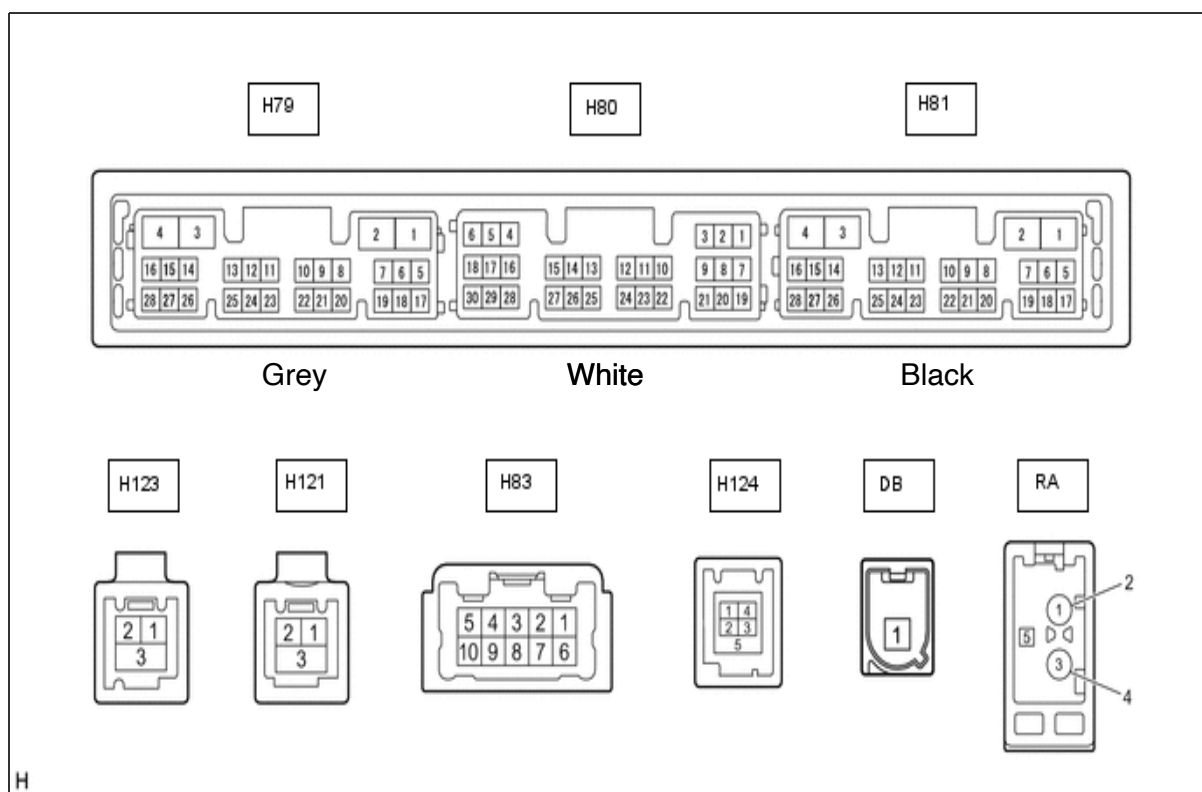


NAVIGATION SYSTEM TERMINALS OF ECU

Tip

Check from the rear of the connector while it is connected to the components.

1. RADIO AND DISPLAY RECEIVER ASSEMBLY



Terminal No. (Symbol)	Terminal Description	Condition	Specified Condition
H83-1 (FR+) - H79-1 (GND1)	Sound signal (Front right)	Audio system playing	A waveform synchronized with sound signals is output
H83-2 (FL+) - H79-1 (GND1)	Sound signal (Front left)	Audio system playing	A waveform synchronized with sound signals is output
H83-3 (RL+) - H79-1 (GND1)*1	Sound signal (Rear left)	Audio system playing	A waveform synchronized with sound signals is output

H83-4 (RR+) - H79-1 (GND1)*1	Sound signal (Rear right)	Audio system playing	A waveform synchronized with sound signals is output
H83-6 (FR-) - H79-1 (GND1)	Sound signal (Front right)	Audio system playing	A waveform synchronized with sound signals is output
H83-7 (FL-) - H79-1 (GND1)	Sound signal (Rear left)	Audio system playing	A waveform synchronized with sound signals is output
H83-8 (RL-) - H79-1 (GND1)*1	Sound signal (Rear left)	Audio system playing	A waveform synchronized with sound signals is output
H83-9 (RR-) - H79-1 (GND1)*1	Sound signal (Rear right)	Audio system playing	A waveform synchronized with sound signals is output
H79-1 (GND1) - Body ground	Ground	Always	Below 1 V
H79-4 (+B1) - H79-1 (GND1)	Power source (+B)	Ignition switch off	11 to 14 V
H79-15 (ACC1) - H79-1 (GND1)	Power source (ACC)	Ignition switch off	Below 1 V
		Ignition switch ACC	11 to 14 V
H79-21 (SW1) - H79-24 (SWG)	Steering pad switch signal	No switch pushed	2.97 to 3.56 V
		Seek+ switch pushed	0.27 to 0.35 V
		Seek- switch pushed	0.86 to 1.03 V
		Volume+ switch pushed	1.51 to 1.79 V
		Volume- switch pushed	2.22 to 2.66 V

