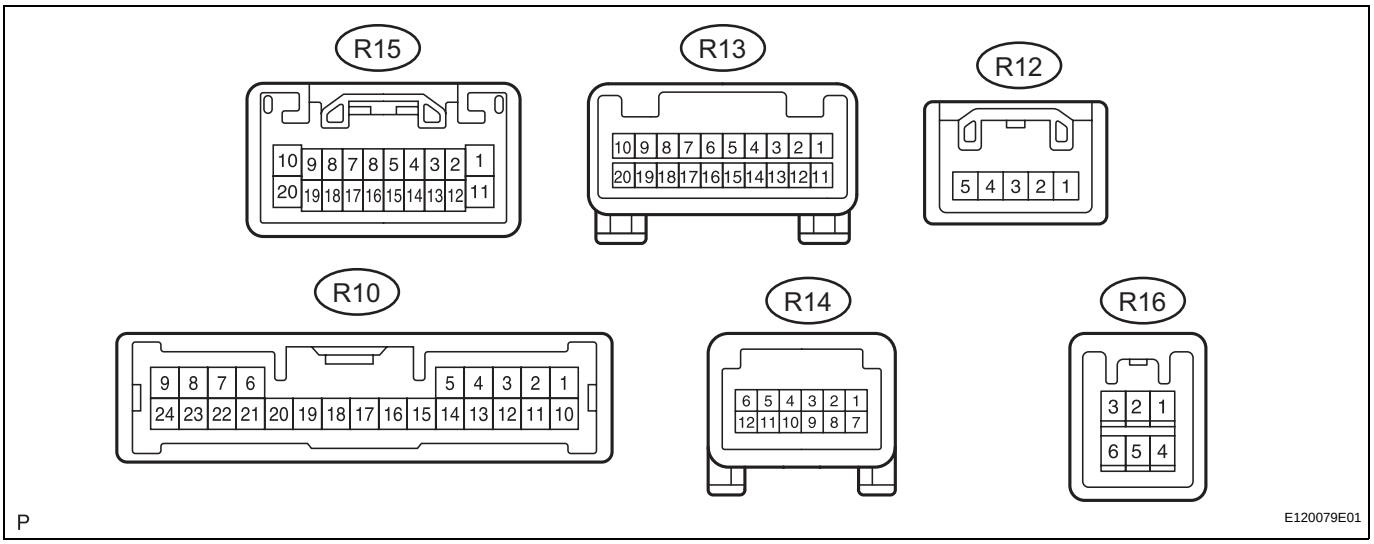
TERMINALS OF ECU

1. RADIO AND NAVIGATION ASSEMBLY

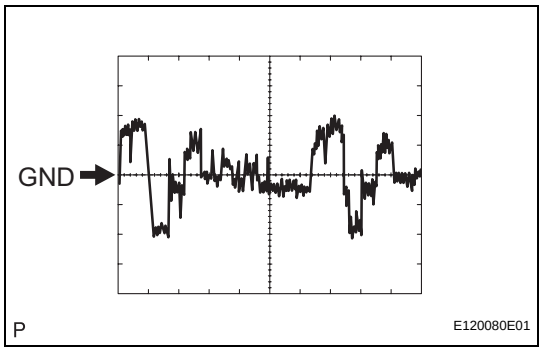


Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specification
PKB (R12-1) - GND (R15-20)	R-W - W-B	Parking brake signal	See "Vehicle Signal Check" (See page NS-22)	-
SPD (R12-3) - GND (R15-20)	V-W - W-B	Speed signal from combination meter	See "Vehicle Signal Check" (See page NS-22)	-
REV (R12-5) - GND (R15-20)	R-B - W-B	Reverse signal	See "Vehicle Signal Check" (See page NS-22)	-
SWG (R13-6) - Body ground	Y - Body ground	Steering pad switch signal	Always	Below 1 V
SW1 (R13-7) - SWG (R13-6)	LG - Y	Steering pad switch signal	No switch is pushed → SEEK+ switch pushed → SEEK- switch pushed → VOL+ switch pushed → VOL- switch pushed	4 V or more → Approx. 0.5 V → Approx. 0.9 V → Approx. 2.0 V → Approx. 3.4 V
SW2 (R13-8) - SWG (R13-6)	L - Y	Steering pad switch signal	No switch is pushed → MODE switch pushed → ON HOOK switch pushed → OFF HOOK switch pushed → VOICE switch pushed	4 V or more → Approx. 0.5 V → Approx. 0.9 V → Approx. 2.0 V → Approx. 3.4 V
IVO+ (R13-11) - GND (R15-20)	R - W-B	Voice guidance signal	Voice guidance is provided	A waveform synchronized with sounds is output
IVO- (R13-12) - GND (R15-20)	G - W-B	Voice guidance signal	Voice guidance is provided	A waveform synchronized with sounds is output
SLD1 (R13-13) - Body ground	Shielded - Body ground	Voice sound signal shielded ground	Always	Below 1 V
CSLD (R14-1) - Body ground (*1)	Shielded - Body ground	Shielded ground	Always	Below 1 V
CDR+ (R14-2) - GND (R15-20) (*1)	B - W-B	RSE system sound signal	RSE system is playing	A waveform synchronized with sounds is output
CDR- (R14-3) - GND (R15-20) (*1)	W - W-B	RSE system sound signal	RSE system is playing	A waveform synchronized with sounds is output
CDL+ (R14-4) - GND (R15-20) (*1)	R - W-B	RSE system sound signal	RSE system is playing	A waveform synchronized with sounds is output

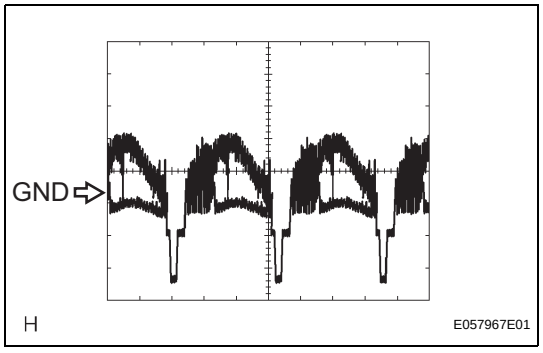
Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specification
CDL- (R14-5) - GND (R15-20) (*1)	G - W-B	RSE system sound signal	RSE system is playing	A waveform synchronized with sounds is output
MUTE (R14-6) - GND (R15-20) (*1)	R-W - W-B	Mute signal	RSE system is playing→ Source is changed with remote controller (signal from RSE system)	Above 3.5 V → Below 1 V
TXM+ (R14-9) - GND (R15-20) (*1)	P - W-B	AVC-LAN communication signal	Turn ignition switch to ACC	2 to 3 V
