	5 − 7 V	Audio system does not operate.
R+ ↔ E (S26−11 ↔ S25−12)	Always	10 − 14 V	Sound from RH speaker is small.
L+ ↔ E (S26−12 ↔ S25−12)	Always	10 − 14 V	Sound from LH speaker is small.
SPD − E (S26−13 − S25−12)	−	−	−
TX− (S26−18)	Ignition switch ACC	2 − 3 V	Audio system does not operate.
ACC ↔ E (S26−20 ↔ S25−12)	Ignition switch ACC	10 − 14 V	Audio system does not operate.
MUTE ↔ E (S26−21 ↔ S25−12)	Radio switch ON	5 − 7 V	Audio system does not operate.
ASGD ↔ E (S26−22 ↔ S25−12)	−	−	−
R− ↔ E (S26−23 ↔ S25−12)	Always	10 − 14 V	Sound from RH speaker is small.
L− ↔ E (S26−24 ↔ S25−12)	Always	10 − 14 V	Sound from LH speaker is small.

Gateway ECU:



Symbols (Terminals No.)	Wiring Color	Condition	STD Voltage (V)
IG ↔ GND (G4−2 ↔ G4−14	B−W ↔ W−B	Ignition switch ON.	10 − 14 V
MPD1 (G4−4)	B	Communication circuit (Gateway ECU and Center ECU)	−
GTX+ (G4−5)	P−L	Ignition switch ACC	2 − 3 V
CG ↔ Body ground (G4−7 ↔ Body ground)	BR ↔ Body ground	Always	Continuity
BATT ↔ GND (G4−8 ↔ G4−14)	L−W ↔ W−B	Always	10 − 14 V
MPD2 (G4−11)	P−B	Communication circuit (Gateway ECU and Center ECU)	−
GTX− (G4−12)	P−B	Ignition switch ACC	2 − 3 V
GND ↔ Body ground (G4−14 ↔ Body ground)	W−B ↔ Body ground	Always	Continuity