

# Dodge RAM 2019 TDC3

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- MODEL : HW Ver 02
- DATE : 2021.08.23



**GU ELECTRONIC**

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# 1. Main Spec.

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## 1. Input Spec. (MULTI VIDEO INTERFACE)

- 1 x Digital RGB Input (Navigation System source)
- 1 x Analog RGB Input (Navigation System output)
- 1 x CVBS(REAR CAMERA) Input. (Rear camera source)
- 1 x CVBS(FRONT CAMERA) Input. (Front camera source)
- 1 x LVDS Input. (Car Command System)

## 2. Output Spec.

- 1 x Vertical Analog Touch (Navigation System source)
- 1 x Uart Digital Touch (Navigation System source)
- 1 x LVDS Output (LCD Operation)

## 3. Power Spec.

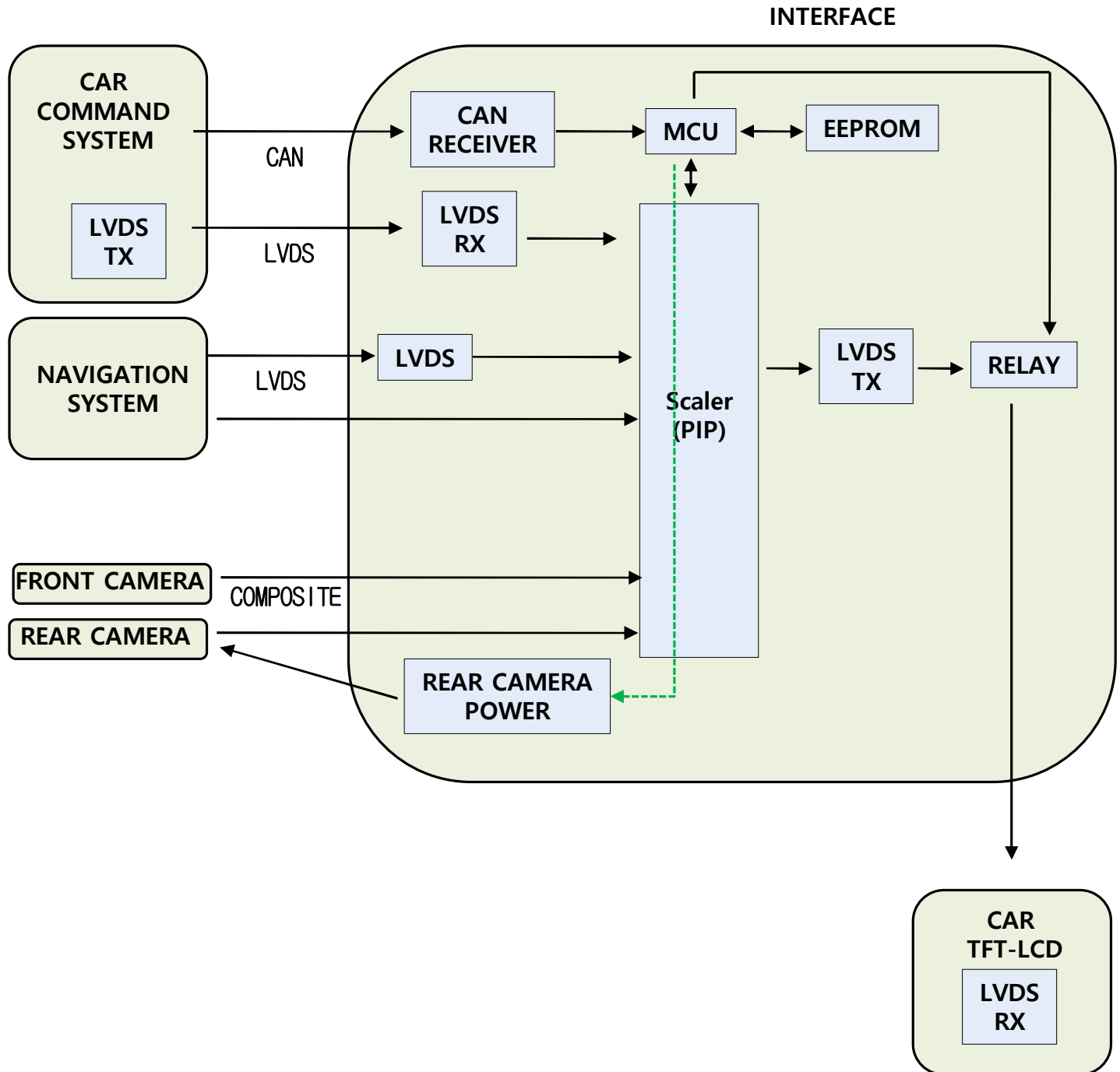
- Input Power : 8VDC ~ 24VDC
- Consumption Power : 12Watt, Max

## 4. Switch Input mode

- Possible to select CAR model while switching mode by DIP S/W
- By button on the Commander in the car via CAN



