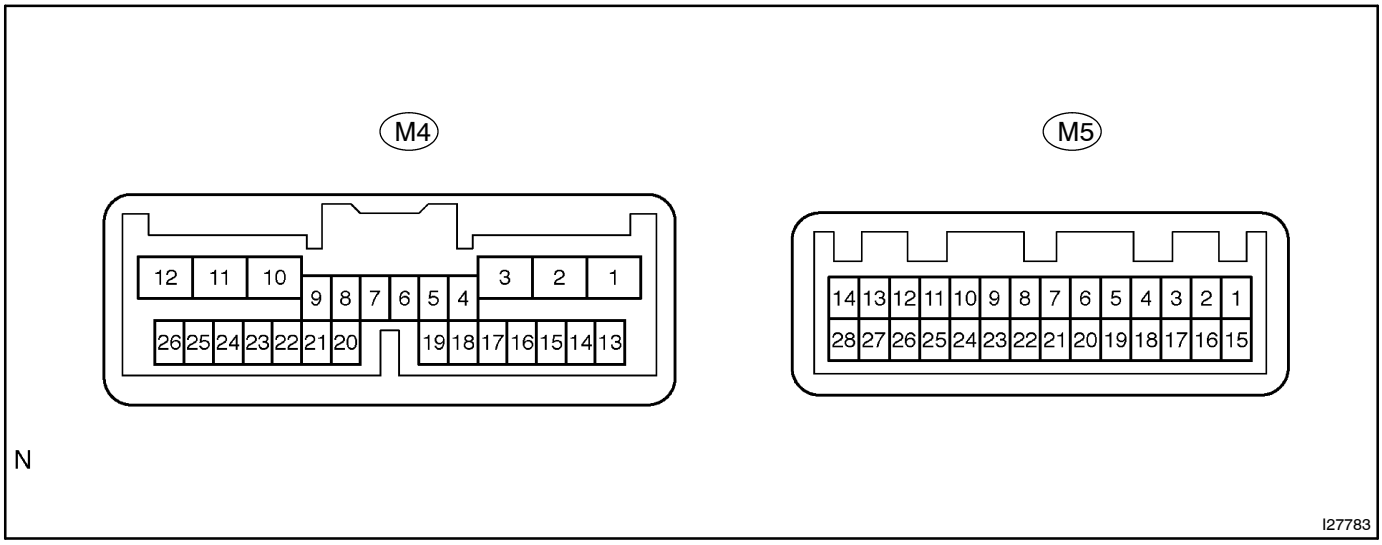
DICM9–01

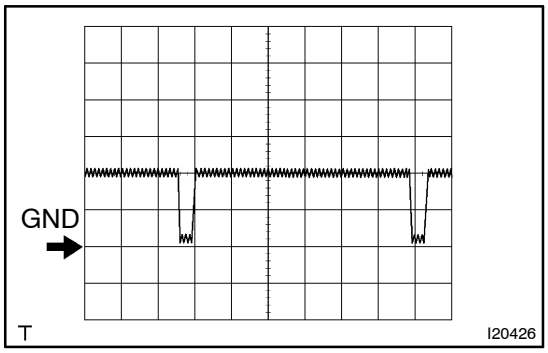
TERMINALS OF ECU

Multi–display:

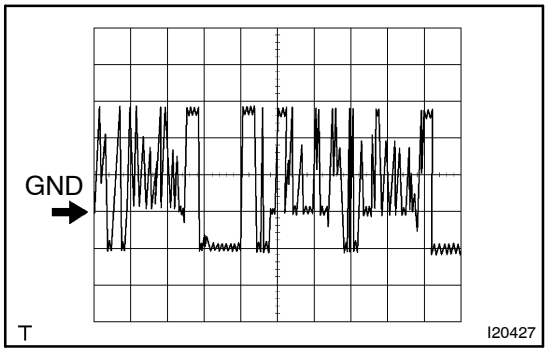


Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specification
GND1 (M4–3) – Body ground	W–B – Body ground	Ground	Always	Below 1 V
TX1+ (M4–4) – GND1 (M4–3)	P – W–B	AVC–LAN communication signal	Turn ignition switch to ON	2 to 3 V
TX1– (M4–5) – GND1 (M4–3)	L–B – W–B	AVC–LAN communication 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