H79-22 (SW2) - H79-24 (SWG)	Steering pad switch signal	No switch pushed	2.97 to 3.56 V
		MODE switch pushed	0.27 to 0.35 V
		On/off hook switch pushed	1.51 to 1.79 V
		Voice switch pushed	2.22 to 2.66 V
H79-24 (SWG) - H79-1 (GND1)	Steering pad switch ground	Always	Below 1 V
H79-27 (SPD) - H79-1 (GND1)	Vehicle speed signal	See "Check Vehicle Signal" in Operation Check Click here	-
H79-28 (REV) - H79-1 (GND1)	Reverse signal	See "Check Vehicle Signal" in Operation Check Click here	-
H80-5 (CNH1)	Local bus communication signal	-	-
H80-6 (CNL1)	Local bus communication signal	-	-
H80-13 (CANH)	CAN communication signal	-	-
H80-14 (CANL)	CAN communication signal	-	-
H80-15 (ILL+) - H79-1 (GND1)	Illumination signal	Light control switch off	Below 1 V
		Light control switch in tail or head position	11 to 14 V
H80-19 (IG) - H79-1		Ignition switch off	Below 1 V

(GND1)	Power source (IG)	Ignition switch ON	11 to 14 V
H80-20 (PKB) - H79-1 (GND1)	Parking brake signal	See "Check Vehicle Signal" in Operation Check Click here	-
H80-21 (MIN+) - H79-1 (GND1)	Microphone voice signal	See "Check Microphone" in Operation Check Click here	-
H80-22 (MIN-) - H79-1 (GND1)	Microphone voice signal	See "Check Microphone" in Operation Check Click here	-
H80-23 (MACC) - H79-1 (GND1)	Microphone power supply	Ignition switch off	Below 1 V
		Ignition switch ACC	4 to 6 V
H80-24 (SGND) - Body ground	Shield ground	Always	Below 1 V
H80-25 (SNS2) - H79-1 (GND1)	Microphone connection detection signal	Always	Below 1 V
H80-26 (CSLD) - Body ground*2	Shield ground	Always	Below 1 V
H80-27 (CGND) - Body ground*2	Camera ground	Always	Below 1 V
H80-28 (V+) - H79-1 (GND1)*2	Video signal	Ignition switch ON Shift lever in R Camera lens not covered, displaying an image	Pulse generation (Refer to waveform 1)
		Ignition switch ON Shift lever in R	Pulse generation

		Camera lens covered, blacking out screen	(Refer to waveform 2)
H80-29 (V-) - H79-1 (GND1)*2	Ground	Always	Below 1 V
H80-30 (CA+) - H79-1 (GND1)*2	Rear television camera assembly power supply	Ignition switch ACC	5.5 to 7.05 V
H81-7 (SUP) - H79-1 (GND1)	Start up signal	20 seconds elapse after turning the ignition switch ACC	11 to 14 V
H81-19 (RST)*3	-	-	-
H81-22 (SI+) - H79-1 (GND1)	Voice signal	Voice guidance sounding	A waveform synchronized with sound is output
H81-23 (SI-) - H79-1 (GND1)	Voice signal	Voice guidance sounding	A waveform synchronized with sound is output
H81-24 (SGND) - H79-1 (GND1)	Shield ground	Always	Below 1 Ω
H81-25 (MCO+) - H81-26 (MCO-)	Microphone voice signal	See "Check Microphone (DCU)" in Operation Check Click here	-
H81-26 (MCO-) - H79-1 (GND1)	Microphone voice signal	See "Check Microphone (DCU)" in Operation Check Click here	-
H81-28 (REV2) - H79-1 (GND1)	Reverse signal	Engine running, shift lever not in R → in R	2 V or less → 11 to 14 V
H121-1 (GV2-)	Video signal (Digital)	-	-

