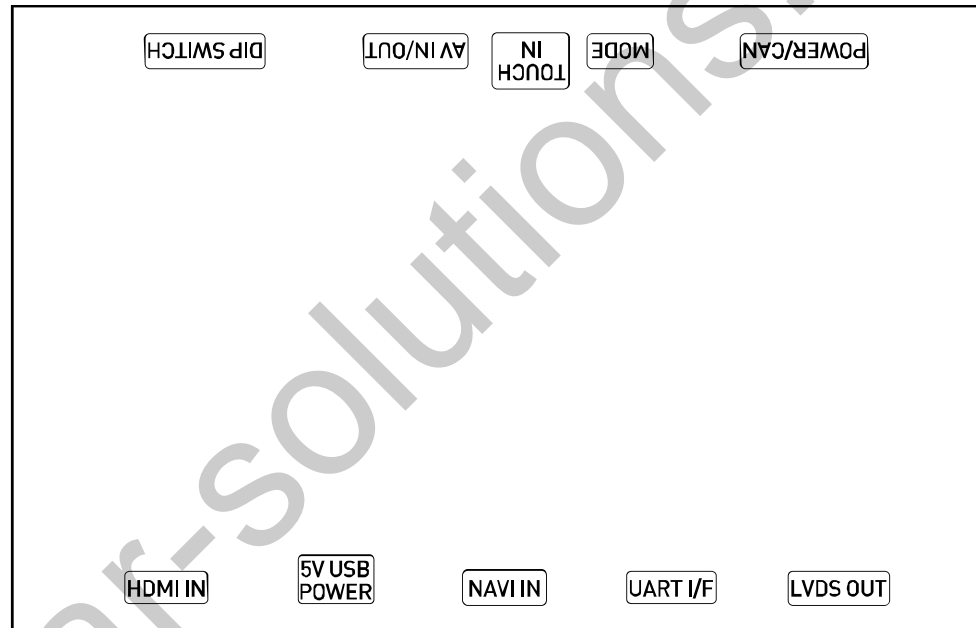


Instruction Manual

Release Date: 2016 - 06 - 27

High-Definition Link for VOLVO



Latest Firmware Date	2016 - 03 - 22
Manual Version	Rev. 1.3
Language	English

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Cautions

▪ Device related

- You should check the names and colors of each wires exactly, before you connect the wires.
ex) CAN HIGH: White wires / CAN LOW: Blue wires
- The 'POWER / CAN Cable' should always be connected last and be disconnected first.
- The 'Mode Switch' is an optional part to change modes forcibly without CAN-BUS. Generally, the CAN-BUS wires are connected for changing modes by original buttons.
- When the reverse gear is not detected by CAN-BUS, the 'REVERSE 12V IN wire' should be spliced with 12V power of reverse light.

▪ HDMI device-related

- HDMI mode accepts general-screen resolution of HDMI devices.
- Generally, '5V 1A Power output(5V USB POWER)' is a standard voltage for charging smartphone. If you need higher voltage than 5V, you should add a separate power supply.

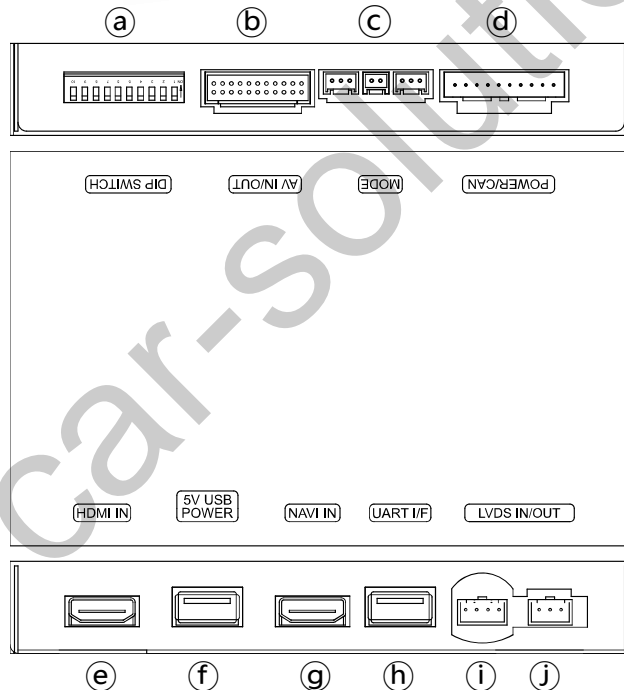
▪ Navigation(GPS) box-related

- When you connect the power wires(B+, ACC) to the navigation(GPS) box, the 'NAVI (12V) OUT' wire supported by device should be spliced with an ACC wire of navigation box.
- After installation is done, select an applicable navigation(GPS) box model in the 'Navigation model selection menu' of setting mode.
- The navigation box should be powered off before unplugging the HDMI cable.

Dimension



Exterior



- (a) DIP SWITCH
- (b) AV IN / OUT
- (c) MODE
- (d) POWER / CAN
- (e) HDMI IN
- (f) 5V USB POWER
- (g) NAVI IN
- (h) UART I/F
- (i) GVIF OUT
- (j) GVIF IN

Components



Power / CAN Cable



GVIF IN Cable



GVIF OUT Cable



AV IN / OUT Cable



5-pin Micro USB Cable

Optional Parts (sold separately)