TXM- (R14-10) - GND (R15-20) (*1)	V -W-B	AVC-LAN communication signal	Turn ignition switch to ACC	2 to 3 V
B (R15-1) - GND (R15-20)	L-Y - W-B	Battery	Always	10 to 14 V
ILL+ (R15-2) - GND (R15-20)	G - W-B	Illumination signal	Turn ignition switch ON Light control switch OFF → TAIL or ON	Below 1V → 10 to 14 V
ATX+ (R15-5) - GND (R15-20)	LG-B - W-B	AVC-LAN communication signal	Turn ignition switch to ACC	2 to 3 V
MUTE (R15-7) - GND (R15-20)	GR-B - W-B	Mute signal	Audio system is playing→ Changing	Above 3.5 V → Below 1 V
R+ (R15-8) - GND (R15-20)	W - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
L+ (R15-9) - GND (R15-20)	G - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
SLD (R15-10) - Body ground	Shielded - Body ground	Shielded ground	Always	Below 1 V
ACC (R15-11) - GND (R15-20)	GR - W-B	Accessory (ON)	Turn ignition switch OFF→ ACC or ON	Below 1 V → 10 to 14 V
ILL- (R15-12) - GND (R15-20)	W-G - W-B	Illumination signal	Turn ignition switch ON Light control switch OFF → TAIL or ON	Below 1 V →10 to 14 V
ANT (R15-13) - GND (R15-20)	P-L - W-B	Power source of antenna	Radio switch ON and AM or FM	10 to 14 V
ATX- (R15-15) - GND (R15-20)	LG-R - W-B	AVC-LAN communication signal	Turn ignition switch to ACC	2 to 3 V
R- (R15-18) - GND (R15-20)	B - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
L- (R15-19) - GND (R15-20)	R - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
GND (R15-20) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
MIC+ (R10-19) - GND (R15-20)	B - W-B	Microphone voice signal	See "Microphone Check" (See page NS-27)	-
MIC- (R10-20) - Body ground	W - Body ground	Microphone voice signal	See "Microphone Check" (See page NS-27)	-
MACC (R10-17) - GND (R15-20)	R - W-B	Microphone AMP power supply	Turn ignition switch OFF → ON	Below 1 V → 5 V
TSW- (R10-12) - GND (R15 -20)	W-B - W-B	Telephone relation switch signal	Always	Below 1 V
SGND (R10-18) - GND (R15-20)	W-B - W-B	Ground	Always	Below 1 V
CA+ (R10-24) - GND (R15-20)	R - W-B	Television camera power supply	Turn ignition switch ON, shift lever in R position	Approx. 6 V
CGND (R10-21) - Body ground	W - Body ground	Ground	Always	Below 1 V
V+ (R10-22) - CGND (R10-21)	B - W	Television camera image signal	Turn ignition switch ON, shift lever in R position	Pulse generation (Refer to waveform 2)
V- (R10-23) - CGND (R10-21)	Shielded - W	Shielded ground	Always	Below 1 V

