Instruction Manual
High-Definition Link for Mercedes-Benz
IW04M

DIP SWITCH AV IN/OUT TOUCH IN MODE POWER/CAN

HD—LINK

· IW04M ·

DIGITAL MULTI INTERFACE

FOR MERCEDES

HDMI IN 5V USB POWER NAVI IN UART I/F LVDS OUT
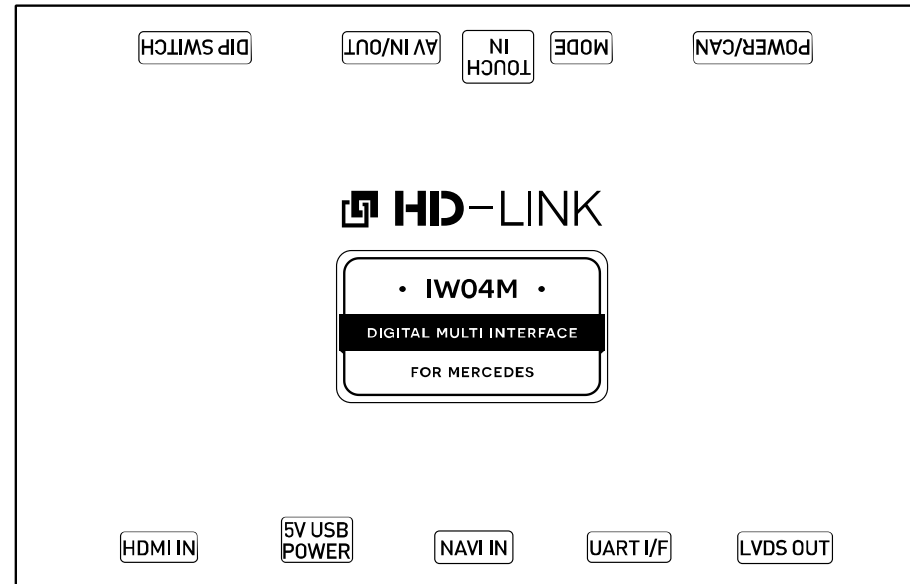
Model Name	IW04M-HNRAA
Latest Firmware Date	2018 - 02 - 21
Manual Version	Rev. 3.3
Language	English

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INDIVIDUAL WORKSHOP

Contents

Cautions

- **IW04M-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(1080P / 1920*1080).
    If screen size of HDMI does not fit on the monitor, should adjust screen size & position in 'settings mode'.

  - 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**
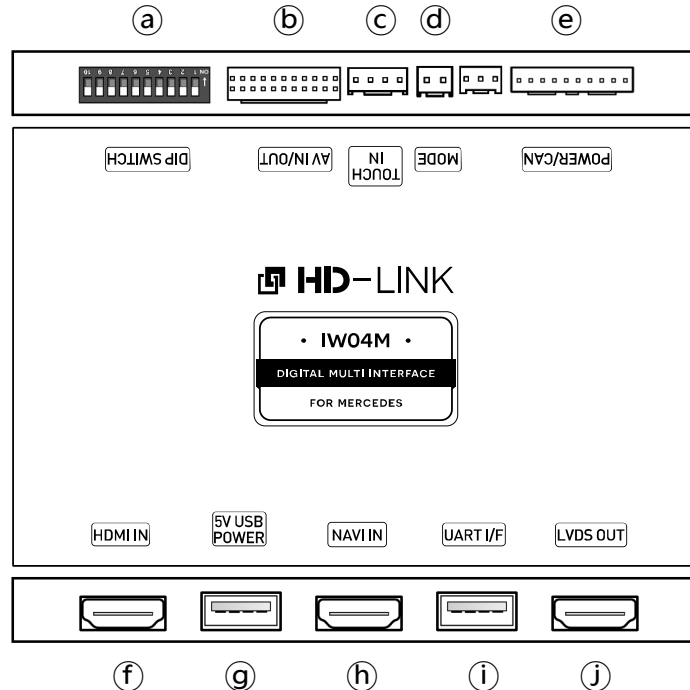 - When you connect the power wires(B+, ACC) to the navigation(GPS) box,
    the 'ACC (12V) OUT' wire supported by IW04M should be spliced with an ACC wire of navigation box.

  - 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

Width: 142 mm
Height: 22 mm
Length: 91 mm

Exterior

ⓐ   DIP SWITCH

ⓑ   AV IN / OUT

ⓒ   TOUCH IN (Not Used)