H121-2 (GV2+)	Video signal (Digital)	-	-
H121-3 (GVG2) - Body ground	Shield ground	Always	Below 1 Ω
H123-1 (US4+)	USB communication line	-	-
H123-2 (US4-)	USB communication line	-	-
H123-3 (UGD4) - Body ground	Shield ground	Always	Below 1 Ω
H124-1 (USV1)	Power source	-	-
H124-2 (US1-)	Data signal	-	-
H124-3 (US1+)	Data signal	-	-
H124-4 (USD1)	Ground	-	-
H124-5 (USG1)	Shield ground	-	-
RA-5 (ANT+) -H79-1 (GND1)	Power source of antenna	Ignition switch ACC Radio switch on and FM or AM selected	11 to 14 V

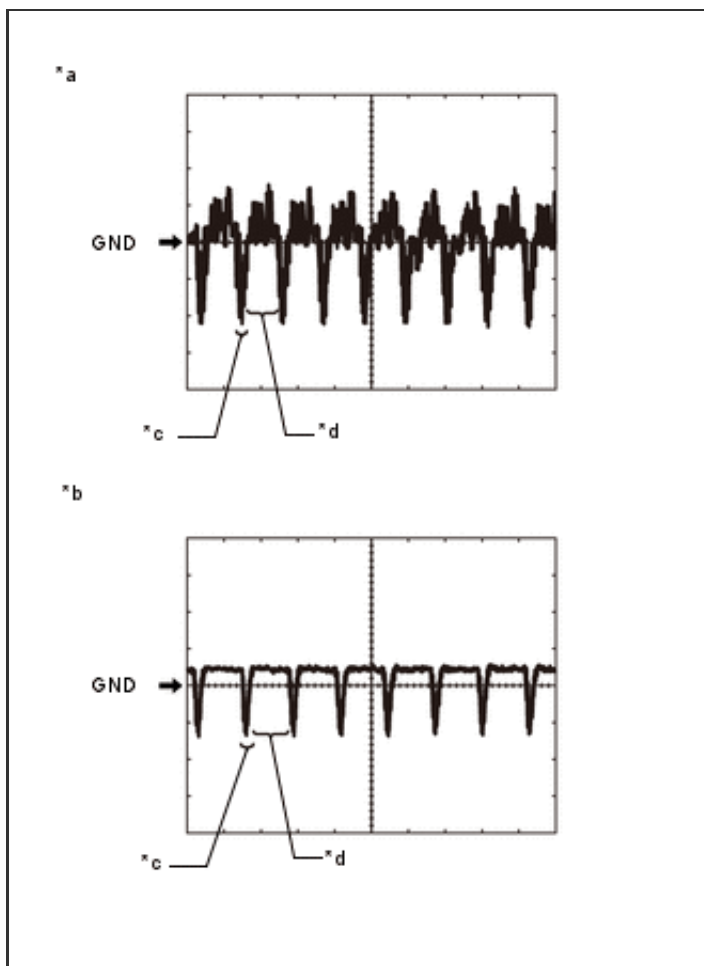
*1: for 6 Speakers

*2: w/ Parking Assist Monitor System

*3: Terminal exists but is not used

a. Reference (Oscilloscope waveform): (w/ Parking Assist Monitor System)

i. Waveform 1 (camera lens not covered, displaying an image)



*a	Waveform 1 (camera lens not covered, displaying an image)
*b	Waveform 2 (camera lens covered, blacking out the screen)
*c	Synchronization Signal
*d	Video Waveform

Item	Content
Measurement terminal	H80-28 (V+) - H80-29 (V-)
Measurement setting	200 mV/DIV., 50 μ s/DIV.
Condition	Ignition switch ON, shift lever in R

Tip

- The video waveform changes according to the image sent by the rear television camera assembly.
- The video waveform is constantly output when the ignition switch is turned to ACC.