## 2. Block Diagram



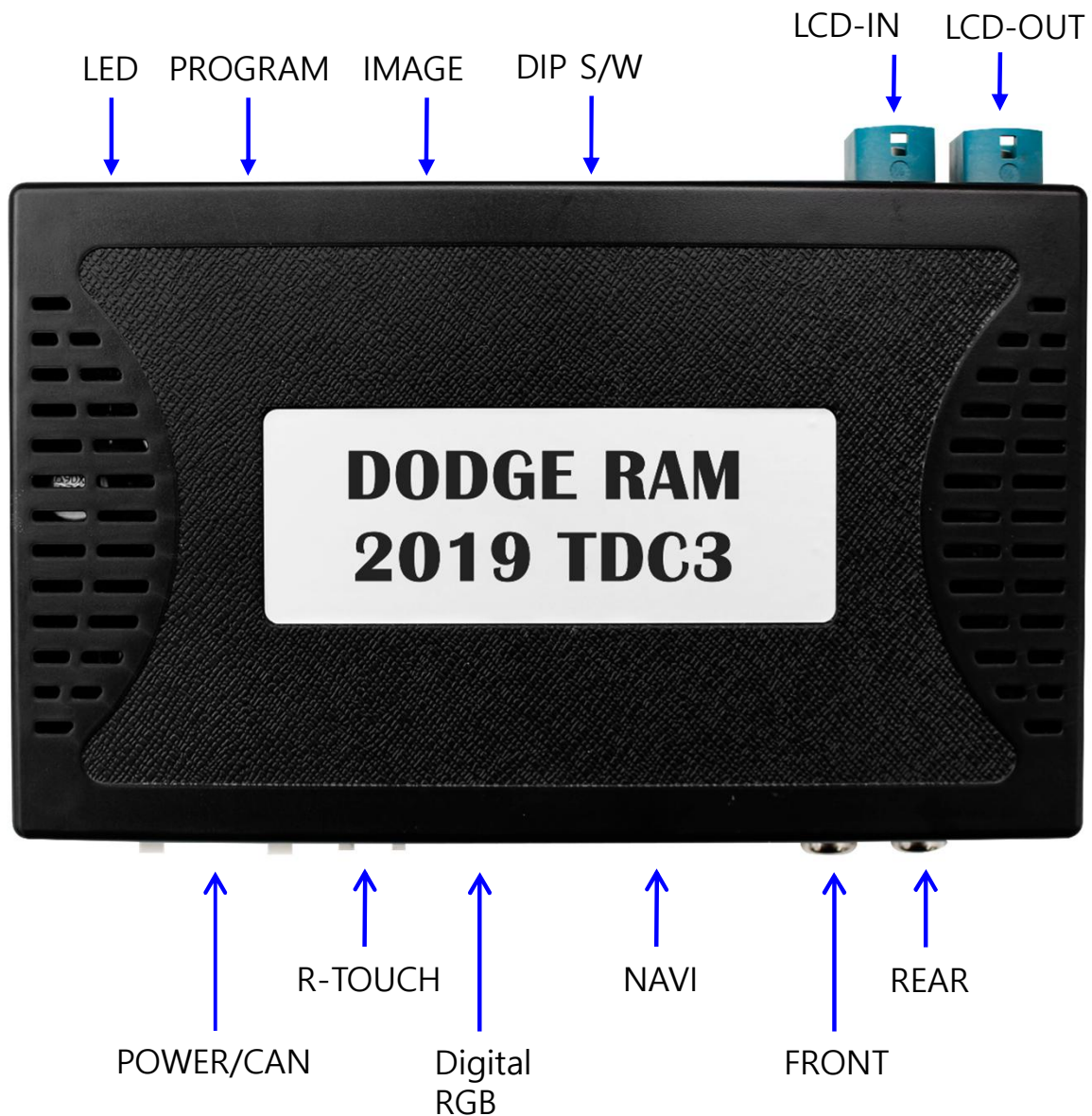
### 3. Dimension

154mm \* 95mm \* 23mm

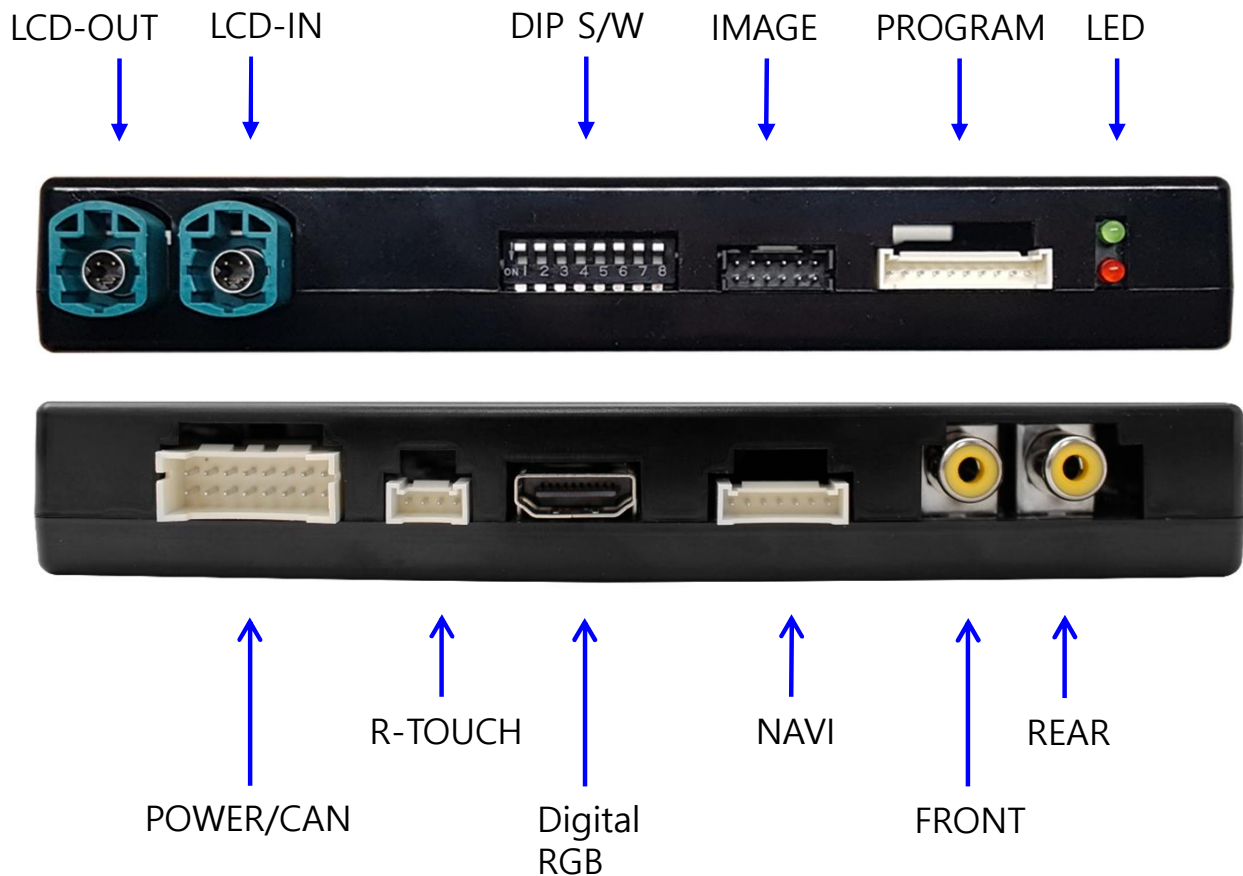


\* This can change under manufacturer's circumstance

## 4. External Appearance



# 4. External Appearance



# 5. Connector Pin Assignment



## \*POWER Connect

1	Yellow	Brown	White	Blue	Green	Red	Red	Black	15
2	Yellow	Blue	Purple	Red	Orange	Red	Green	White	16

- |                     |                       |
|---------------------|-----------------------|
| 1. Battery (Yellow) | 9. CAN-L (Green))     |
| 2. Battery (Yellow) | 10. CAN-H (Orange)    |
| 3. Rear-DET (Brown) | 11. ACC-Power (Red)   |
| 4. Front-DET (Blue) | 12. Rear-Power (Red)  |
| 5. CAN-L (White)    | 13. Front-Power (Red) |
| 6. CAN-H (Purple)   | 14. Mode (Green)      |
| 7. CAN-L (Blue)     | 15. GND (Black)       |
| 8. CAN-H (Red)      | 16. GND (Black)       |

## \*NAVI Connect

Red	Green	Blue	White	Black	Green	Orange
①	②	③	④	⑤	⑥	⑦

- ① R DATA (Red)
- ② G DATA (Green)
- ③ B DATA (Blue)
- ④ SYNC (White)
- ⑤ GND (Black)
- ⑥ DVB-T-IR (Green)
- ⑦ DVD-IR (Orange)

## \*Touch Connect

Red	Grey	Blue	White
①	②	③	④

- ① Y-
- ② X-
- ③ Y+
- ④ X+

\* Output current

- ACC POWER = Max 200mA
- REAR POWER = Max 200mA
- FRONT POWR = Max 200mA



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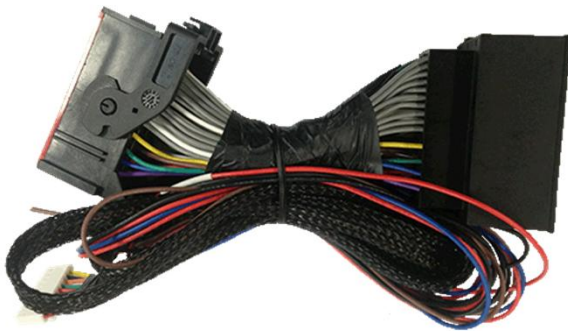
# 6. Product Composition



Interface 1 EA



OSD Board 1 EA



Power Cable 1 EA



LVDS Cable 1 EA



Touch Converter Cable 1 EA



RGB NAVI Cable 1 EA



(Z-Type Extension)

# 6. Product Composition

\* VHQ(Video High Quality Set Sales(option))



Interface 1 EA



HDMI Cable 1 EA

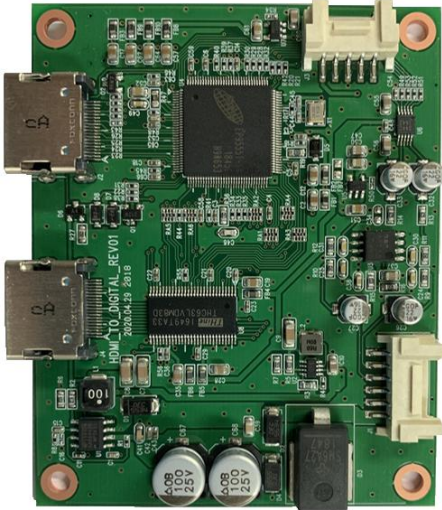


Power Cable 1 EA



# 6. Product Composition

\* HDMI-TO-DIGITAL Set Sales(option)



Interface 1 EA



HDMI Cable 1 EA



Power Cable 1 EA



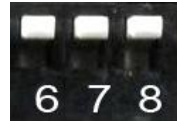
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# 7. DIP S/W Setting