ⓓ   MODE

ⓔ   POWER / CAN

ⓕ   HDMI IN

ⓖ   5V USB POWER

ⓗ   NAVI IN

ⓘ   UART I/F
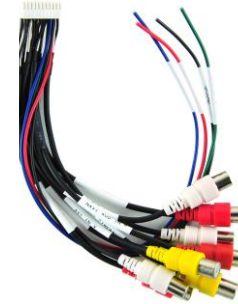
ⓙ   LVDS OUT

Components

Power / CAN Cable

LVDS Cable

LVDS PCB

HDMI Cable

AV IN / OUT Cable

5-pin Micro USB Cable

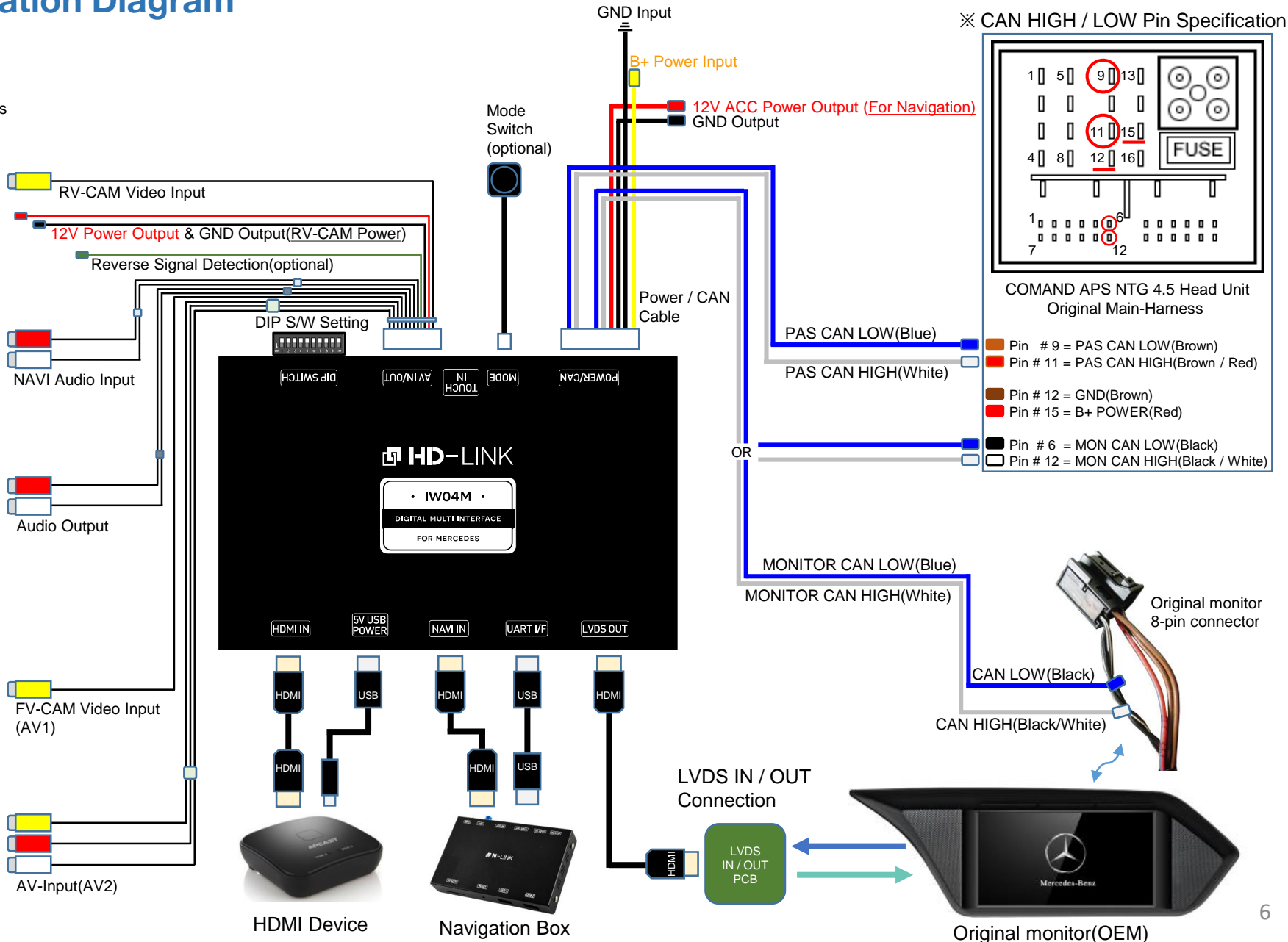# Optional Parts(sold separately at the indiwork)

HDMI Cable
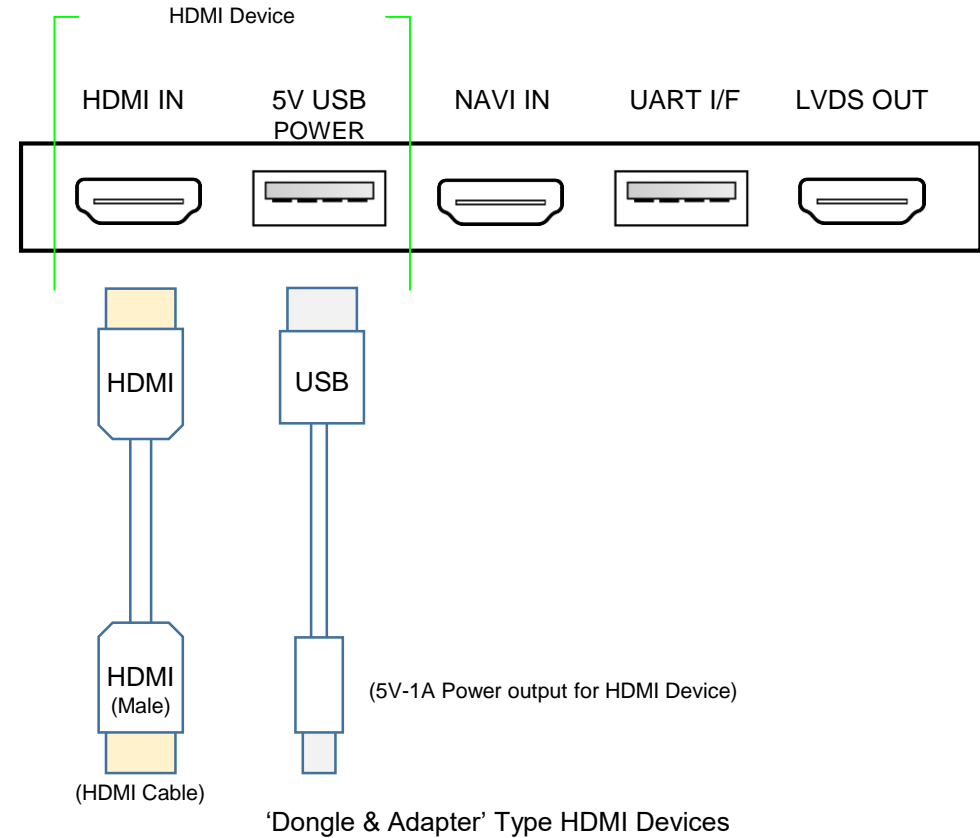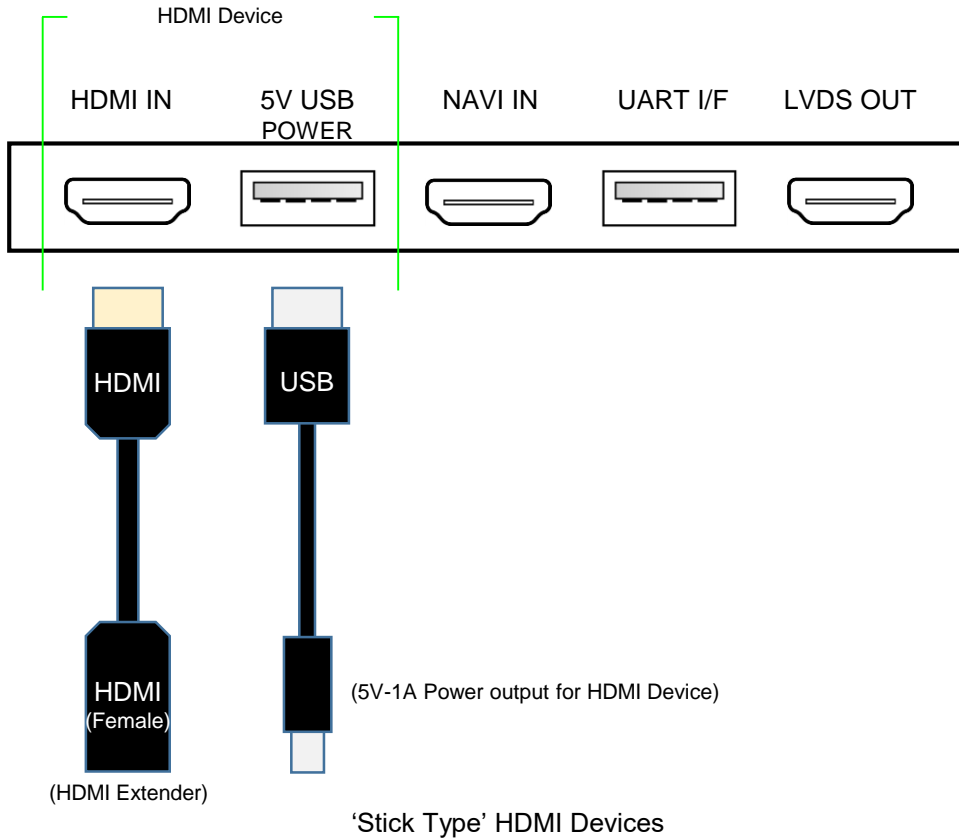(Male to Male)