Mode Switch

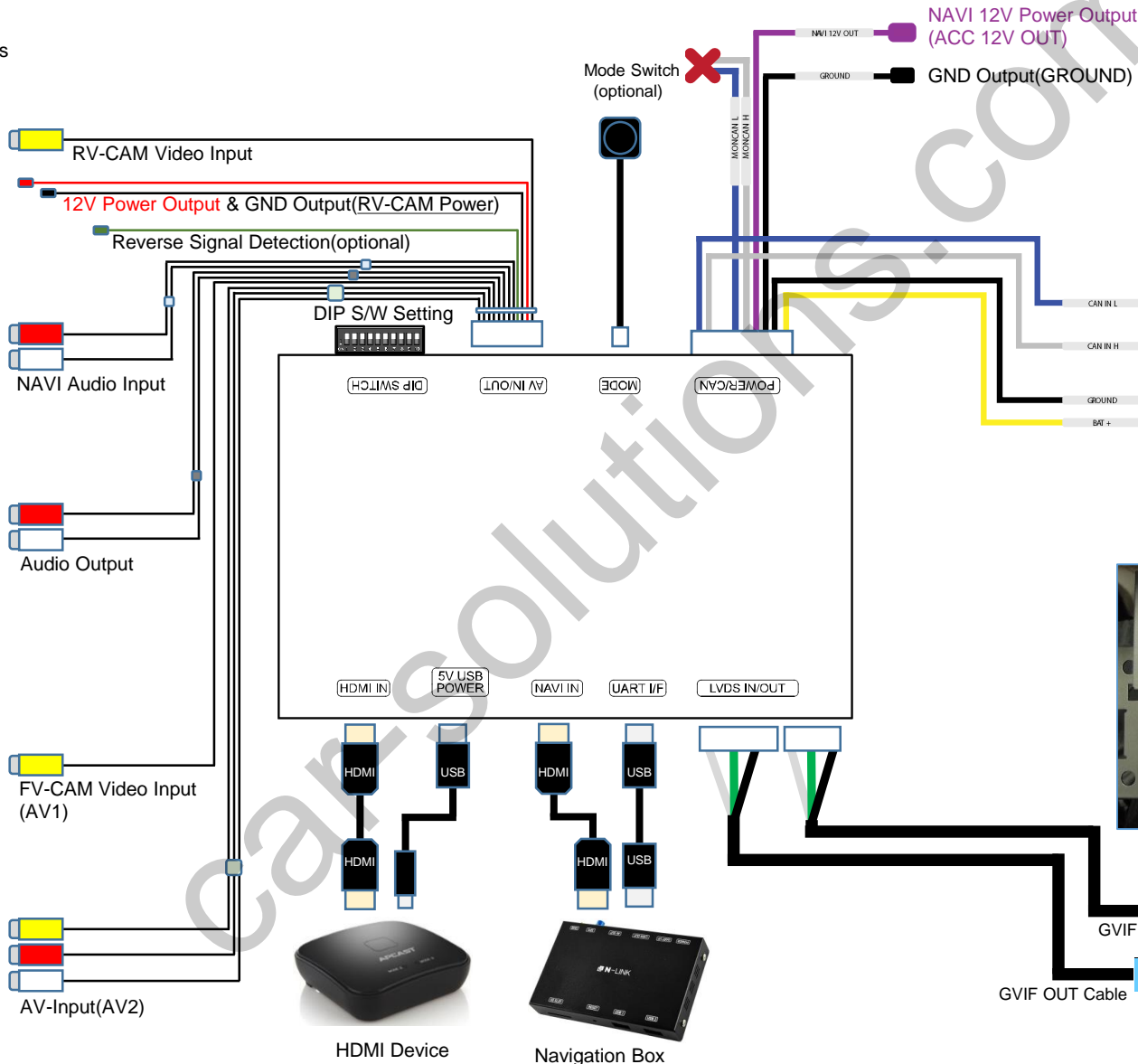


HDMI Extender
(For stick type HDMI device)

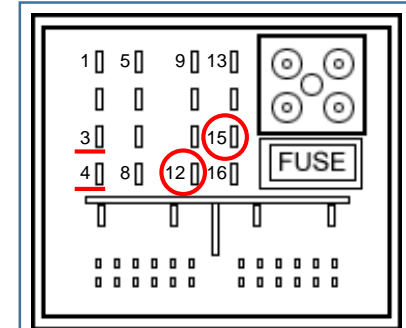
Full Installation Diagram

※ Optional External Devices

- External Rear View Camera
- Audio(AUX) Output of Navigation Box
- Auxiliary(AUX) Input of the car
- External Front View Camera
- AV device (ex: DTV Box, Divx)



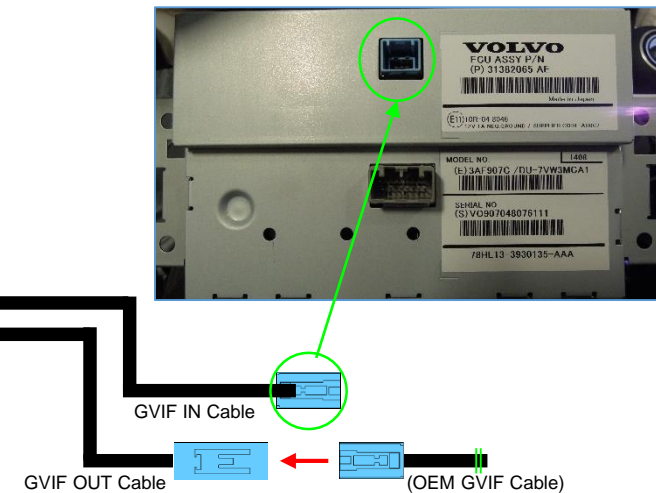
※ CAN HIGH / LOW Pin Specification



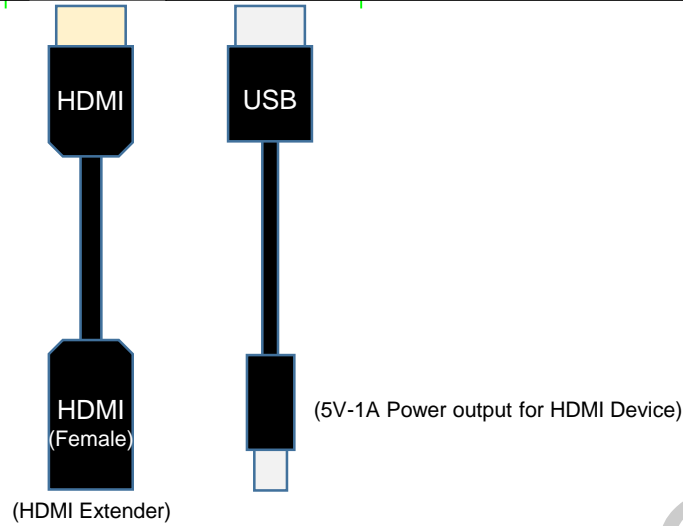
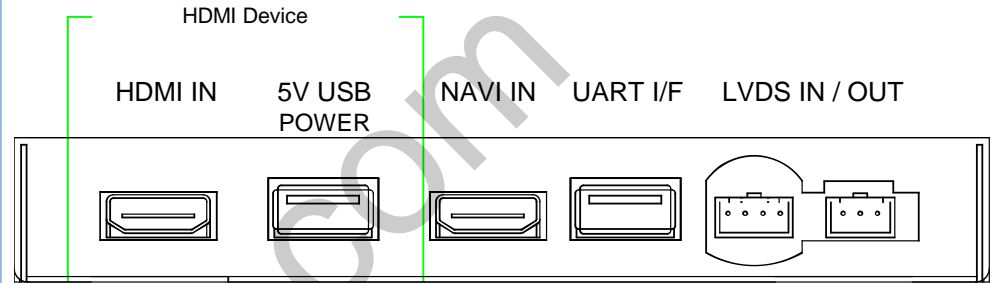
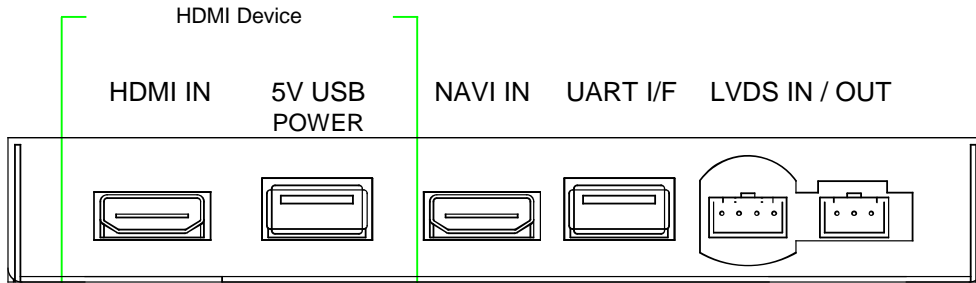
Head Unit – Original Main Harness