\* ON : DOWN , OFF : UP

PIN	FUNCTION	DIP S/W Selection
1	NAVI	ON : Not Used OFF : Used
2	DVB-T(AV1)	ON : Not Used OFF : Used
3	DVD(AV2)	ON : Not Used OFF : Used
4	HDMI	ON : Not Used OFF : Used
5	N.C	
6	N.C	
7	CAR type SEL	Right Picture
8		

\* DIP S/W Example



JEEP Grand Cherokee 8.4" 2019year  
Resolution (1024\*768)



DODGE RAM 12.0" 2019year  
RAM-1500  
Resolution (800\*1280)



JEEP Grand Cherokee 8.4" 2019year  
Resolution (640\*480)



DODGE RAM 12.0" 2019year  
RAM-2500/3500  
Resolution (800\*1280)



DODGE RAM 12.0" 2019year  
RAM-1500  
Resolution (800\*1280)  
Screen Size (800\*526)





# 7. DIP S/W Setting

RAM-2500/3500 mode DIP-SW setting



DODGE RAM 12.0" 2019year  
RAM-2500/3500  
Resolution (800\*1280)



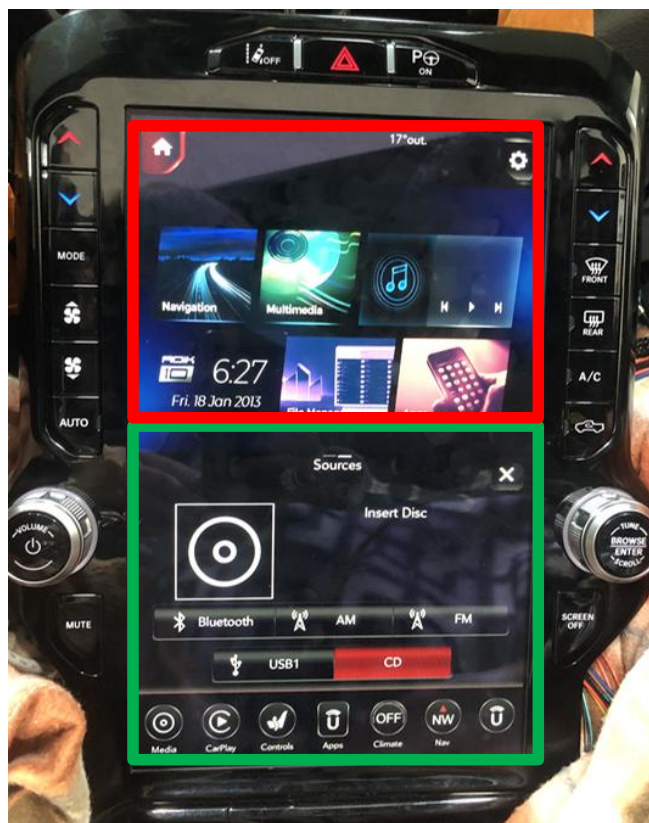
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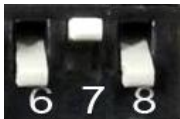
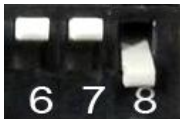
# 7. DIP S/W Setting

A type



B type

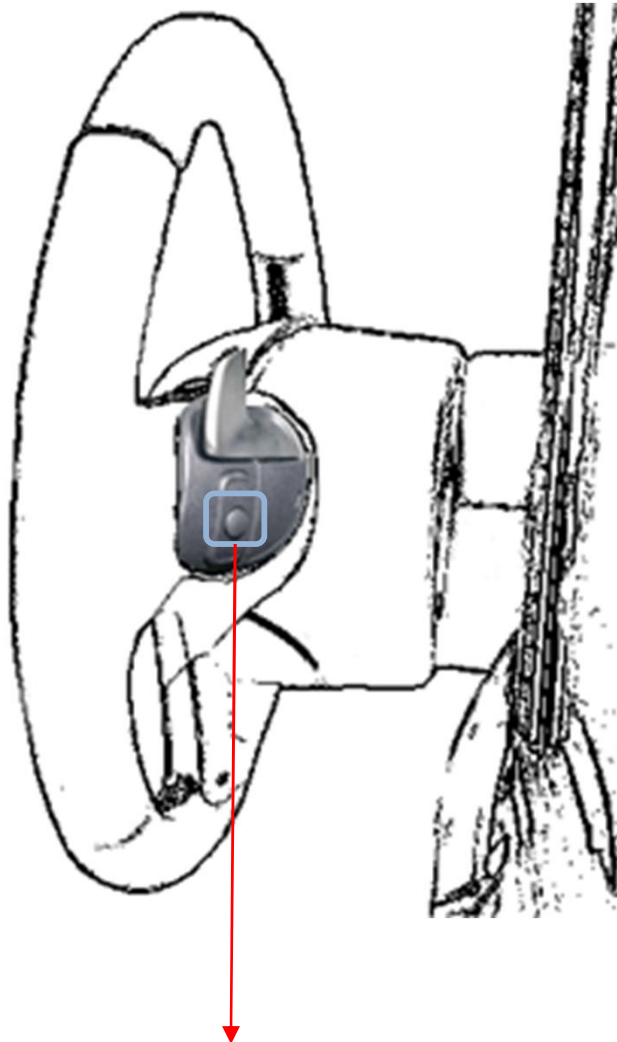


Type	A	B
DIP-SW		
Active size	800*526	800*640



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## 8. Mode Change



mode change : 1ms press

MENU	SteeringWheelBtn		NAVI
Config	FrontCam-Power	Off	
Option	FrontCam-Det	ExtWire	
Image	FrontCam-RcvOpt	<input type="text" value="0s"/>	
Screen	AV Mode	Off	
Parking	SteeringWheelBtn	On	Off



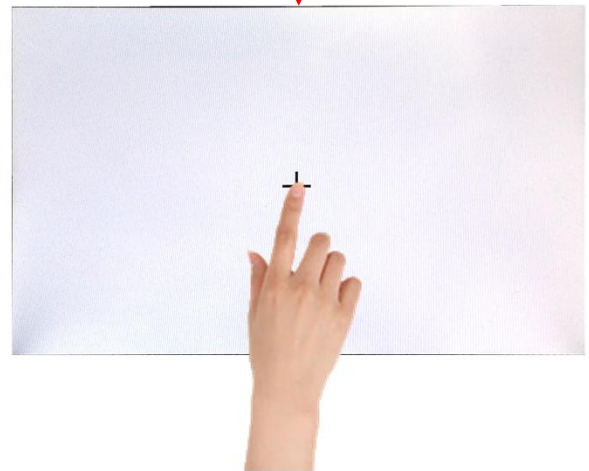
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# 9. Touch Control

## Touch control - Calibration

MENU	RearCam-Det		NAVI
OSD	Factory Reset	Execute	Cancel
IR-Ctrl	Calibration	Execute	Cancel
Utility	Version	BEW3100AUX-210518	

OSD menu -> Utility -> Calibration



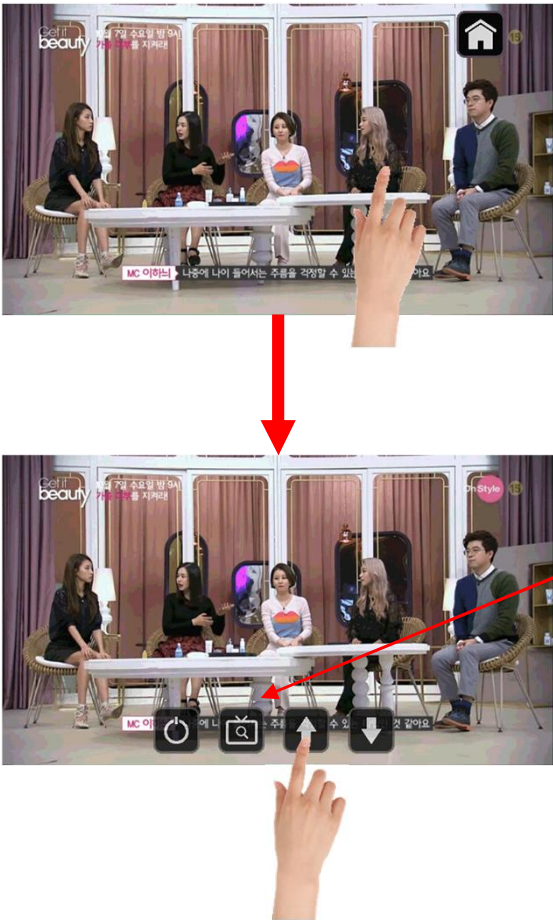
+ Touch according to the shape coordinates.