HDMI Extender
(For stick type HDMI device)

Mode Switch
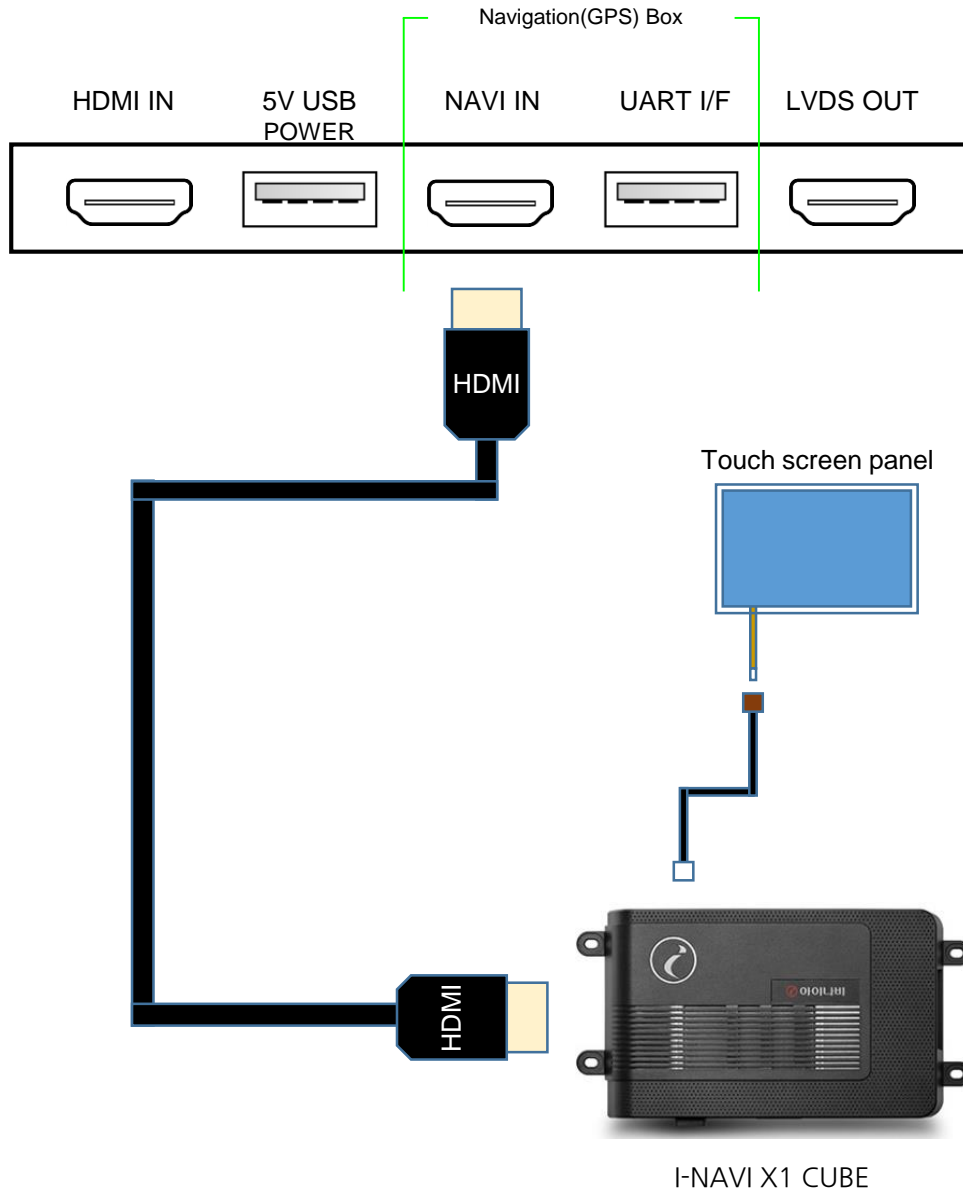
Full Installation Diagram

INDIWORK — INDIVIDUAL WORKSHOP

GND Input

B+ Power Input

12V ACC Power Output (For Navigation)
GND Output

Mode Switch (optional)