- PIN # 3 = CAN LOW (Purple/Orange)
- PIN # 4 = CAN HIGH (Gray/Orange)
- PIN # 15 = GND (Black/Gray)
- PIN # 12 = B+ (Yellow/Red)

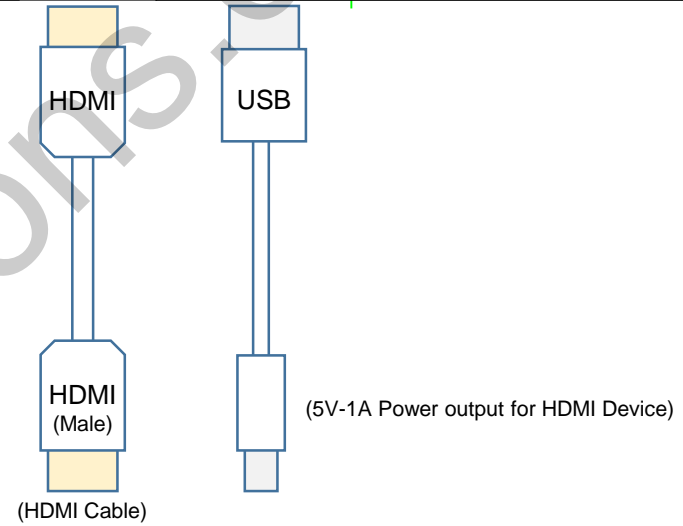
Volvo 7Inch oem monitor



HDMI Connection Diagram



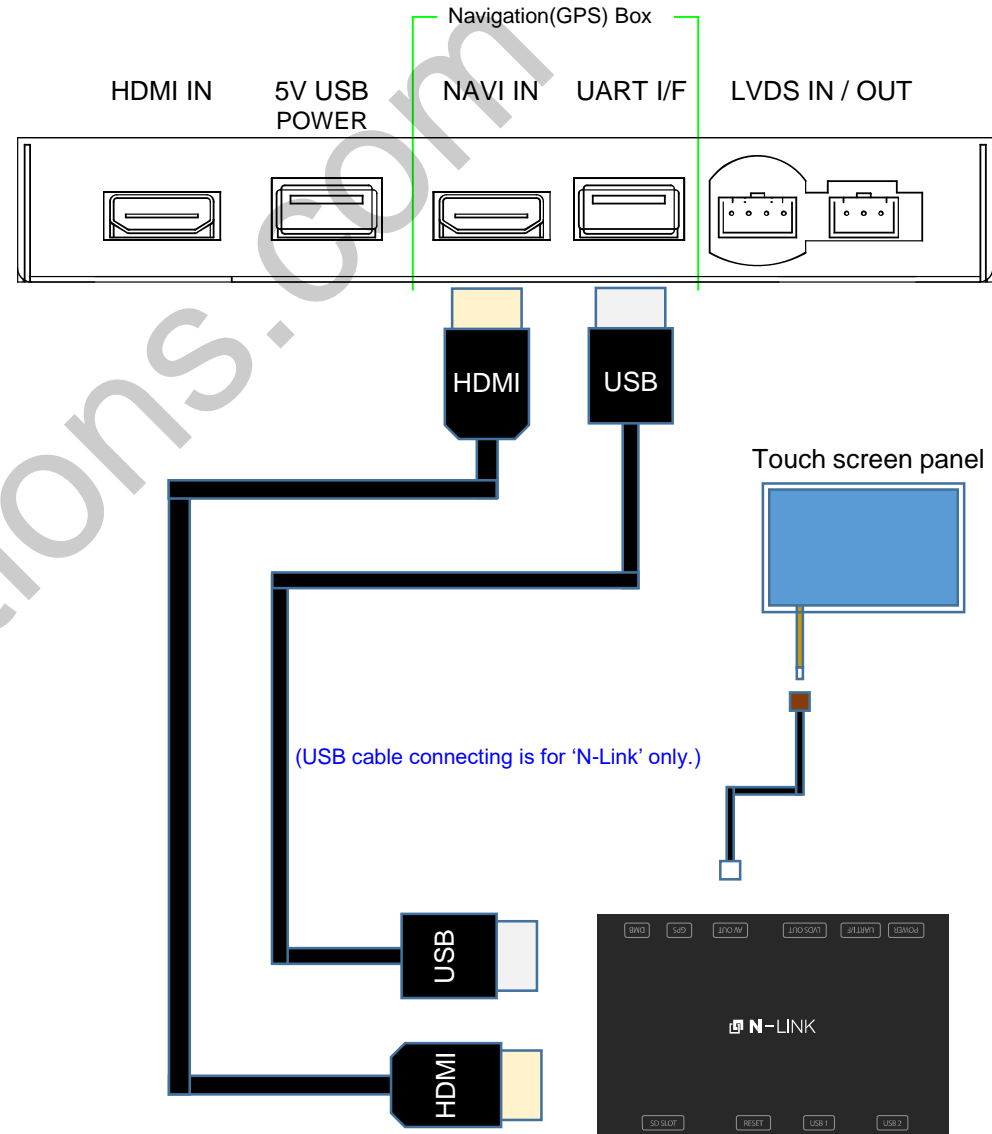
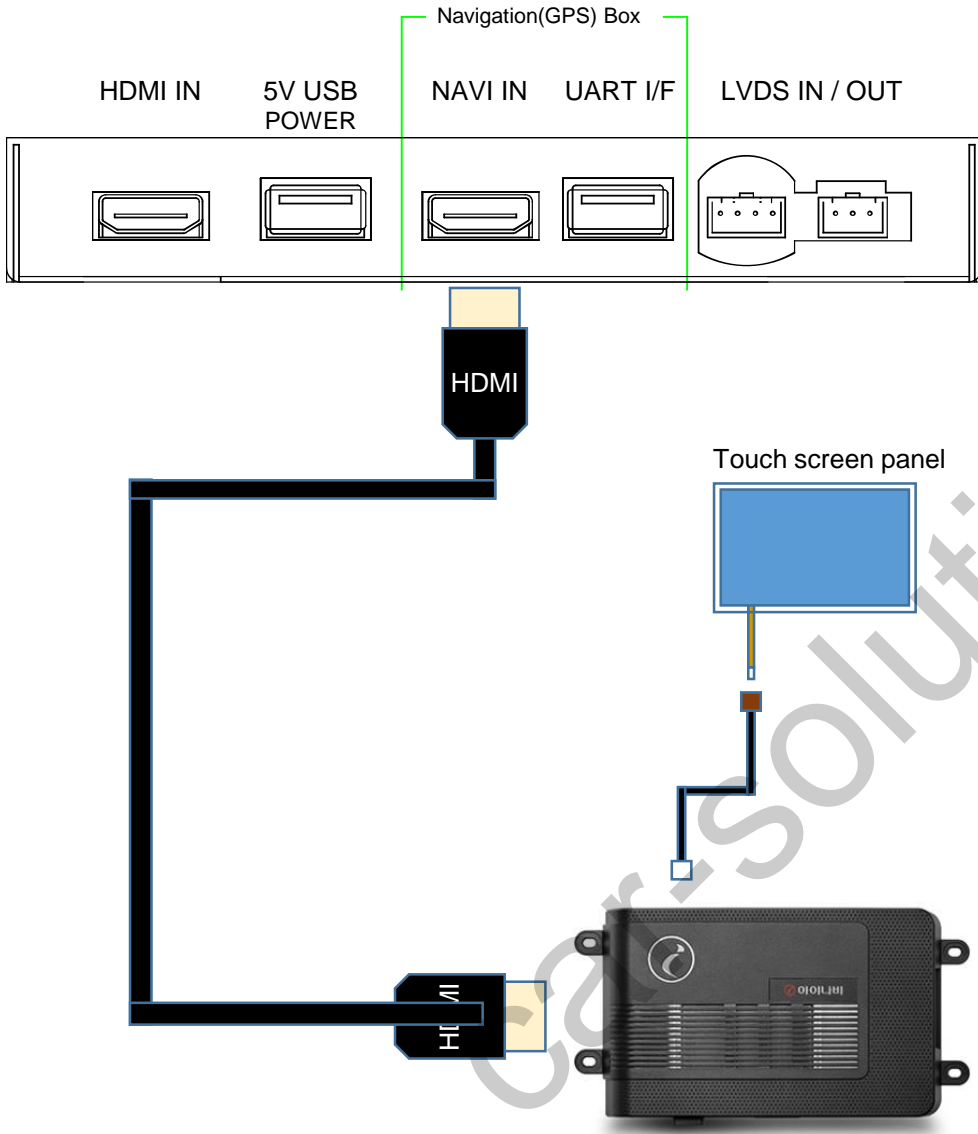
'Stick Type' HDMI Devices