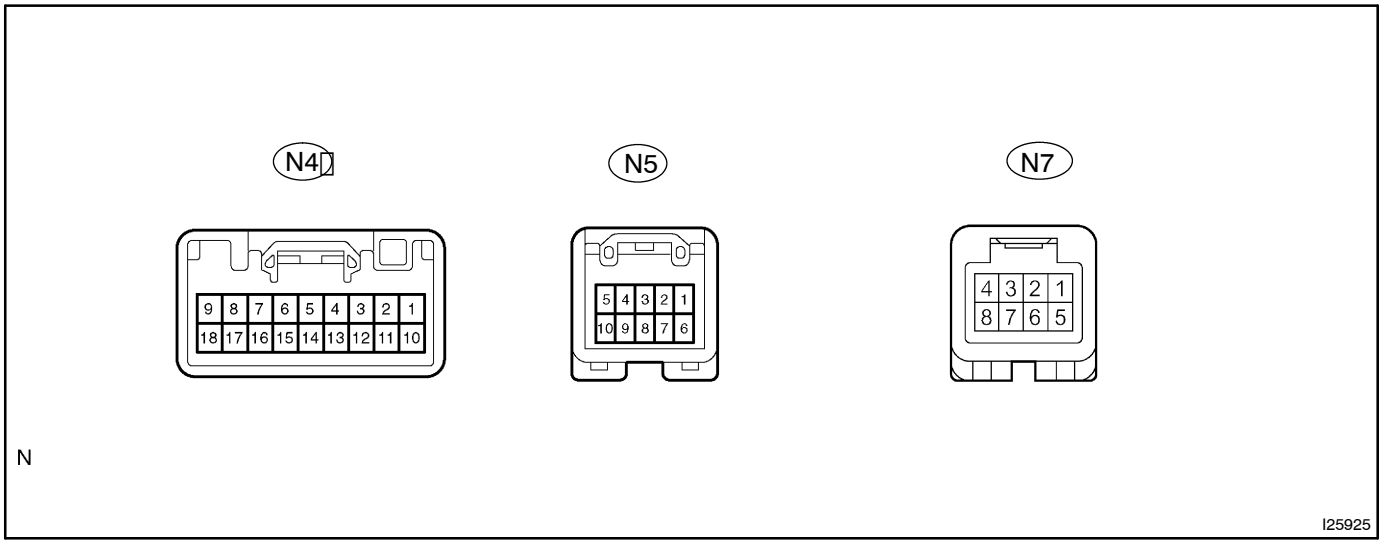


- *1: Oscilloscope wave
  Terminal to be measured: SYNC – GND1
  Setting for measurement: 500 mV/DIV10 μs/DIV
  Condition: Navigation display is displayed.



- *2: Oscilloscope wave
  Terminal to be measured: R, G, B – GND1
  Setting for measurement: 200 mV/DIV10 μs/DIV
  Condition: Navigation map is switched.