# 9. Touch Control

## DVB-T/DVD Control

DVB-T



DVD



Press Icon

MENU	UI DVB-T(DMB)		NAVI
Config	Mode Button	NAV	
Option	UI DVB-T(DMB)	On	Off
Image	UI DVD	On	
Screen	ScrChg-Btn	On	
Parking	Reset	Execute	Cancel

MENU	UI DVD		NAVI
Config	Mode Button	NAV	
Option	UI DVB-T(DMB)	On	
Image	UI DVD	On	Off
Screen	ScrChg-Btn	On	
Parking	Reset	Execute	Cancel



# 9. Touch Control

Touch size

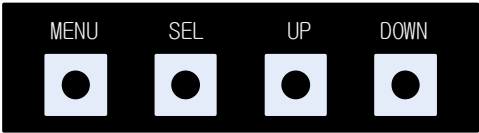


Interface  
Touch  
Size

OEM  
Touch  
Size

# 10. OSD(On Screen Display) Control

## OSD control



MENU	Press to display when there is no OSD screen. When OSD screen is on, press it to EXIT or OFF.
SEL	Item Selection, Value Selection
UP	Item up Increase selected value
DOWN	Item down Decrease selected value

Mode State		
MENU	Option	
Config	NAVI COM	KPLAY
Option	RearCam-Type	ExtDevice
Image	RearCam-Power	Auto
Screen	RearCam-Det	CAN
Parking	FrontCam-Type	ExtDevice

First Menu      Second Menu      Third Menu

# 10. OSD(On Screen Display) Control

## OSD Config

First Menu	Second Menu	Third Menu	Description
Config	NAVI-RGB	DIGITAL-INAVI :	Setting the Connected NAVI Model
	DVB-T(DMB)	ELT_DVBT20 :	Setting the Connected DVB-T Model
	DVD	ELT_980XU Slim :	Setting the Connected DVD Model
	RearCam	AVM VIDEO :	Setting the Connected RearCam Model
	Reset	Execute	Reset to default value of Config menu

MENU	Config <span>NAVI</span>	
Config	NAVI-RGB	DGT-KPLAY-V-1280
Option	DVB-T(DMB)	ELT_DVBT20
Image	DVD	ELT_980XU Slim
Screen	RearCam	AVM
Parking	FrontCam	Default

# 10. OSD(On Screen Display) Control

## OSD - Option Menu

First Menu	Second Menu	Third Menu	Description
Option	NAVI COM	HMS FINE :	To use UART Touch, select a navigation manufacturer.
		OFF	Do not use features.
	RearCam-Type	OEM	Original Camera
		ExtDevice	Equipped with external camera
	RearCam-Power	ON	+ 12V continuous supply
		AUTO	+ 12V supply only in Rear camera mode
		OFF	+ 12V off
	RearCam-Det	GEAR	Detected by CAN
		WIRE	Detected by Rear-Det Wire
	FrontCam-Type	OEM	Original Camera
		ExtDevice	Equipped with external camera
	FrontCam-Power	ON	+ 12V continuous supply
		AUTO	+ 12V supply only in Front camera mode
		OFF	+ 12V off
	FrontCam-Det	GEAR	Detected by CAN
		WIRE	Detected by Front-Det Wire
	FrontCam-RcvOpt	ON	After RearCam shows FrontCam and returns to previous state
		OFF	Disable feature
	AV Mode	ON	Use "REAR" video input port as VIDEOE input.
		OFF	Do not use features.



# 10. OSD(On Screen Display) Control

## OSD - Option Menu

First Menu	Second Menu	Third Menu	Description
Option	SteeringWheel Btn	ON	"Mode" Switching screen by using Steering wheel button
		OFF	Do not use features.
	UI DVB-T (DMB)	ON	DVB-T device control UI output function
		OFF	Disable feature
	UI DVD	ON	DVD device control UI output function
		OFF	Disable feature
	ScrChg-Call	On	When a Bluetooth phone comes in, the screen is forcibly switched.
		Off	Disable feature
	Reset	Execute	Option Menu all Reset



# 10. OSD(On Screen Display) Control

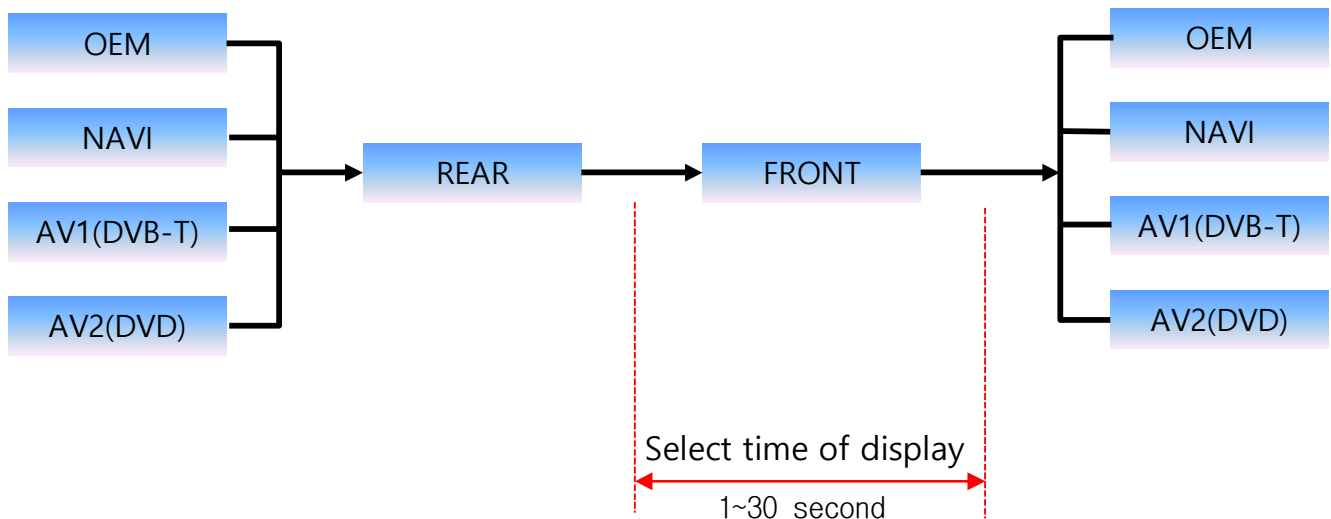
## OSD Option -> FrontCam-RcvOpt

### Front Camera Auto Mode

0 second = FrontCam-RcvOpt menu OFF  
1~30 second = FrontCam-RcvOpt menu ON & time control

MENU↵	FrontCam-Det NAVI	
Config↵	FrontCam-Power↵	Auto↵
Option↵	FrontCam-Det↵	ExtDevice↵
Image↵	FrontCam-RcvOpt↵	<div><div></div>0s↵</div>
Screen↵	UI DVB-T(DMB)↵	On↵
Parking↵	UI DVD↵	On↵

MENU↵	FrontCam-Det NAVI	
Config↵	FrontCam-Power↵	Auto↵
Option↵	FrontCam-Det↵	ExtDevice↵
Image↵	FrontCam-RcvOpt↵	<div><div></div>30s↵</div>
Screen↵	UI DVB-T(DMB)↵	On↵
Parking↵	UI DVD↵	On↵





# 10. OSD(On Screen Display) Control

NAVI-RGB menu

First Menu	Second Menu	Third Menu	Action
Image	Brightness		Adjust the value of brightness
	Contrast		Adjust the value of contrast
	Color-RED		Adjust the value of RED
	Color-GREEN		Adjust the value of GREEN
	Color-BLUE		Adjust the value of BLUE
	Reset	Excute	Option Menu all Reset