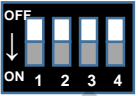

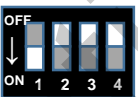



'Dongle & Adapter' Type HDMI Devices



Navigation Connection Diagram

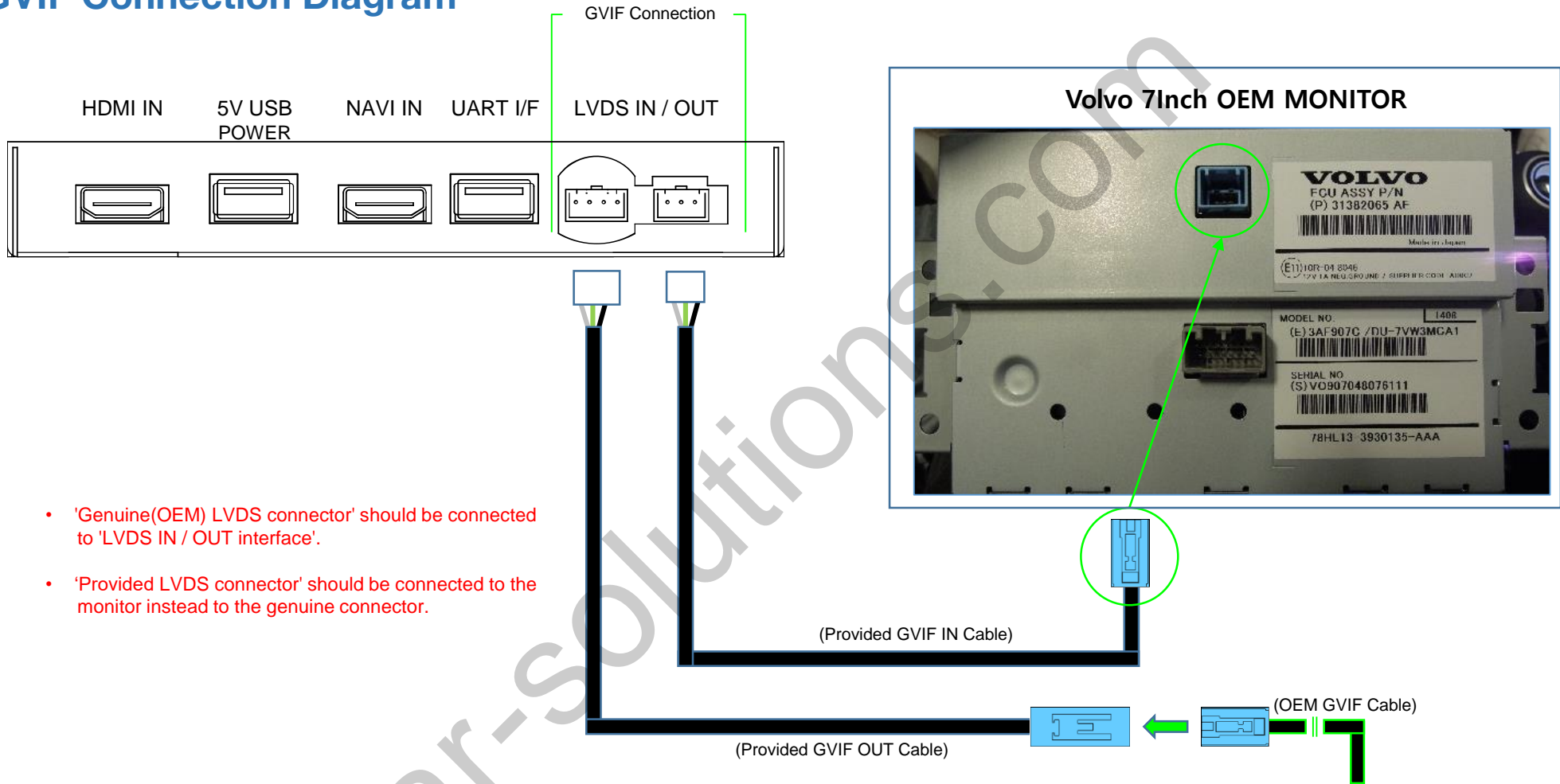


Compatibility Chart for Navigation(GPS) box models

Model	Country	Dip S/W (Navigation)	Required Parts
	South Korea	-	 HDMI Cable  USB A-A Cable  Hazard Module
	South Korea	 800*480 OFF(↑): 1, 2, 3, 4	 HDMI Cable (HDMI to HDMI)
		 1280*480 BMW ON(↓): 1 / OFF(↑): 2, 3, 4	
	South Korea	 OFF(↓): 1, 2, 3 ON(↑) : 4	 HDMI Cable (HDMI to HDMI)

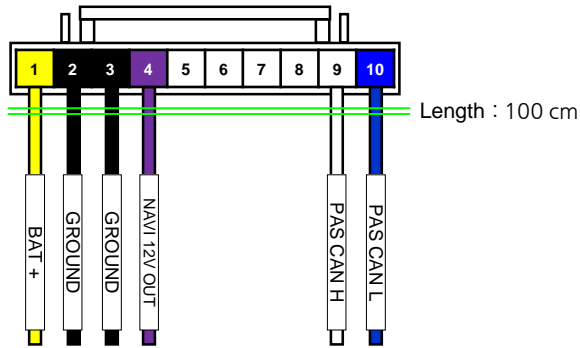
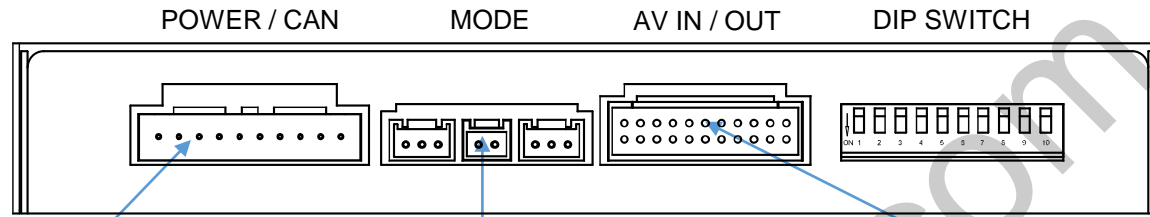
- The device supports navigation(GPS) box models equipped with 'Digital video output'.
- It does not support the 'RGB video signals'.