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specification
VV+ (R16-1) - GND (R15-20) (*1)	Y - W-B	Display signal	DVD is played on radio and navigation assembly	A waveform synchronized with display signals is output. (Refer to waveform 1)
VV- (R16-4) - Body ground (*1)	BR - Body ground	Ground	Always	Below 1 V
VAR+ (R16-2) - GND (R15-20)	P - W-B	Sound signal (Right)	External device is playing (When stereo jack is used)	A waveform synchronized with sounds is output
VAL+ (R16-3) - GND (R15-20)	L - W-B	Sound signal (Left)	External device is playing (When stereo jack is used)	A waveform synchronized with sound is output
VA- (R16-5) - Body ground	BR - Body ground	Shielded ground	Always	Below 1 V
ADPG (R16-6) - GND (R15-20)	G - W-B	External device connection detection signal	External device is connection	Below 1 V

*1: with Rear Seat Entertainment System



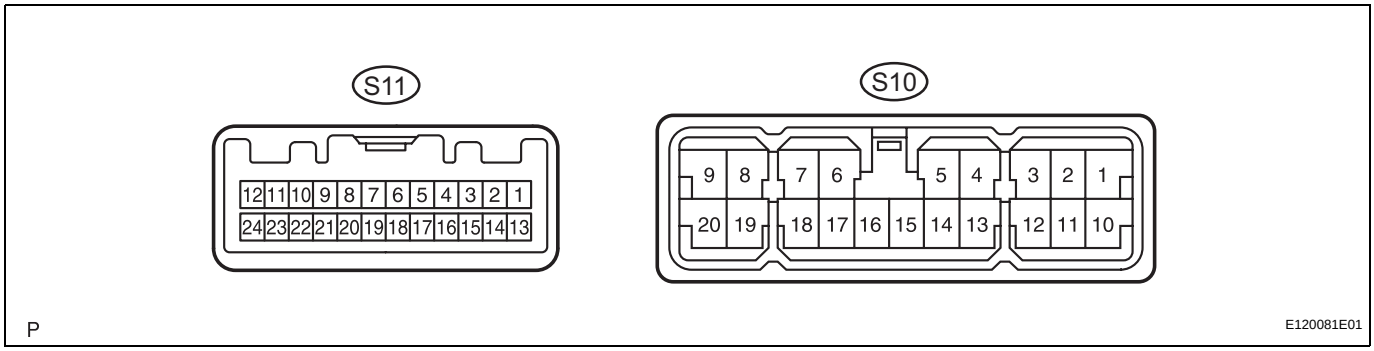
(a) Reference: waveform 1
HINT:
- Terminal: VV+ - VV-
- Gauge set: 200 mV/DIV, 10 μs/DIV
- Condition: DVD is played on radio and navigation assembly



(b) Reference: waveform 2
HINT:
- Terminal: V+ - CGND
- Gauge set: 0.2 V/DIV, 0.2μs/DIV
- Condition: Ignition switch: ON, shift lever: R position