DVD,DVB-T(DMB),NAVI-AV,REAR,FRONT menu

First Menu	Second Menu	Third Menu	Action
Image	Brightness		Adjust the value of brightness
	Contrast		Adjust the value of contrast
	Saturation		Adjust the value of Saturation
	Hue		Adjust the value of Hue
	Sharpness		Adjust the value of Sharpness
	Reset	Excute	Option Menu all Reset



< < Brightness > >



< < Contrast > >



< < Saturation > >




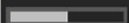
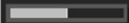


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# 10. OSD(On Screen Display) Control

## OSD – Screen Menu

First Menu	Second Menu	Third Menu	Description
Screen	Horizontal		Output screen horizontal movement
	Vertical		Output screen vertical movement
	Scale X Up		Reduce / increase output screen width
	Scale X Down		
	Scale Y Up		Reduce / Increase Output Screen Height
	Scale Y Down		
	Reset		Screen menu all reset

MENU	Config	NAVI
Config	Horizontal	 50
Option	Vertical	 50
Image	Scale X Up	 50
Screen	Scale X Down	 50
Parking	Scale Y Up	 50



# 10. OSD(On Screen Display) Control

## OSD – Parking Menu

First Menu	Second Menu	Third Menu	Description
Parking	Line Display	ON	Show parking line
		OFF	Do not show parking lines
	OPS Display	ON	Show OPS
		OFF	Do not show OPS
	Warnings Lang		Set warning text language
	Horizontal		Moving a parking line horizontally
	Vertical		Moving a parking line vertically
	Transparency		Parking line transparency
	Reset		Parking menu all reset

MENU	Line Display		REAR
Config	OPS Display	On	
Option	Line Display	On	Off
Image	Warnings Lang	English	
Screen	Horizontal	<input type="text" value="0"/>	
Parking	Vertical	<input type="text" value="0"/>	



# 10. OSD(On Screen Display) Control

## OSD Parking – OPS Display On / Off

MENU	OPS Display		REAR
Config	OPS Display	On	Off
Option	Line Display	On	
Image	Warnings Lang	English	
Screen	Horizontal	<input type="text" value="0"/>	
Parking	Vertical	<input type="text" value="0"/>	



OPS ON Screen

MENU	OPS Display		REAR
Config	OPS Display	On	Off
Option	Line Display	On	
Image	Warnings Lang	English	
Screen	Horizontal	<input type="text" value="0"/>	
Parking	Vertical	<input type="text" value="0"/>	



OPS OFF Screen

## OSD Parking – Guide line On / Off

MENU	Line Display		REAR
Config	OPS Display	On	
Option	Line Display	On	Off
Image	Warnings Lang	English	
Screen	Horizontal	<input type="text" value="0"/>	
Parking	Vertical	<input type="text" value="0"/>	



Parking Line ON Screen

MENU	Line Display		REAR
Config	OPS Display	On	
Option	Line Display	On	Off
Image	Warnings Lang	English	
Screen	Horizontal	<input type="text" value="0"/>	
Parking	Vertical	<input type="text" value="0"/>	



Parking Line OFF Screen



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# 10. OSD(On Screen Display) Control

## OSD Parking – Change warning language

MENU↵	Line Display	REAR
Config↵	OPS Display↵	English↵
Option↵	Line Display↵	中文↵
Image↵	Warnings Lang↵	한국어↵
Screen↵	Horizontal↵	日本↵
Parking↵	Vertical↵	Р о с с и я↵

English

Check entire surroundings!

中文

请注意车辆周围环境!

한국어

차량 주변을 전부 확인

台灣

請注意車輛周圍環境!

Р о с с и я

Следите за всем окружением автомобиля!

日本

周辺の安全を確認



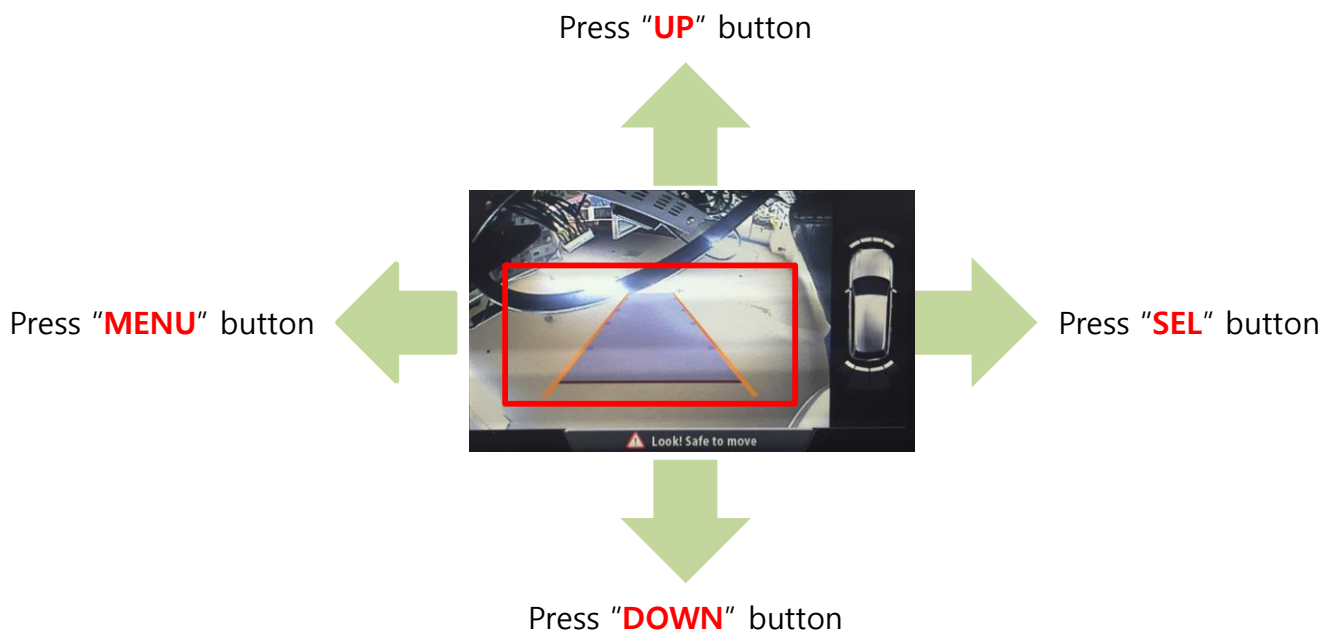
# 10. OSD(On Screen Display) Control

## OSD Parking – Adjust position of parking guide line

MENU	Parking <span>REAR</span>	
Config	OPS Display	On
Option	Line Display	Off
Image	Warnings Lang	English
Screen	Horizontal	<input type="text"/> 0
Parking	Vertical	<input type="text"/> 0

Possible to adjust the position of parking guide line  
by Keypad in Horizontal / Vertical menu


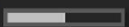
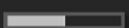
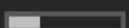
※ Pressing this Horizontal / Vertical menu,  
The OSD screen automatically disappears.  
Please adjust from the parking line Screen.



# 10. OSD(On Screen Display) Control

## OSD – OSD Menu

First Menu	Second Menu	Third Menu	Description
OSD	Horizontal	<i>value</i>	OSD Menu Horizontal Shift
	Vertical	<i>value</i>	OSD menu vertical Shift
	Display Time	<i>value</i>	OSD Menu Display Time (in seconds)
	Transparency	<i>value</i>	OSD menu transparency
	Language		OSD menu display language
	Reset	Execute	Initialize OSD settings

MENU	Horizontal NAVI	
OSD	Horizontal	 50
IR-Ctrl	Vertical	 50
Utility	Display Time	 10s
	Transparency	 30
	Language	English

MENU	Reset NAVI	
OSD	Reset	Execute Cancel
IR-Ctrl		
Utility		



# 10. OSD(On Screen Display) Control


## OSD – IR learning function



\* In order to work with the IR learning function, a separate IR cable is required.