GVIF Connection Diagram

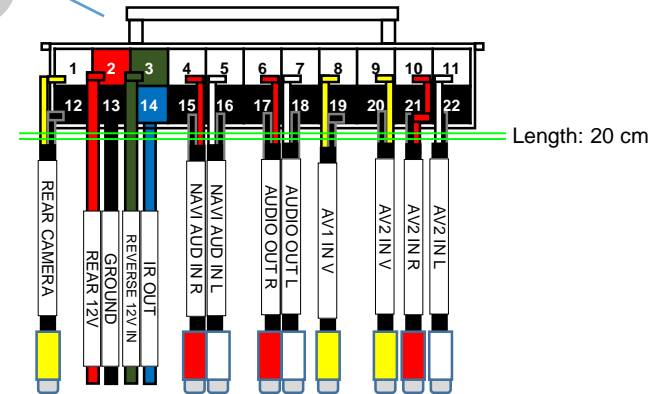
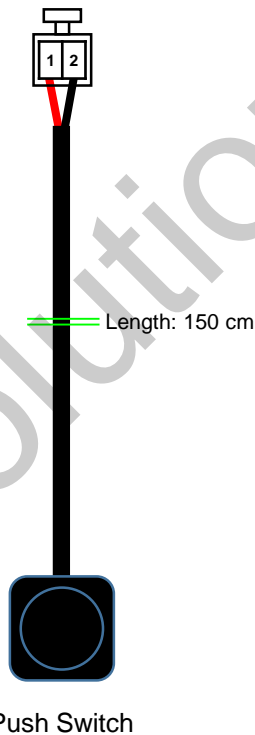


- 'Genuine(OEM) LVDS connector' should be connected to 'LVDS IN / OUT interface'.
- 'Provided LVDS connector' should be connected to the monitor instead to the genuine connector.

Body Connector specifications



1	BATTERY POWER INPUT
2	GND INPUT
3	GND OUTPUT
4	ACC(12V) POWER OUTPUT
5	-
6	-
7	-
8	-
9	PAS CAN H
10	PAS CAN L



1	RV-CAM VIDEO INPUT	12	GND(RV-CAM VIDEO)
2	RV-CAM POWER OUT	13	GND OUTPUT(RV-CAM)
3	REVERSE DETECTION	14	IR OUT
4	NAVI AUX INPUT R	15	GND(NAVI AUX IN R)
5	NAVI AUX INPUT L	16	GND(NAVI AUX IN L)
6	AUDIO OUTPUT R	17	GND(AUDIO OUT R)
7	AUDIO OUTPUT L	18	GND(AUDIO OUT L)
8	AV1 VIDEO INPUT	19	GND(AV1 VIDEO IN)
9	AV2 VIDEO INPUT	20	GND(AV2 VIDEO IN)
10	AV2 AUDIO INPUT R	21	GND(AV2 AUDIO IN R)
11	AV2 AUDIO INPUT L	22	GND(AV2 AUDIO IN L)

- The colors of each wires can be changed under manufacturer's circumstance.
support@car-solutions.com

Car Compatibility Chart

Car Models	Production Year	Specific Models
V40	2015 -	7inch OEM MONITOR
S60	2015 -	7inch OEM MONITOR
V60	2015 -	7inch OEM MONITOR
XC60	2015 -	7inch OEM MONITOR
XC70	2015 -	7inch OEM MONITOR
S80	2015 -	7inch OEM MONITOR

The device is used in combination with VOLVO INFOTAINMENT system.

The device supports the VOLVO original screen & Head unit equipped with 'GVIF connector' only.

Please check the specification of original GVIF connector on the sidelines of a production year.

Activation by original buttons of VOLVO

For VOLVO

Button	Function	Operation	Remarks
1 NAV	Changing Modes	Press the button 2 seconds long.	Order: HDMI → NAVI → AV1 → AV2 → OEM
1 NAV	Shortcut to Each modes	Press the button 2 times quickly. < OEM → NAVI >	
		Press the button 3 times quickly. < OEM → AV1 >	
		Press the button 4 times quickly. < OEM → AV2 >	
1 NAV	Back to OEM	Press the button short.	Return to the OEM mode in any modes.
1 NAV	System Locking / Unlocking	Press the button 10 seconds long.	If you visit car service center, you can lock the all functions of the device It is only possible to use the OEM functions under it is locked.
2 EXIT (BACK)	Changing mode to Front View CAM mode(AV1)	Press the button 2 seconds long.	It changes the screen from any modes to AV1 mode directly.
3 OK(MANU)	Enter into the setting menu	Press the button 5 seconds long.	
2 EXIT (BACK)	Reset to factory default setting and power.	Press the button 10 seconds long.	You can use this function when you get in trouble to see the screen while setting the screen.
Buttons marked with yellow	Climate interlocking	Press the button 2 short.	Return to the OEM mode for 3 seconds.
Buttons marked with blue	Back to OEM	Press the buttons short.	Return to the OEM mode in any modes. www.car-solutions.com



VOLVO Head Unit & Climate controllers

Activation by original buttons of VOLVO < Rear View (FULL,PIP) >



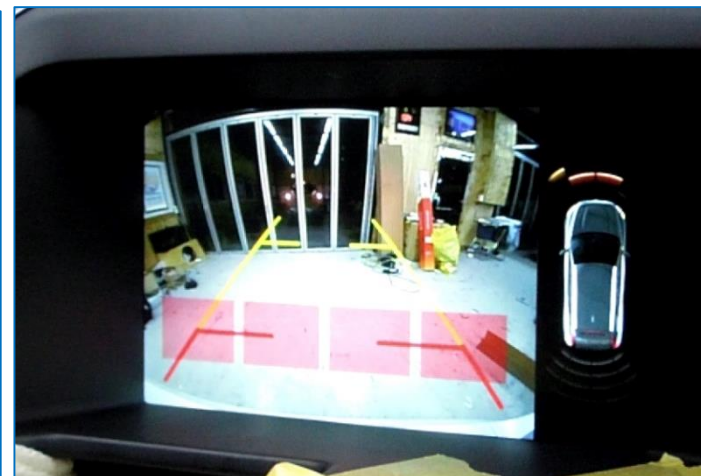
VOLVO Head Unit & Climate controllers

For VOLVO

Button	Function	Operation	Remarks
3 (MANU)	Changing mode to PIP(Rear)	Push the button right 2 seconds long. (Only Rear,AV1)	You can use this function only for 2 modes. (PIP Mode1, FULL)