Power / CAN Cable

※ CAN HIGH / LOW Pin Specification

1 5 9 13
11 15
4 8 12 16

FUSE

1   6
7   12

COMAND APS NTG 4.5 Head Unit
Original Main-Harness

PAS CAN LOW(Blue)
PAS CAN HIGH(White)

Pin # 9 = PAS CAN LOW(Brown)
Pin # 11 = PAS CAN HIGH(Brown / Red)

Pin # 12 = GND(Brown)
Pin # 15 = B+ POWER(Red)

OR

Pin # 6 = MON CAN LOW(Black)
Pin # 12 = MON CAN HIGH(Black / White)

MONITOR CAN LOW(Blue)
MONITOR CAN HIGH(White)

Original monitor 8-pin connector

CAN LOW(Black)
CAN HIGH(Black/White)

※ 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)

RV-CAM Video Input

12V Power Output & GND Output(RV-CAM Power)

Reverse Signal Detection(optional)

NAVI Audio Input

DIP S/W Setting

Audio Output

FV-CAM Video Input (AV1)

AV-Input(AV2)

HD-LINK

DIP SWITCH   AV IN/OUT   TOUCH IN   MODE   POWER/CAN

· IW04M ·
DIGITAL MULTI INTERFACE
FOR MERCEDES

HDMI IN   5V USB POWER   NAVI IN   UART I/F   LVDS OUT

HDMI   USB   HDMI   USB   HDMI

HDMI   HDMI   USB

HDMI Device

Navigation Box

LVDS IN / OUT Connection

HDMI

LVDS IN / OUT PCB

Mercedes-Benz

Original monitor(OEM)

HDMI Connection Diagram

HDMI Device

HDMI IN	5V USB POWER	NAVI IN	UART I/F	LVDS OUT

HDMI

USB

HDMI
(Female)

(5V-1A Power output for HDMI Device)

(HDMI Extender)

'Stick Type' HDMI Devices

HDMI Device

HDMI IN	5V USB POWER	NAVI IN	UART I/F	LVDS OUT

HDMI

USB

HDMI
(Male)

(5V-1A Power output for HDMI Device)

(HDMI Cable)

'Dongle & Adapter' Type HDMI Devices

Navigation Connection Diagram

Navigation(GPS) Box

HDMI IN	5V USB POWER	NAVI IN	UART I/F	LVDS OUT

HDMI

Touch screen panel

HDMI

I-NAVI X1 CUBE

Navigation Connection Diagram

Navigation(GPS) Box

HDMI IN	5V USB POWER	NAVI IN	UART I/F	LVDS OUT

HDMI

USB

Touch screen panel

(USB cable connecting is for 'N-Link' only.)

USB

HDMI

N-LINK

Microcity - N-Link

Compatibility Chart for Navigation(GPS) box models

Model		Country	Dip S/W (Navigation)	Required Parts		
	MICROCITY N-Link	South Korea	-	HDMI Cable (HDMI to HDMI)	USB A-A Cable (USB to USB)	Hazard Module (Refer to Page.11)
	iNAVI X1 CUBE	South Korea	OFF(↑): 1, 2, 3, 4	HDMI Cable (HDMI to HDMI)		
	MYVI MS1400 Digital	South Korea	OFF(↓): 1, 2, 3 ON(↑) : 4	HDMI Cable (HDMI to HDMI)		

- The 'IW04M(HD-Link)' supports navigation(GPS) box models equipped with 'Digital video output'.

- It does not support the 'RGB video signals'.

LVDS Connection Diagram

LVDS Connection

HDMI IN | 5V USB POWER | NAVI IN | UART I/F | LVDS OUT

HDMI

Monitor(OEM)

- 'Genuine(OEM) LVDS connector' should be connected to 'LVDS IN / OUT PCB'.

- 'Provided LVDS connector' should be connected to the monitor instead to the genuine connector.

(OEM LVDS Cable)

HDMI

LVDS IN / OUT PCB

(Provided LVDS Cable)