MENU	DVB-T(DMB)	NAVI
OSD	DVB-T(DMB)	Sel Learn Cance
IR-Ctrl	DVD	Sys
Utility	DVR	Sys

1. In DVB-T / DVD menu, select User in Sys (OSD list) or User (learned contents).
2. Select Learn from the OSD menu.



MENU	DVB-T(DMB)	NAVI
OSD	All-Clear	
IR-Ctrl	POWER	---
Utility	SCAN	---
	CH+	---
	CH-	---

3. Before using IR learning function, select All-Clear to delete existing stored data.



MENU	DVB-T(DMB)	NAVI
OSD	New Code: ----	
IR-Ctrl	Cfm Code: ----	
Utility	Save Clr Cance	

4. Press the remote control button to be used in each ICON once in New Code, press once again in Cfm Code to confirm it is the same and save it.

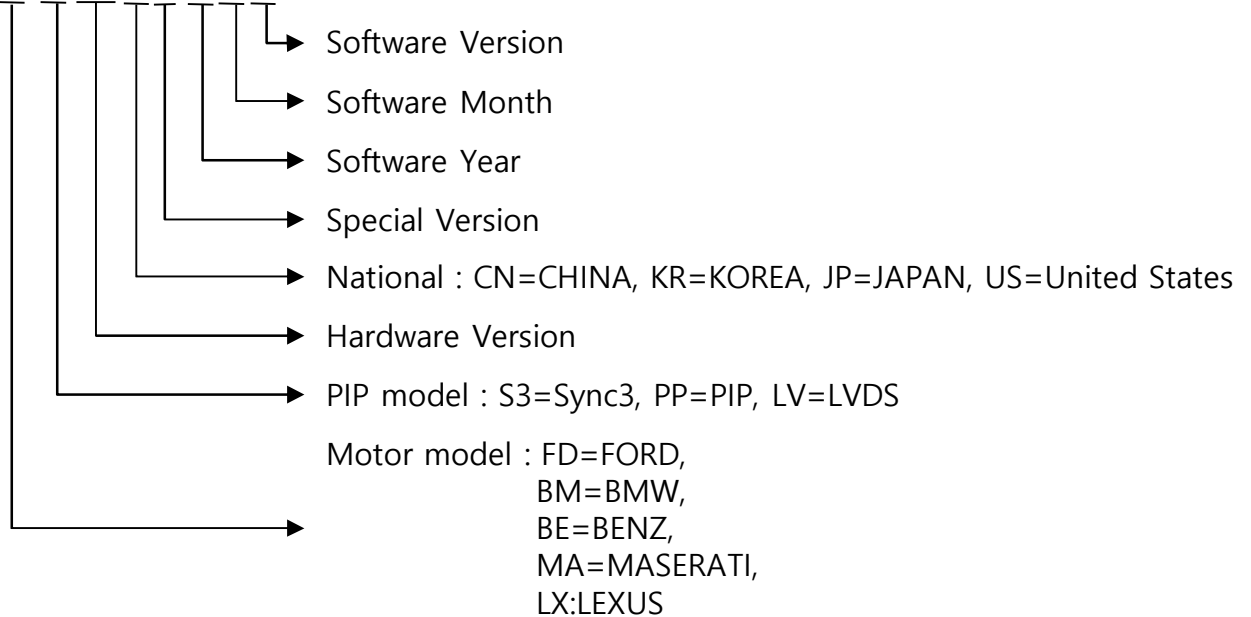


# 10. OSD(On Screen Display) Control

## OSD – Utility Menu

First Menu	Second Menu	Third Menu	Description
Utility	Factory Reset	Execute	Initialize all settings
	Calibration	Execute	Calibration mode Execute
	Version		FDSYOOKRX-180209 (Check for future upgrades)

Last Source : FDSYOOKRX-180209



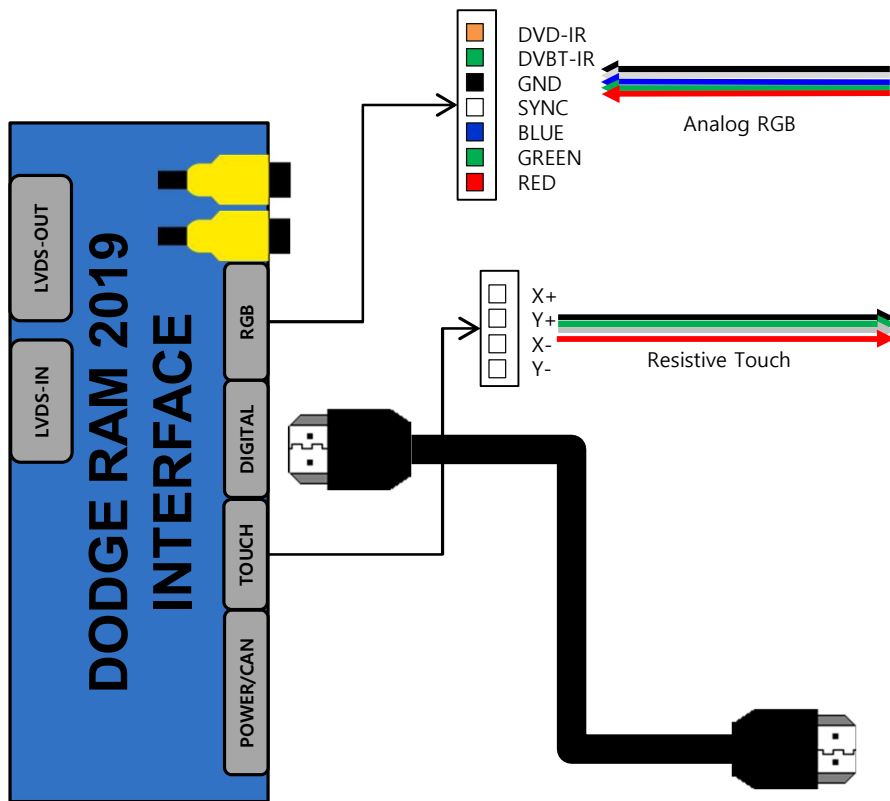
MENU	Utility	NAVI
OSD	Factory Reset	Execute Cancel
IR-Ctrl	Calibration	Execute Cancel
Utility	Version	BEW3100AUX-210518





# 11. Install Manual

## 1. Installation Navigation Connection



### \*Analog RGBsync navigation



KD-900

### \*Digital navigation



Roik, Qroi

MENU	NAVI-RGB	NAVI
Config	NAVI-RGB	DGT-NV17-800
Option	DVB-T(DMB)	DGT-NV17-V-800
Image	DVD	DGT-KPLAY-800
Screen	RearCam	DGT-KPLAY-1280
Parking	FrontCam	DGT-KPLAY-V-1280

MENU	FrontCam-Type	NAVI
Config	NAVI COM	OFF
Option	RearCam-Type	GU
Image	RearCam-Power	KPLAY
Screen	RearCam-Det	NV17
Parking	FrontCam-Type	NVC