▲ FULL



▲ PIP

DIP Switch Settings



Pin No.	ON(▼)	OFF(▲)
1	HDMI Mode	Skip HDMI Mode
2	Navigation Mode	Skip Navigation Mode
3	External Rear View Camera	Original Rear View Camera
4	External Front View Camera(AV1 Mode)	Skip External Front View Camera(AV1 Mode)
5	AV2 Mode	Skip AV2 Mode
6	Selection of car model	
7		
8		
9		
10		

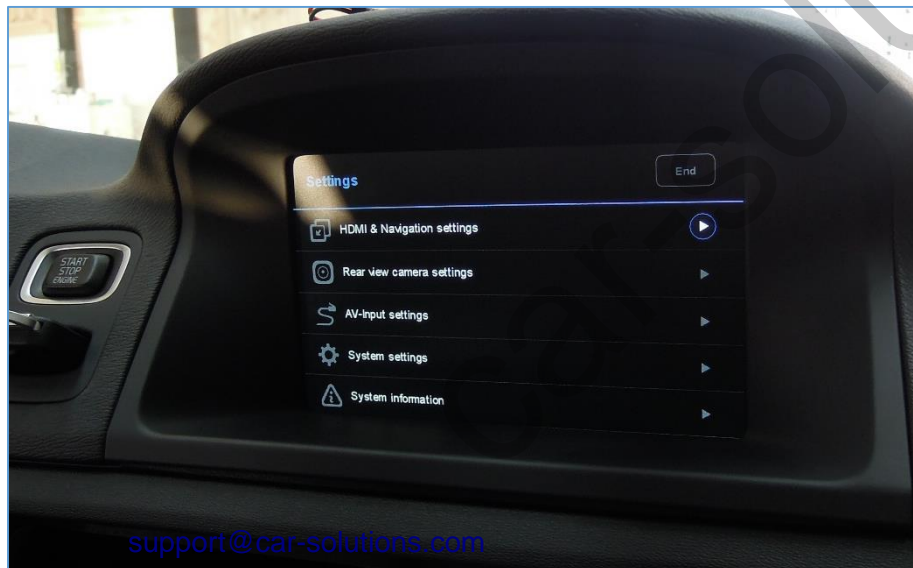
No.6	No.7	No.8	No.9	No.10	Car Models
ON(▼)	OFF(▲)	OFF(▲)	OFF(▲)	OFF(▲)	V40 <7Inch Screen>
OFF(▲)	OFF(▲)	OFF(▲)	OFF(▲)	ON(▼)	S60 <7Inch Screen>
OFF(▲)	OFF(▲)	OFF(▲)	ON(▼)	ON(▼)	XC60 <7Inch Screen>
OFF(▲)	OFF(▲)	OFF(▲)	ON(▼)	OFF(▲)	S80 <7Inch Screen>

Settings

For VOLVO



Button		Function	Operation
1	OK(MANU)	Enter into the setting menu	Press the button 5 seconds long.
2	EXIT(BACK)	Back to previous menu	Press the button short.
1	Selection	Select the menu and setting values.	Press the button short.
3	Turn the dial counterclockwise	Move the menu-pointer and adjust the setting values.	Move the pointer and setting values to up(↑) and left(←).
4	Turn the dial clockwise	Move the menu-pointer and adjust the setting values.	Move the pointer and setting values to down(↓) and right(→).

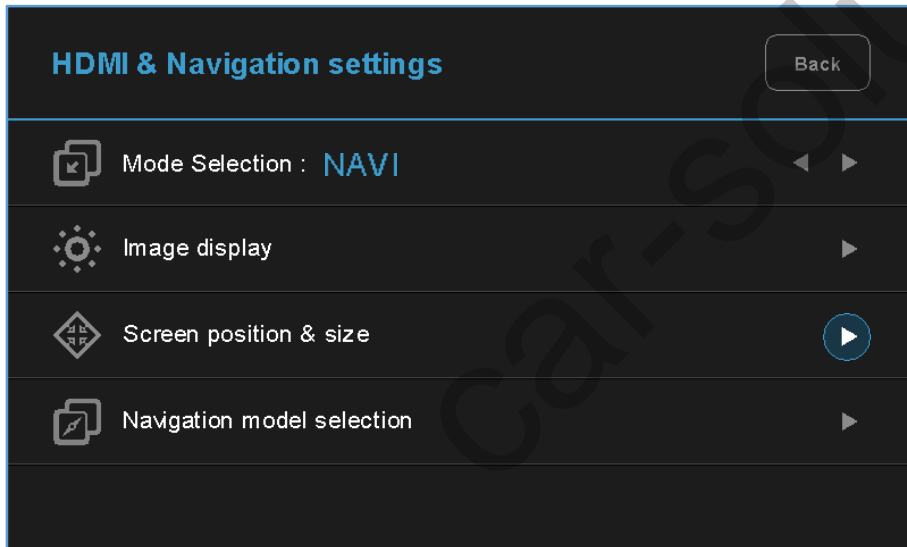
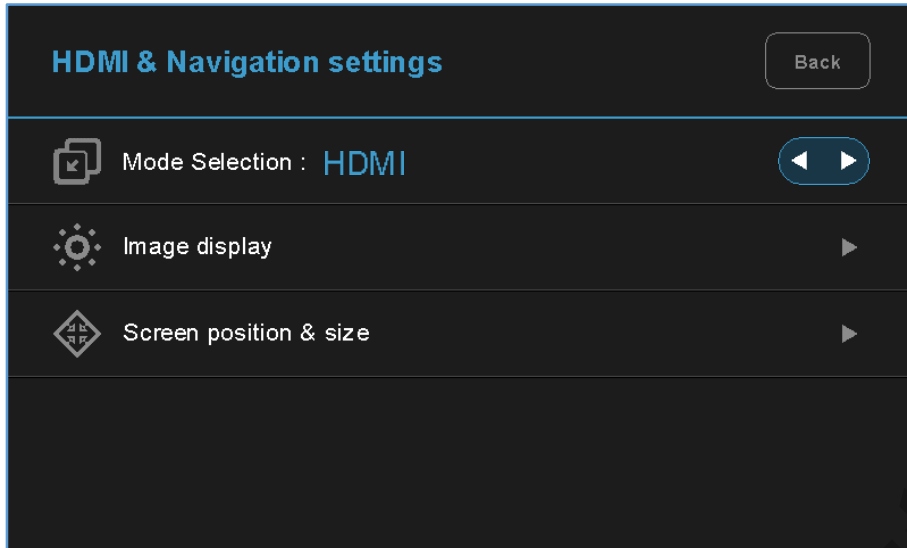


1. Enter into the setting menu.

<Press the 'OK(MANU)' button 5 seconds long.>

- HDMI & Navigation settings
- Rear view camera settings
- AV-input settings
- System settings
- System information