COMAND APS NTG 4.5
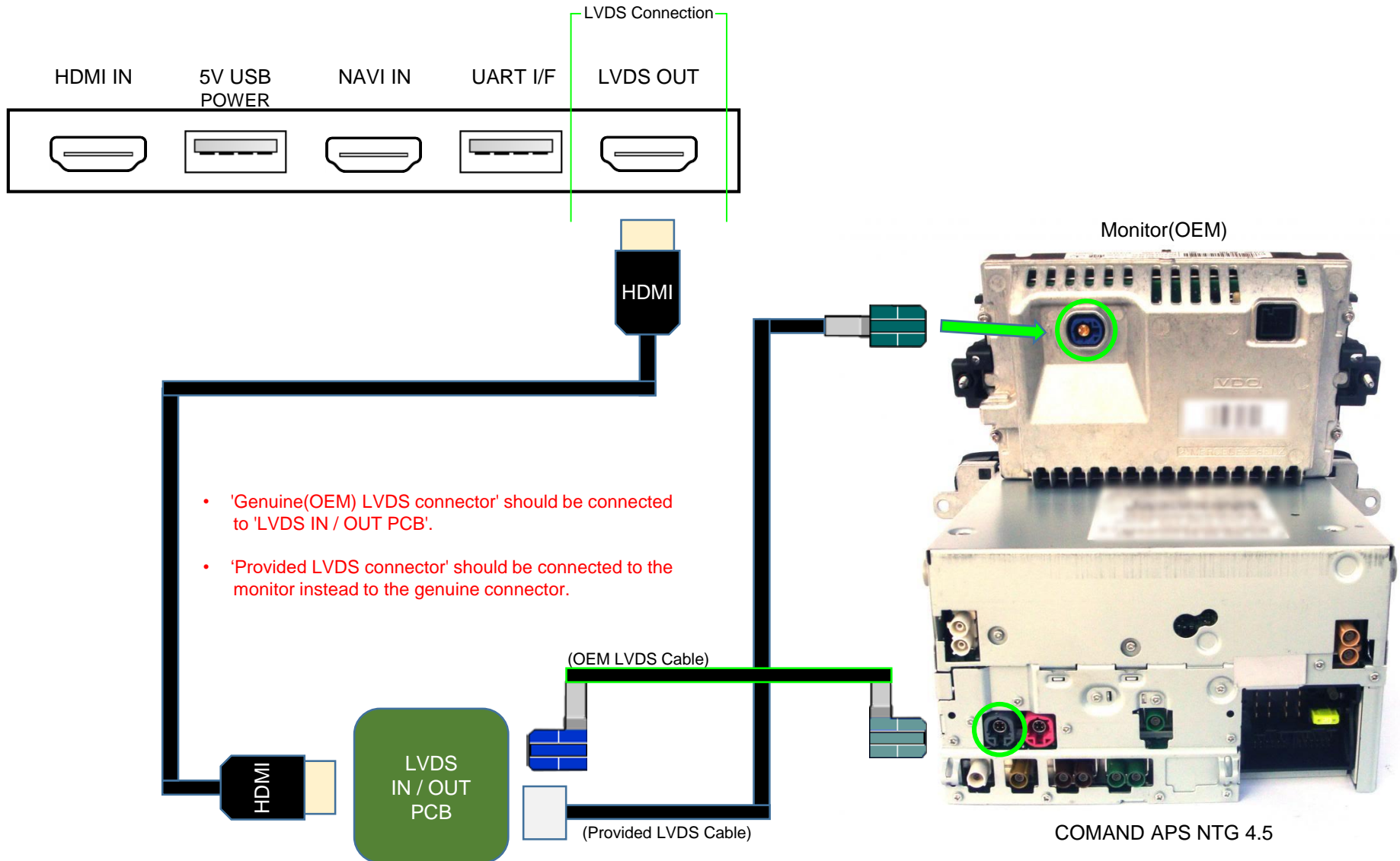
Body Connector specifications

POWER / CAN   MODE   TOUCH-IN   AV IN / OUT   DIP SWITCH

Length: 100 cm

BAT +
GROUND
GROUND
NAVI 12V OUT
MON CAN H
MON CAN L
PAS CAN H
PAS CAN L

Length: 150 cm

PUSH SWITCH

Length: 20 cm

REAR CAMERA
REAR 12V
GROUND
REVERSE 12V IN
IR OUT
NAVI AUD IN R
NAVI AUD IN L
AUDIO OUT R
AUDIO OUT L
AV1 IN V
AV2 IN V
AV2 IN R
AV2 IN L

1	BATTERY POWER INPUT
2	GND INPUT
3	GND OUTPUT
4	NAVI 12V POWER OUTPUT
5	MONITOR CAN HIGH
6	MONITOR CAN LOW
7	-
8	-
9	PAS CAN HIGH
10	PAS CAN LOW
* No. 7 wire is not necessary.(only for Audi)	

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.

Car Compatibility Chart

Car Models	Production Year	Specific Models
A-Class	2012 -	W176
B-Class	2012 - 2014	W246
C-Class	2011 - 2014	W204
E-Class	2012 - 2014	W212
CLA-Class	2014	C117
CLS-Class	2011 - 2014	W218
SLK-Class	2012 -	R172
SL-Class	2012 -	R231
GLK-Class	2012 -	X204
ML-Class	2012 - 2014	W166 (No GLE-Class)
G-Class	2012 -	W463
GL-Class	2013 -	X166

The IW04M is used in combination with Mercedes-Benz COMAND APS NTG 4.5(ONLINE) and AUDIO 20.

The IW04M supports the Mercedes – Benz original screen equipped with '4 pin LVDS round connector' only.

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

Activation by original buttons of Mercedes-Benz

COMAND APS NTG 4.5 controller

Steering wheel buttons

For COMAND APS NTG 4.5 & AUDIO 20

Button	Function	Operation	Remarks
1 Back	Changing Modes	Press the button 2 seconds long.	Order: HDMI → NAVI → AV2 → OEM
1 Back	Shortcut to each modes	Press the button 2 times. < OEM → NAVI > Press the button 3 times. < OEM → AV2 >	
1 Back	Back to OEM	Press the button short.	Return to the OEM mode in any modes.
1 Back	System Locking / Unlocking	Press the button 10 seconds long.	If you visit car service center, you can lock the all functions of IW04M. It is only possible to use the OEM functions under it is locked.
2 Back (on steering wheel)	Changing mode to Front View Camera mode(AV1)	Press the button 2 seconds long.	It changes the screen from any modes to AV1 mode directly.
3 OK	Reset to factory default setting and power.	Press the button 5 seconds long.	You can use this function when you get in trouble to see the screen while setting the screen.

DIP Switch Settings

OFF
ON ON 1 2 3 4 5 6 7 8 9 10

ON: ▼   OFF: ▲

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	800*480(7-inch monitor) OEM Monitor Resolution(High)	400*240(5.8-inch monitor) OEM Monitor Resolution(Low)
7		
8	Selection of car model	
9		
10		

No.6	No.7	No.8	No.9	No.10	Car Models
OFF(▲)	OFF(▲)	OFF(▲)	OFF(▲)	OFF(▲)	A, B, C-Class (5.8-inch / 400*240)
ON(▼)	OFF(▲)	OFF(▲)	OFF(▲)	OFF(▲)	C, E, CLS, GLK *Before 2014 (7-inch / 800*480)
ON(▼)	OFF(▲)	OFF(▲)	OFF(▲)	ON(▼)	C, E, CLS, GLK,SLK *After 2014 (7-inch / 800*480)
ON(▼)	ON(▼)	OFF(▲)	OFF(▲)	ON(▼)	C, E, CLS, GLK,SLK *After 2014 (7-inch / 800*480) * Broken PAS Line Image in the some of vehicle
ON(▼)	OFF(▲)	OFF(▲)	ON(▼)	OFF(▲)	G, ML, GL-Class *After 2014 (7-inch / 800*480)
ON(▼)	OFF(▲)	OFF(▲)	ON(▼)	ON(▼)	SL-Class *SPLITVIEW screen (7-inch / 800*480)