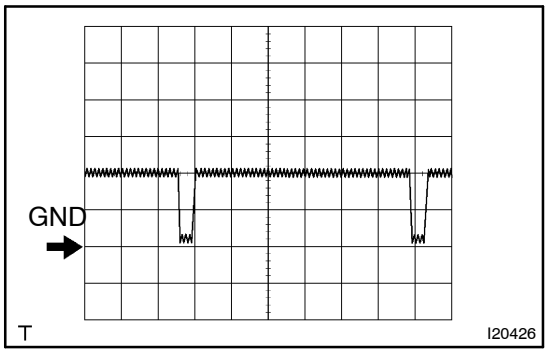
Navigation ECU



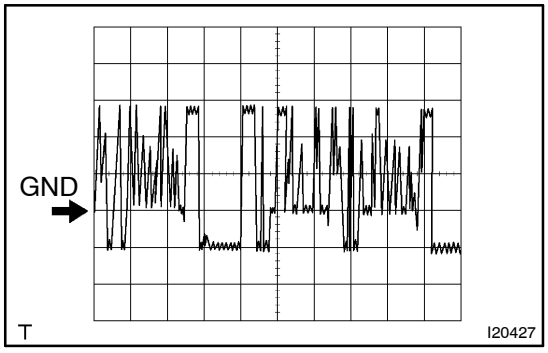
Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	Specification
AUI+ (N4–1) – GND (N4–17)	P – W–B*1 LG – W–B*2	Sound signal (input)	Audio system is playing	–
AUO+ (N4–2) – GND (N4–17)	P – W–B*1 LG – W–B*2	Sound signal (output)	Audio system is playing	–
SLD1 (N4–3) – Body ground	Shielded – 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

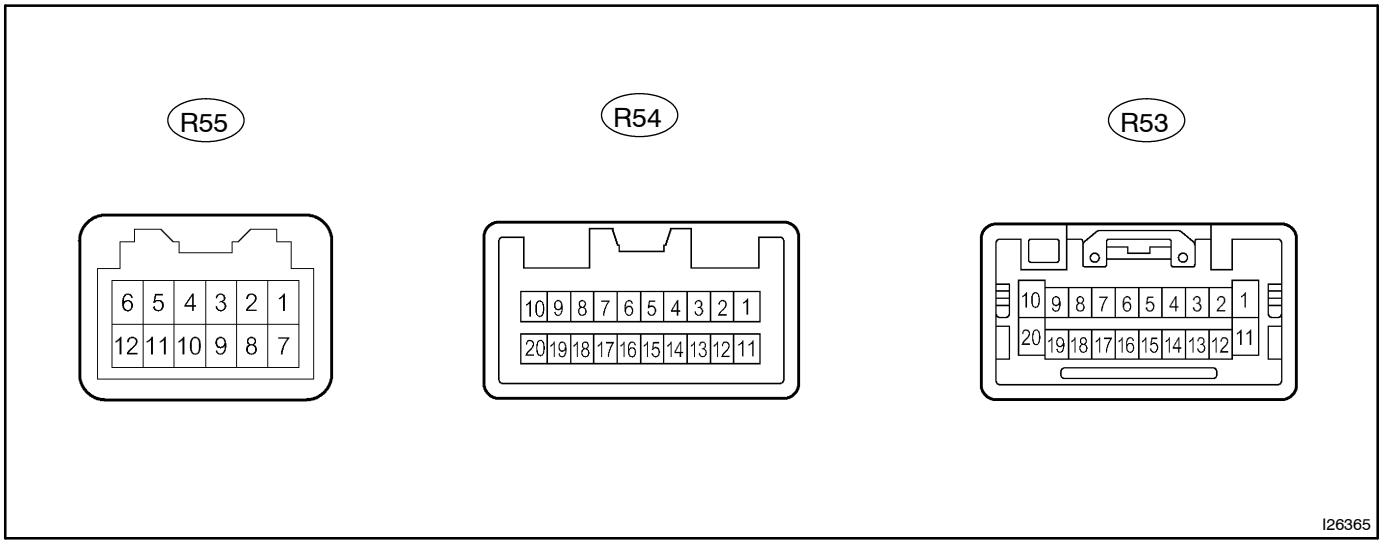


- *1: Oscilloscope wave
  Terminal to be measured: SYNC – GND1
  Setting for measurement: 500mV/DIV 10 μs/DIV
  Condition: Navigation display is displayed