Settings



2. HDMI mode settings

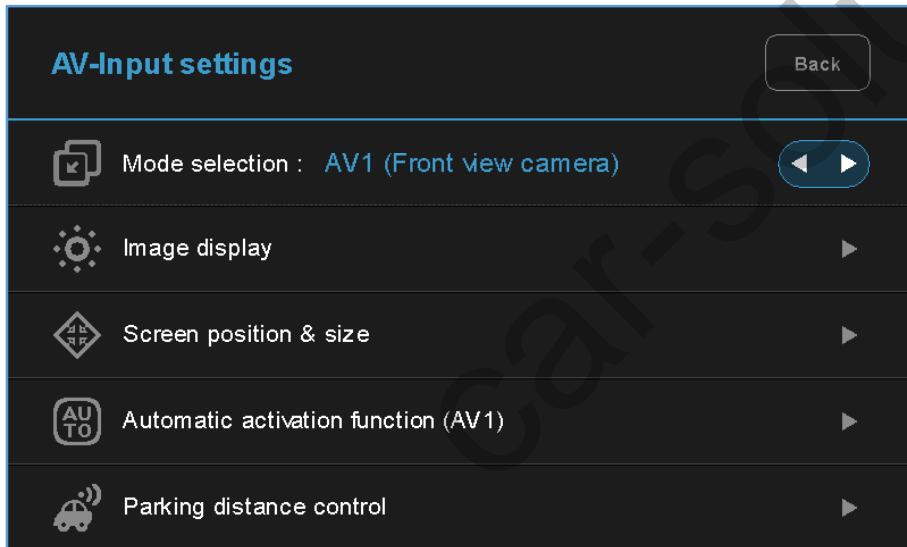
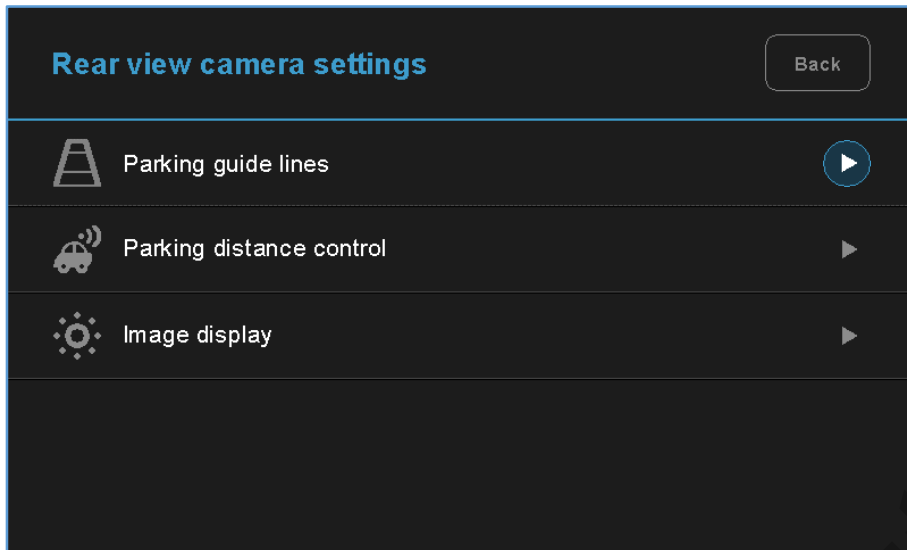
- Mode selection: HDMI ↔ NAVI
- Image display
= Adjust the values of brightness and contrast Red-Green-Blue colors of HDMI display.
- Screen position & size
= Entry Disabled / Not applicable.

3. NAVI mode settings

- Mode selection: NAVI ↔ HDMI
- Image display
= Adjust the values of brightness and contrast Red-Green-Blue colors of NAVI display.
- Screen position & size
= Entry Disabled / Not applicable.
- Navigation Resolution selection

① 800 X 480

Settings



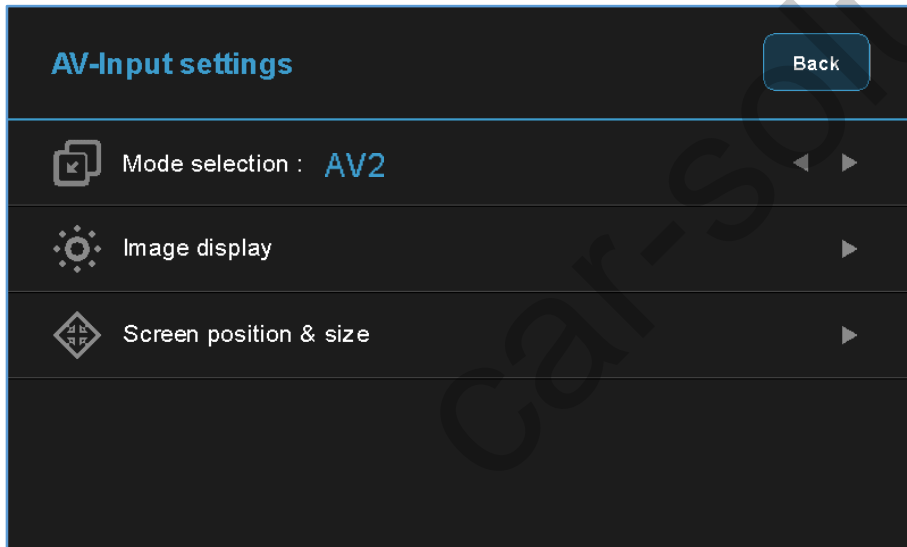
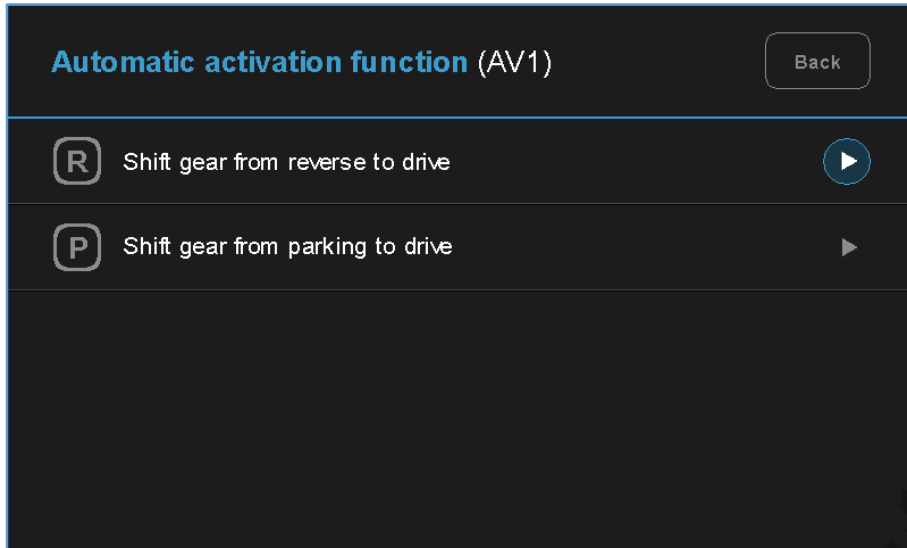
4. Rear view camera settings

- Parking guide lines
= Adjust position of parking guide lines and select the lines 'ON or OFF'.
- Parking distance control
= Adjust the position of parking distance control sensors to 'LEFT or RIGHT' and select the PDC 'ON or OFF'.
- Image display
= Adjust the values of brightness and contrast
Red-Green-Blue colors of Rear view camera display.