Settings

For COMAND APS NTG 4.5 & AUDIO 20

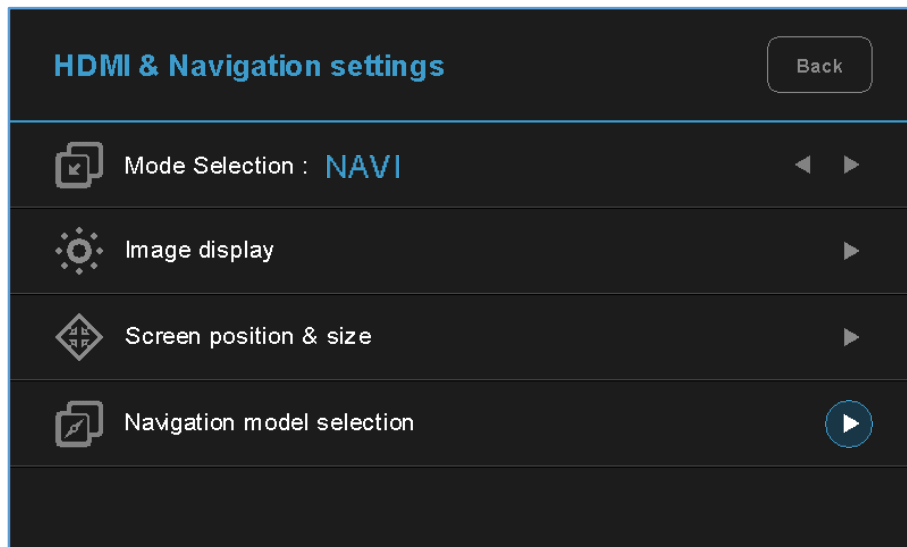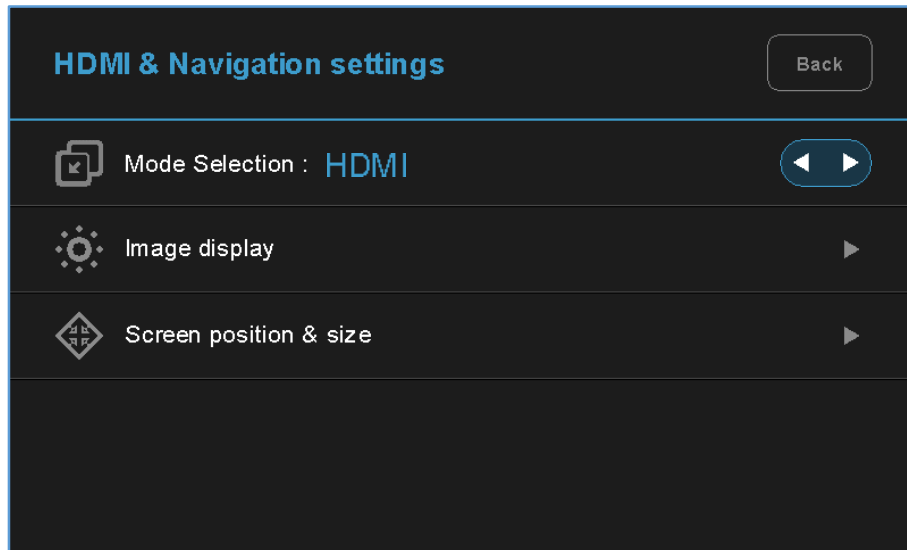| Button	Function
Back(⬅)	Back to previous menu when press the button short.
CLR(C)	Enter into the setting menu when you press the button 5 seconds long.
Up, Down, Left, Right (▲, ▼, ◀, ▶)	Move the menu-pointer and adjust the setting values.
Selection(●)	Select the setting menu and setting values.
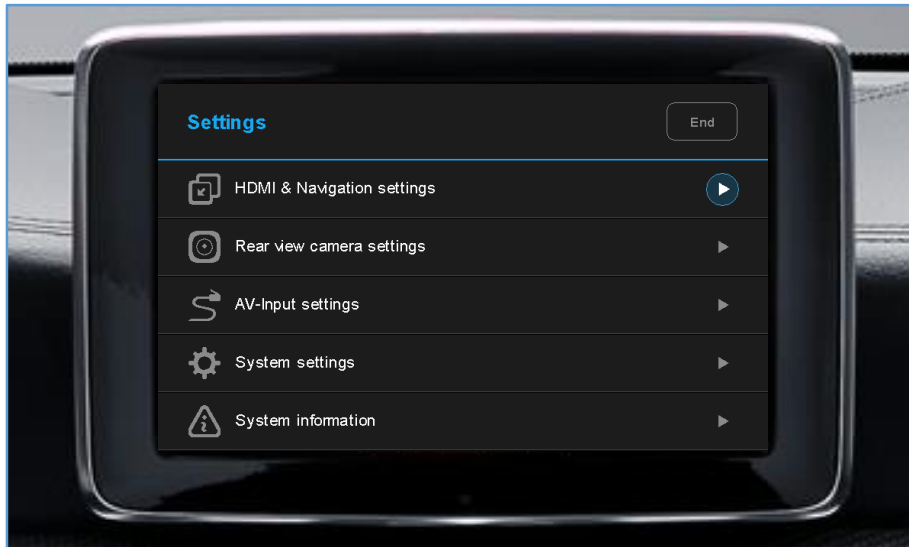
1. Enter into the setting menu.
<Press the 'CLR(C)' button 5 seconds long.>

- HDMI & Navigation settings

- Rear view camera settings

- AV-input settings

- System settings

- System information

Settings

HDMI & Navigation settings	Back
Mode Selection : HDMI	◀ ▶
Image display	▶
Screen position & size	▶