NS

2. STEREO COMPONENT AMPLIFIER



Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
MUTE (S11-1) - GND2 (S10-15)	GR-B - W-B	Mute signal from radio receiver	Audio system is playing → Changing	Above 3.5 V → Below 1 V
L- (S11-2) - GND2 (S10-15)	R - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
L+ (S11-3) - GND2 (S10-15)	G - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
R- (S11-4) - GND2 (S10-15)	B - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
R+ (S11-5) - GND2 (S10-15)	W - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
TX- (S11-7) - GND2 (S10-15)	LG-R - W-B	AVC-LAN communication signal	Turn ignition switch to ACC	2 to 3 V
TX+ (S11-8) - GND2 (S10-15)	LG-B - W-B	AVC-LAN communication signal	Turn ignition switch to ACC	2 to 3 V
SPD (S11-11) - GND2 (S10-15)	V-W - W-B	Speed signal from combination meter	Turn ignition switch to ON. Drive wheels are turned slowly	Pulse generation
ACC (S11-12) - GND2 (S10-15)	GR - W-B	Accessory (ON)	Turn ignition switch OFF → ACC	Below 1 V → 10 to 14 V
INT- (S11-22) - GND2 (S10-15)	G - W-B	Voice guidance signal	Voice guidance is provided	A waveform synchronized with sounds is output
INT+ (S11-23) - GND2 (S10-15)	R - W-B	Voice guidance signal	Voice guidance is provided	A waveform synchronized with sounds is output
B+ (S10-1) - GND2 (S10-15)	L-R - W-B	Battery	Always	10 to 14 V
SUR+ (S10-2) - GND2 (S10-15)	W - W-B	Sound signal (Rear stereo component)	Audio system is playing	A waveform synchronized with sounds is output
CTR+ (S10-3) - GND2 (S10-15)	L-B - W-B	Sound signal (Front Center)	Audio system is playing	A waveform synchronized with sounds is output
RL+ (S10-4) - GND2 (S10-15)	B - W-B	Sound signal (Rear Left)	Audio system is playing	A waveform synchronized with sounds is output
RR+ (S10-5) - GND2 (S10-15)	R - W-B	Sound signal (Rear Right)	Audio system is playing	A waveform synchronized with sounds is output
FL+ (S10-6) - GND2 (S10-15)	P - W-B	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
FR+ (S10-7) - GND2 (S10-15)	LG - W-B	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
WF2+ (S10-8) - GND2 (S10-15)	R-L - W-B	Sound signal (Woofer Box)	Audio system is playing	A waveform synchronized with sounds is output
WF1+ (S10-9) - GND2 (S10-15)	L-Y - W-B	Sound signal (Woofer Box)	Audio system is playing	A waveform synchronized with sounds is output
B2+ (S10-10) - GND2 (S10-15)	L-R - W-B	Battery	Always	10 to 14 V
SUR- (S10-11) - GND2 (S10-15)	L - W-B	Sound signal (Rear stereo component)	Audio system is playing	A waveform synchronized with sounds is output
CTR- (S10-12) - GND2 (S10-15)	L-R - W-B	Sound signal (Front Center)	Audio system is playing	A waveform synchronized with sounds is output
RL- (S10-13) - GND2 (S10-15)	Y - W-B	Sound signal (Rear Left)	Audio system is playing	A waveform synchronized with sounds is output

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
RR- (S10-14) - GND2 (S10-15)	W - W-B	Sound signal (Rear Right)	Audio system is playing	A waveform synchronized with sounds is output
GND2 (S10-15) - Body ground	W-B - Body Ground	Ground	Always	Below 1 V
GND (S10-16) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
FL- (S10-17) - GND2 (S10-15)	V - W-B	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
FR- (S10-18) - GND2 (S10-15)	L- W-B	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
WF2- (S10-19) - GND2 (S10-15)	W-L - W-B	Sound signal (Woofer Box)	Audio system is playing	A waveform synchronized with sounds is output
WF1- (S10-20) - GND2 (S10-15)	L-W - W-B	Sound signal (Woofer Box)	Audio system is playing	A waveform synchronized with sounds is output

3. TELEVISION DISPLAY ASSEMBLY (See page AV-159)