5. AV1(Front view camera) settings

- Mode selection: AV1(Front view camera) ↔ AV2
- Image display
= Adjust the values of brightness and contrast
Red-Green-Blue colors of AV1(Front view camera) display.
- Screen position & size
= **Entry Disabled / Not applicable.**
- Automatic activation function(AV1)
= *** Please refer to next page.**
- Parking distance control
= Adjust the position of parking distance control sensors to 'LEFT or RIGHT' and select the PDC 'ON or OFF'.

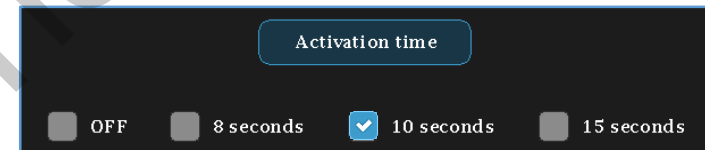
Settings



6. Automatic activation function(AV1)

- Shift gear from reverse to drive
- Shift gear from parking to drive

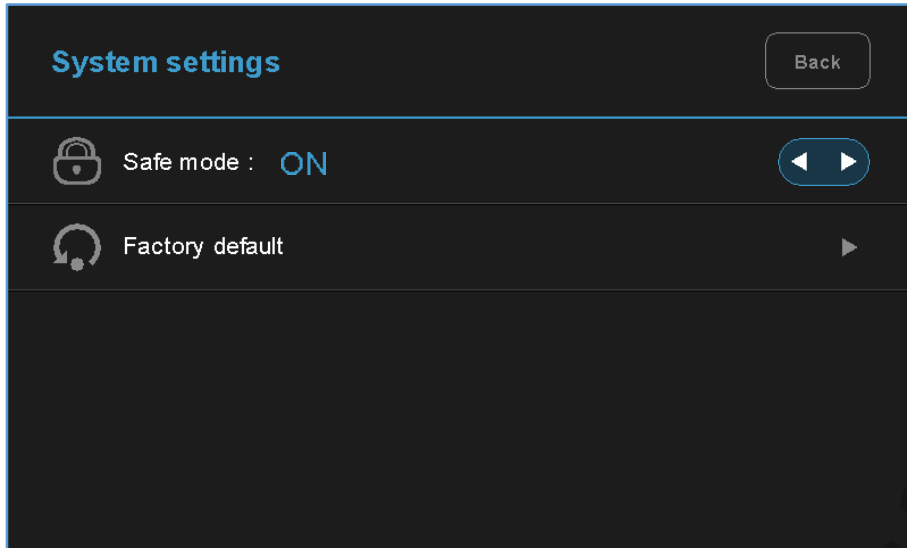
* When you shift gear 'from reverse to drive' or 'from parking to drive', it just works automatically during the activation time you selected.



7. AV2 settings

- Mode selection: AV2 ↔ AV1(Front view camera)
- Image display
= Adjust the values of brightness and contrast
Red-Green-Blue colors of AV2 display.
- Screen position & size
= Entry Disabled / Not applicable.

Settings

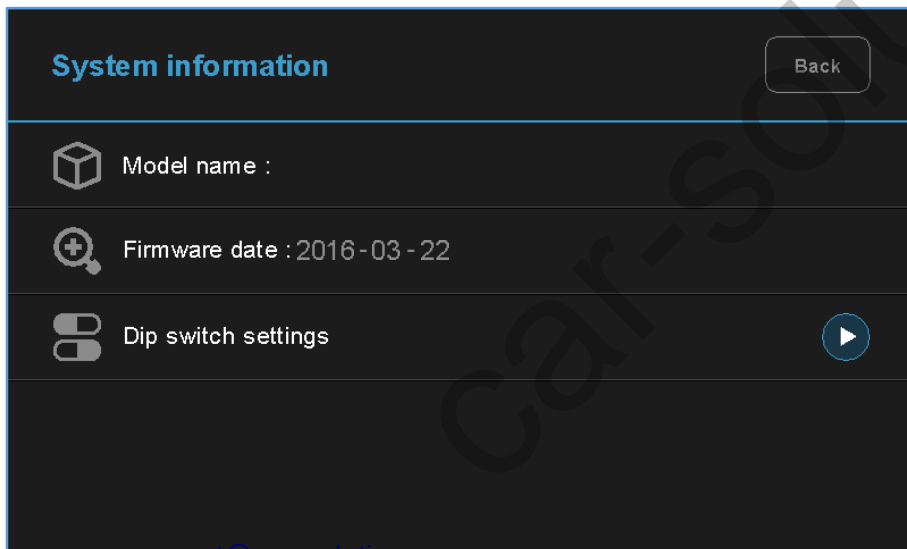


8. System settings

- Safe mode
= Select the one of two between 'ON and OFF'.

* If you select 'ON', 3 modes(HDMI, NAVI and AV2) will be faded out when the car is driven.

- Factory default
= Reset all setting values to factory default setting.



9. System information

- Firmware date : 2016 – 06 – 27 (Latest firmware date)
- = You can check the current firmware version date.
- Dip switch settings
= You can check the current positions of dip switch settings.

Settings


System information - Dip switch settings Back

	ON	OFF			
1	<input type="checkbox"/>	<input type="checkbox"/>	No. 1	HDMI	ON
2	<input type="checkbox"/>	<input type="checkbox"/>	No. 2	Navigation	ON
3	<input type="checkbox"/>	<input type="checkbox"/>	No. 3	External rear view camera	ON
4	<input type="checkbox"/>	<input type="checkbox"/>	No. 4	AV1	ON
5	<input type="checkbox"/>	<input type="checkbox"/>	No. 5	AV2	OFF
6	<input type="checkbox"/>	<input type="checkbox"/>	No. 6	Selection of car model	ON
7	<input type="checkbox"/>	<input type="checkbox"/>	No. 7		OFF
8	<input type="checkbox"/>	<input type="checkbox"/>	No. 8		OFF
9	<input type="checkbox"/>	<input type="checkbox"/>	No. 9		OFF
10	<input type="checkbox"/>	<input type="checkbox"/>	No. 10		ON

10. Information of Dip switch settings

* You can check the current positions of dip switch settings.


ex 1)
Actual DIP switch values. (→)



Appears on the setting menu. (↓)

No. 1	HDMI	ON
No. 2	Navigation	OFF
No. 3	External rear view camera	ON
No. 4	AV1	ON
No. 5	AV2	OFF
No. 6	Selection of car model	OFF
No. 7		ON
No. 8		OFF
No. 9		ON
No. 10		OFF

ex 2)
Actual DIP switch values. (→)



Appears on the setting menu. (↓)

No. 1	HDMI	ON
No. 2	Navigation	ON
No. 3	External rear view camera	OFF
No. 4	AV1	ON
No. 5	AV2	OFF
No. 6	Selection of car model	ON
No. 7		OFF
No. 8		OFF
No. 9		OFF
No. 10		OFF