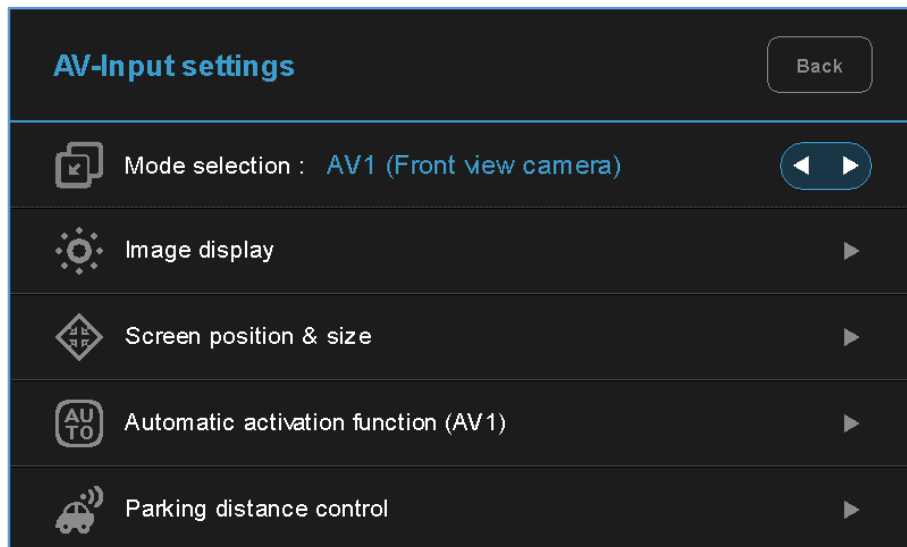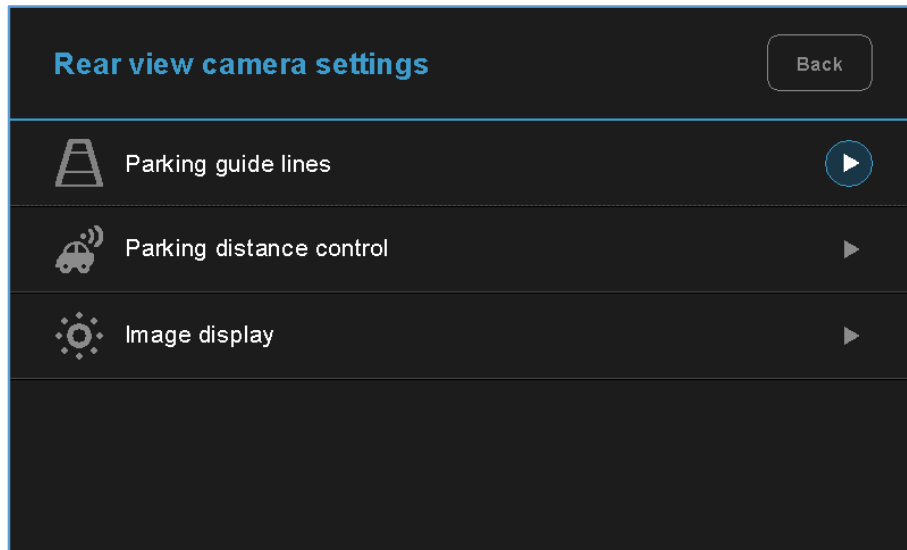| HDMI & Navigation settings	Back
Mode Selection : NAVI	◀ ▶
Image display	▶
Screen position & size	▶
Navigation model selection	▶

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
  = Adjust position and size of HDMI display.

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
  = Adjust position and size of NAVI display.

- Navigation model selection
  ① N-Link   ② iNAVI – CUBE   ③ imercury – Class settop

 ④ MYVI   ⑤ Mode A   ⑥ Mode B

Settings

Rear view camera settings | Back |

△	Parking guide lines	▶
🚗	Parking distance control	▶
☀	Image display	▶

AV-Input settings | Back |

⊡	Mode selection : AV1 (Front view camera)	◀ ▶
☀	Image display	▶
✛	Screen position & size	▶
AUTO	Automatic activation function (AV1)	▶
🚗	Parking distance control	▶

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 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
  = Adjust the position and size of AV1 display.

- Automatic activation function(AV1)
  = * Please refer to next page.

- Parking distance control
  = Adjust the position of parking distance control sensors
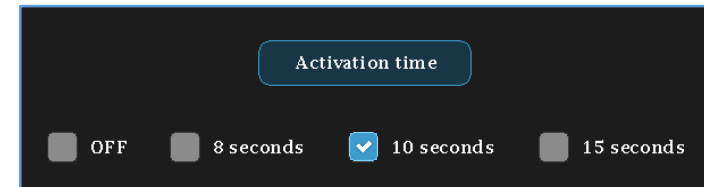   to 'LEFT or RIGHT' and select the PDC 'ON or OFF'.