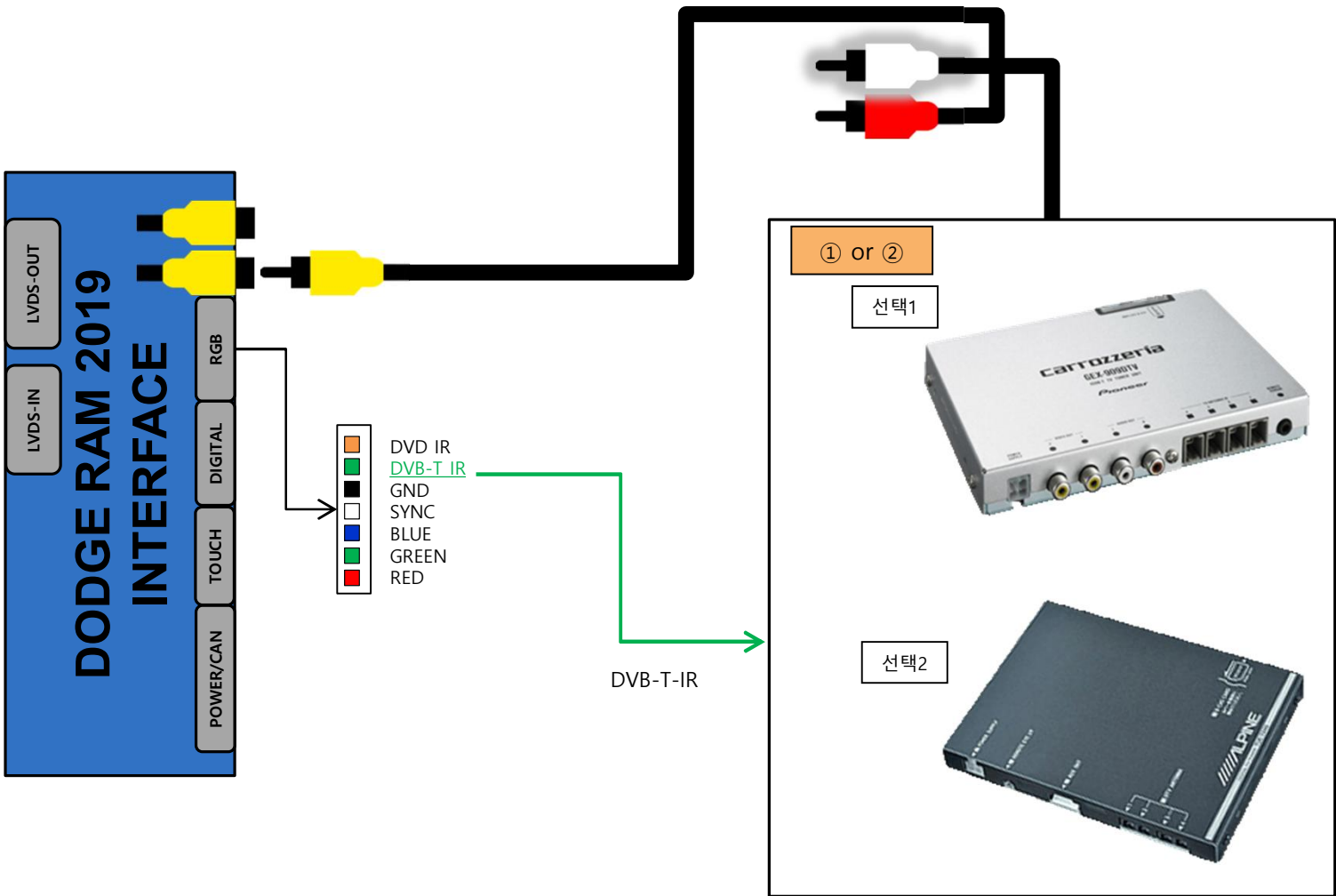
- Select the navigation you want to use from the above items.



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# 11. Install Manual

## 2. Installation DVB-T Remote Control Connection



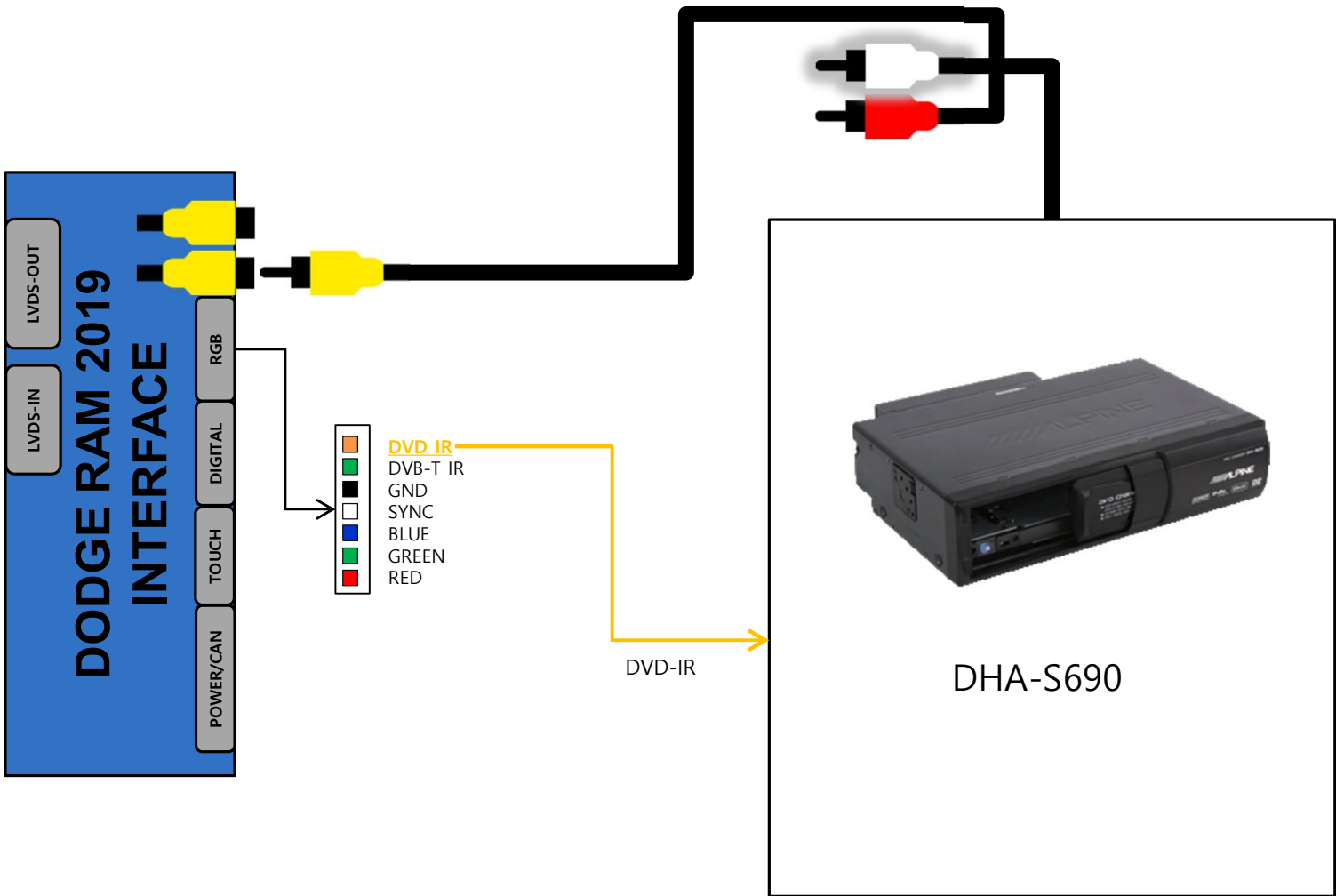
MENU	UI DVB-T(DMB)		NAVI
Config	FrontCam-Power	Auto	
Option	FrontCam-Det	ExtWire	
Image	FrontCam-RcvOpt	0s	
Screen	SteeringWheelBtn	Off	
Parking	UI DVB-T(DMB)	On	Off

MENU	DVB-T(DMB)		NAVI
Config	NAVI-RGB	ELT_DVBT20	
Option	DVB-T(DMB)	NET-770	
Image	DVD	MediaLife	
Screen	RearCam	Panasonic	
Parking	FrontCam	Pioneer	

- Select the DVB-T you want to use from the above items.