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

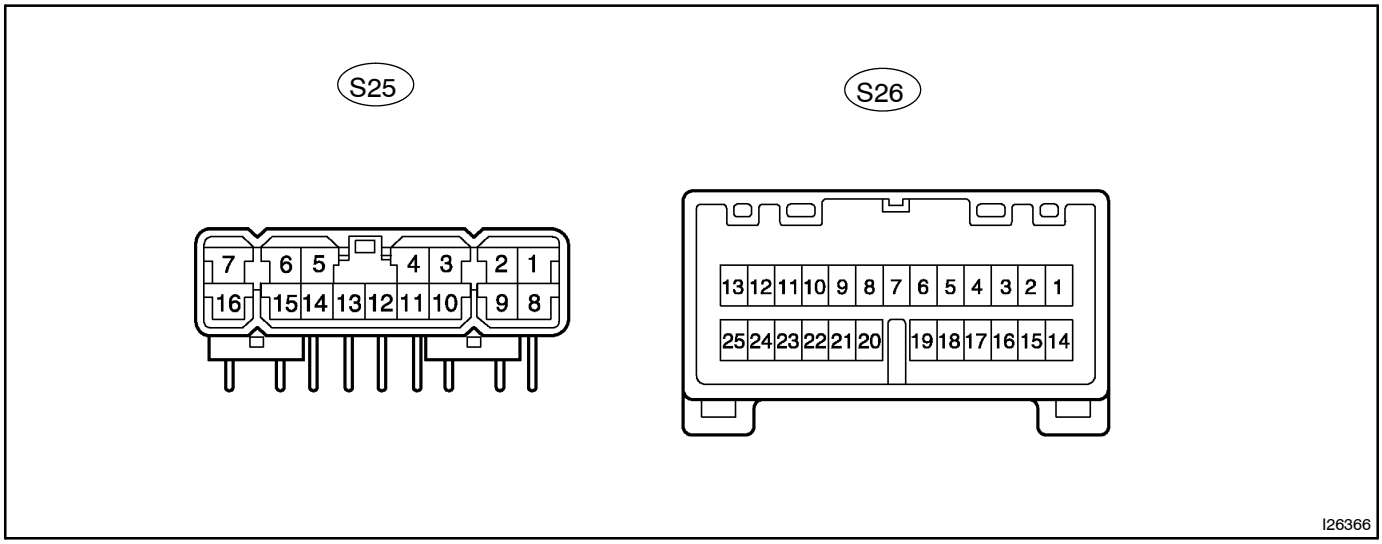
Radio receiver assembly



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.

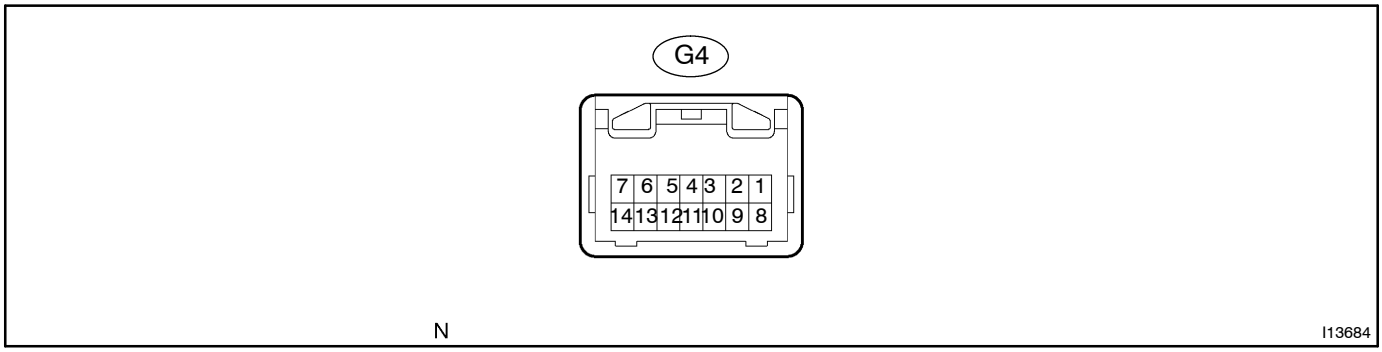
Stereo component amplifier



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