17

Settings
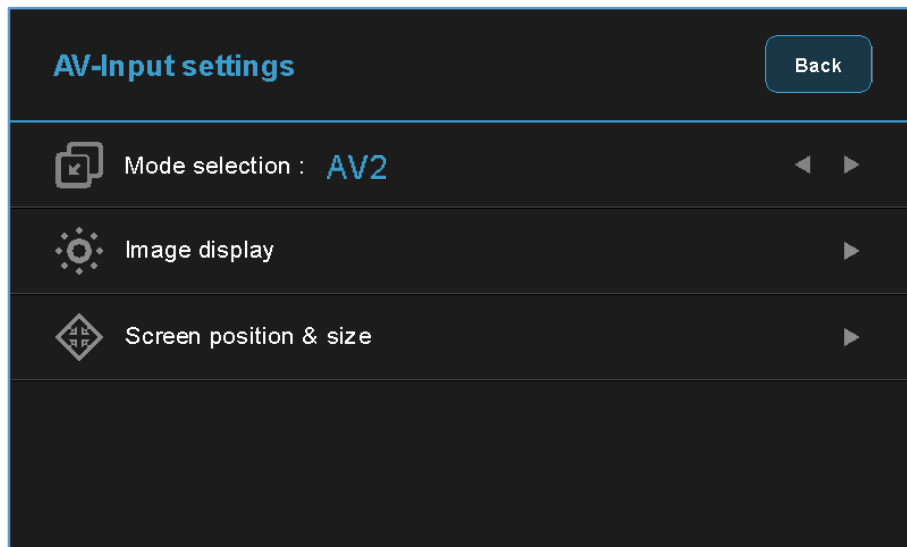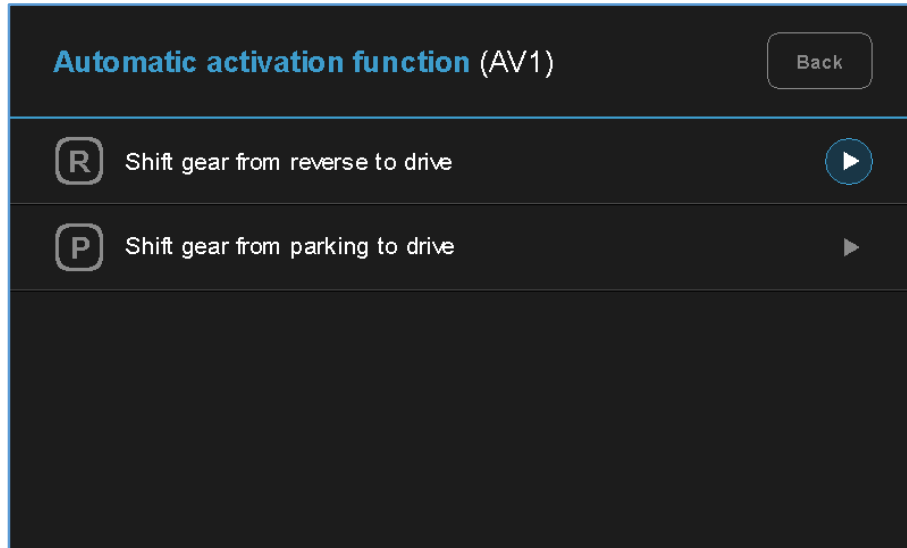
6. Automatic activation function(AV1)

- 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
  = Adjust the position and size of AV2 display.

Settings
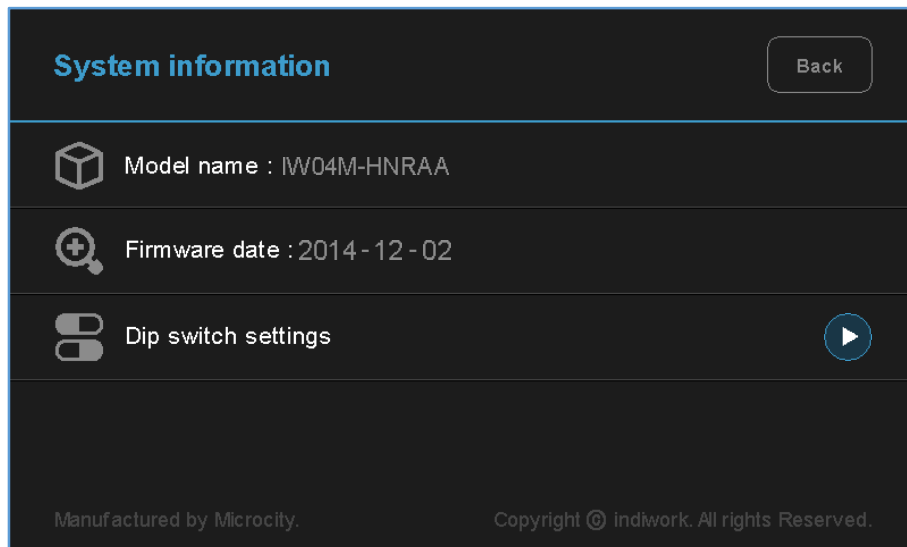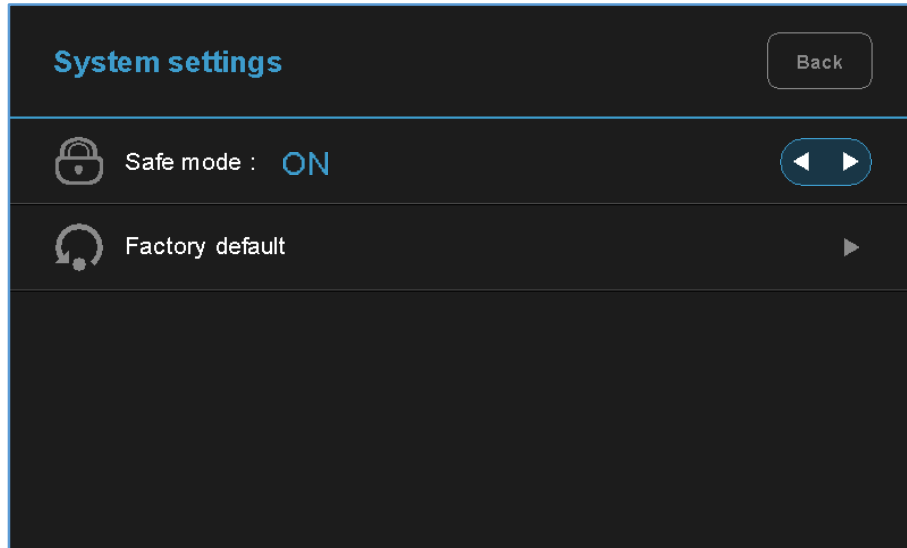
8. System settings

- 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

- Mode name: IW04M-HNRAA

- Firmware date: 2014 - 12 - 02(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			
No. 1			HDMI		ON
No. 2			Navigation		ON
No. 3			External rear view camera		ON
No. 4			AV1		ON
No. 5			AV2		OFF
No. 6			800*480(On) / 400*240(OFF)		ON
No. 7					OFF
No. 8					ON
No. 8			Selection of car model		ON
No. 9					ON
No. 10					OFF

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	800*480(On) / 400*240(OFF)	OFF
No. 7		ON
No. 8		OFF
No. 9	Selection of car model	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	800*480(On) / 400*240(OFF)	ON
No. 7		OFF
No. 8		OFF
No. 9	Selection of car model	OFF
No. 10		OFF

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