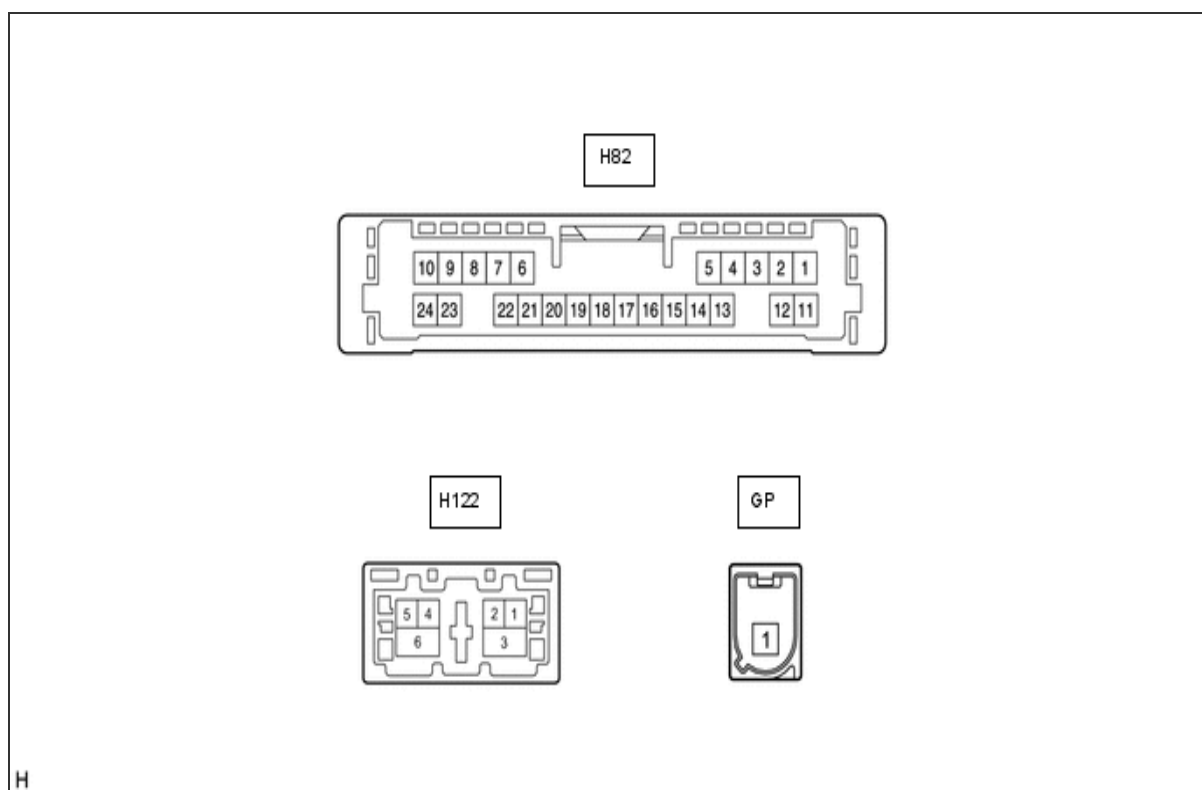
ii. Waveform 2 (camera lens covered, blacking out the screen)

Item	Content
Measurement terminal	H80-28 (V+) - H80-29 (V-)
Measurement setting	200 mV/DIV., 50 μ s/DIV.
Condition	Ignition switch ON, shift lever in R

Tip

- The video waveform changes according to the image sent by the rear television camera assembly.
- The video waveform is constantly output when the ignition switch is turned to ACC.

2. NAVIGATION ECU



Terminal No. (Symbol)	Terminal Description	Condition	Specified Condition
H82-6 (VOI+) - H82-23 (GND)	Voice signal	Voice guidance sounding	A waveform synchronized with sound is output
H82-7 (VOI-) - H82-23 (GND)	Voice signal	Voice guidance sounding	A waveform synchronized with sound is output
H82-8 (SLD1) - Body ground	Shield ground	Always	Below 1 Ω
H82-9 (SPD) - H82-23 (GND)	Vehicle speed signal	See "Check GPS and Vehicle Sensors" in Operation Check Click here	-
H82-10 (+B) - H82-23 (GND)	Power source (+B)	Ignition switch off	11 to 14 V
H82-13 (MIC+) - H82-23 (GND)	Microphone voice signal	See "Microphone Check (MEU)" in Operation Check Click here	-
H82-14 (MIC-) - Body ground	Microphone voice signal	See "Microphone Check (MEU)" in Operation Check Click here	-
H82-19 (REV2) - H82-23(GND)	Reverse signal	Engine running, shift lever not in R → in R	2 V or less → 11 to 14 V
H82-21 (SUP) - H82-23 (GND)	Power source (ACC)	20 seconds elapse after turning the ignition switch to ACC	11 to 14 V
H82-22 (RST)*	-	-	-
H82-23 (GND) - Body ground	Ground	Always	Below 1 Ω

H122-1 (GVO-)	Video signal (Digital)	-	-
H122-2 (GVO+)	Video signal (Digital)	-	-
H122-3 (GVG1) - Body ground	Shield ground	Always	Below 1 Ω
H122-4 (US4+)	USB communication line	-	-
H122-5 (US4-)	USB communication line	-	-
H122-6 (UGD4) - Body ground	Shield ground	Always	Below 1 Ω

*: Terminal exists but is not used

3. COMBINATION METER ASSEMBLY

[Click here](#)

4. HEADUP DISPLAY (METER MIRROR SUB-ASSEMBLY) (w/ Headup Display System)

[Click here](#)

5. REAR TELEVISION CAMERA ASSEMBLY (w/ Parking Assist Monitor System)

[Click here](#)