# 11. Install Manual

## 3. Installation DVD Remote Control Connection



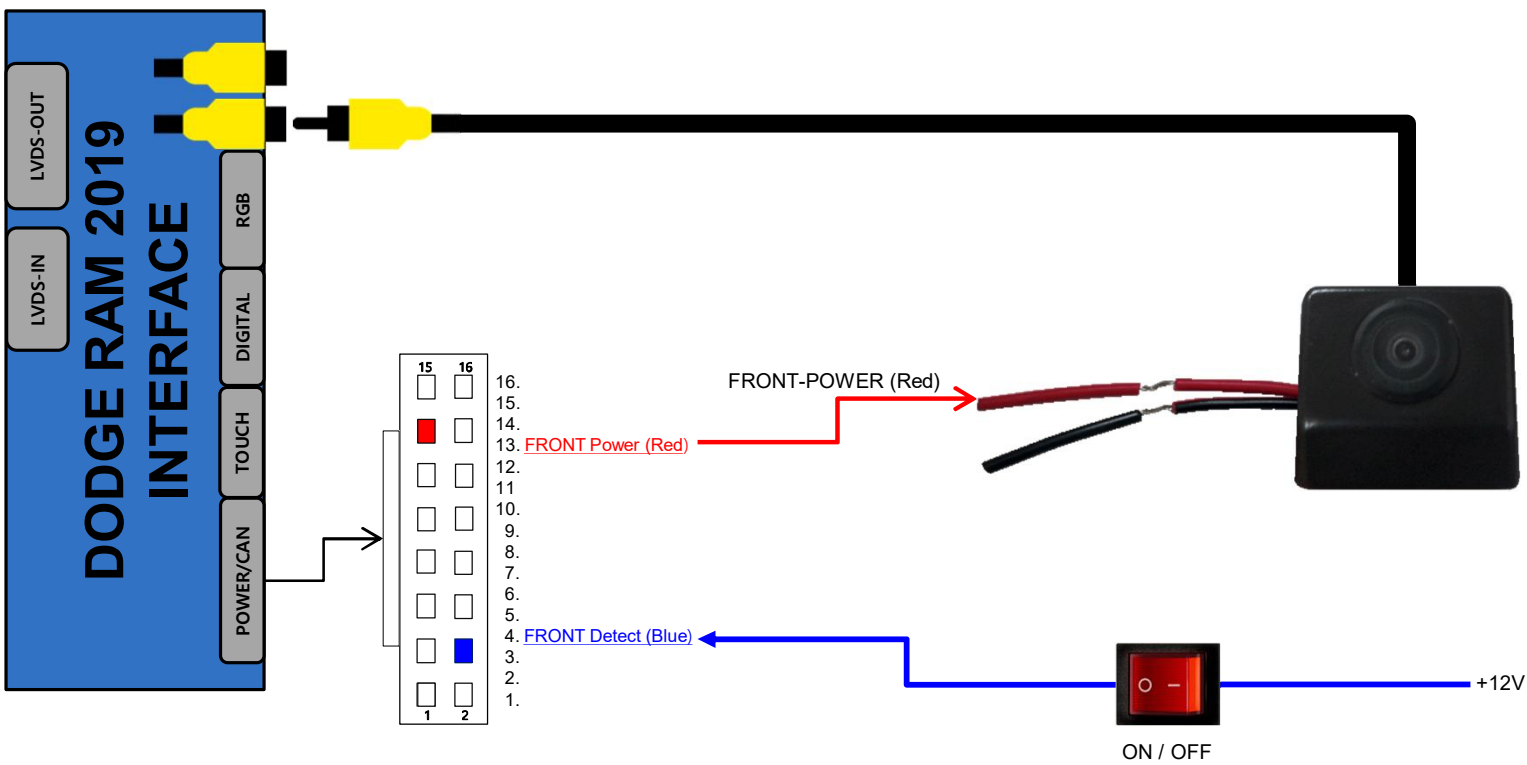
MENU↵	Option		NAVI
Config↵	UI DVD↵	On↵	Off↵
Option↵	ScrChg-Climate↵	Off↵	
Image↵	Reset↵	Execute↵	Cancel↵
Screen↵	↵	↵	
Parking↵	↵	↵	

MENU	DVD		NAVI
Config	NAVI-RGB	ELT-980XU Slim	
Option	DVB-T(DMB)	LCKT	
Image	DVD	Sanyo	
Screen	RearCam	NECVOX DVA-3206	
Parking	FrontCam	AMPIRE DVX-101	

- Select the DVD you want to use from the above items.

# 11. Install Manual

## 4. Installation External Front Camera Connection



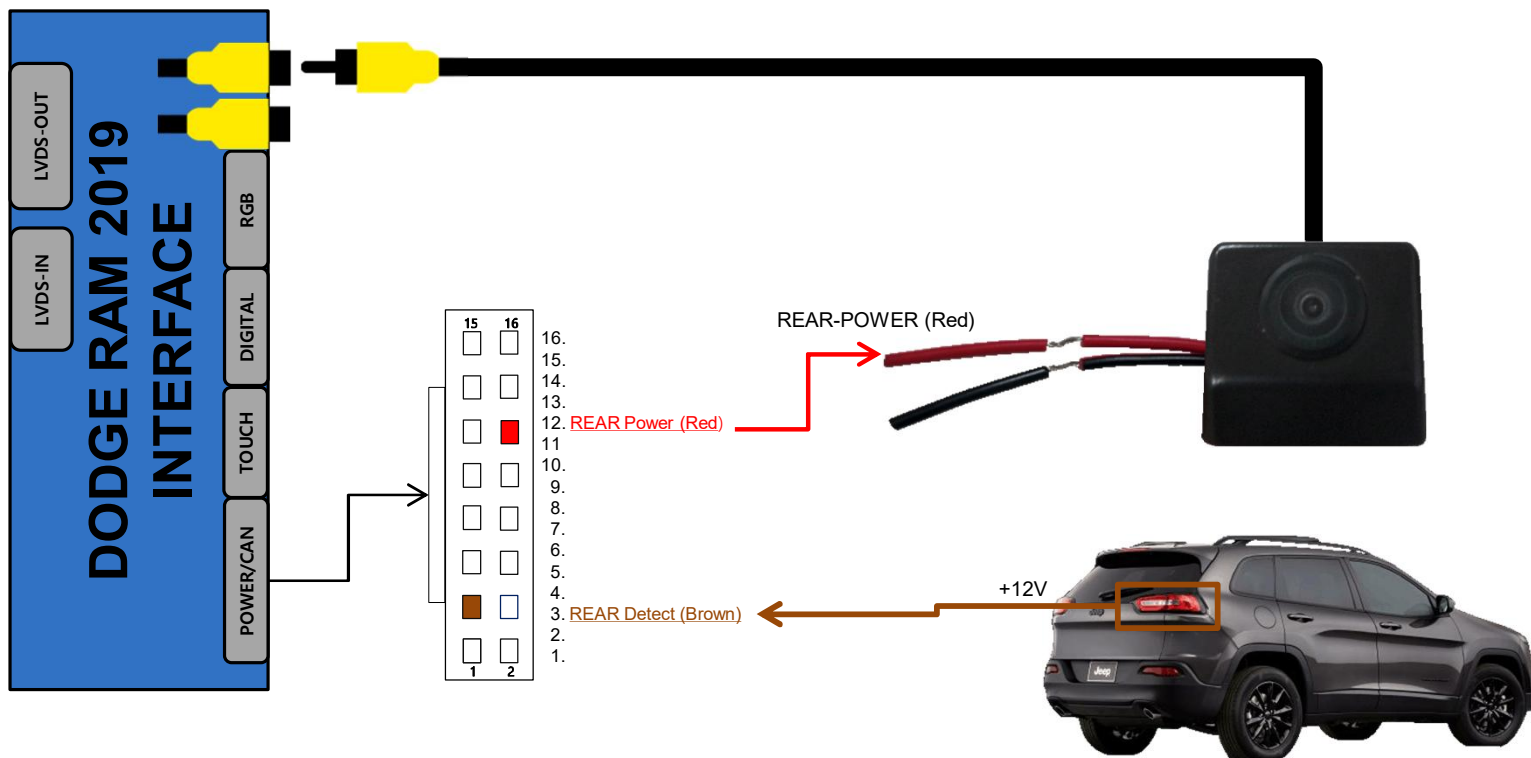
MENU	FrontCam <span>NAVI</span>	
Config	NAVI-RGB	AVM
Option	DVB-T(DMB)	DIGITAL-NVC
Image	DVD	Default
Screen	RearCam	
Parking	FrontCam	

MENU	FrontCam-RcvOpt <span>NAVI</span>	
Config	FrontCam-Power	Auto
Option	FrontCam-Det	ExtWire
Image	FrontCam-RcvOpt	<div></div> 0s
Screen	SteeringWheelBtn	Off
Parking	UI DVB-T(DMB)	On

- Refer to page. 10. OSD (On Screen Display) Control -> OSD option -> FrontCam-RcvOpt.

# 11. Install Manual

## 5. Installation External Reverse(Rear) Camera Connection

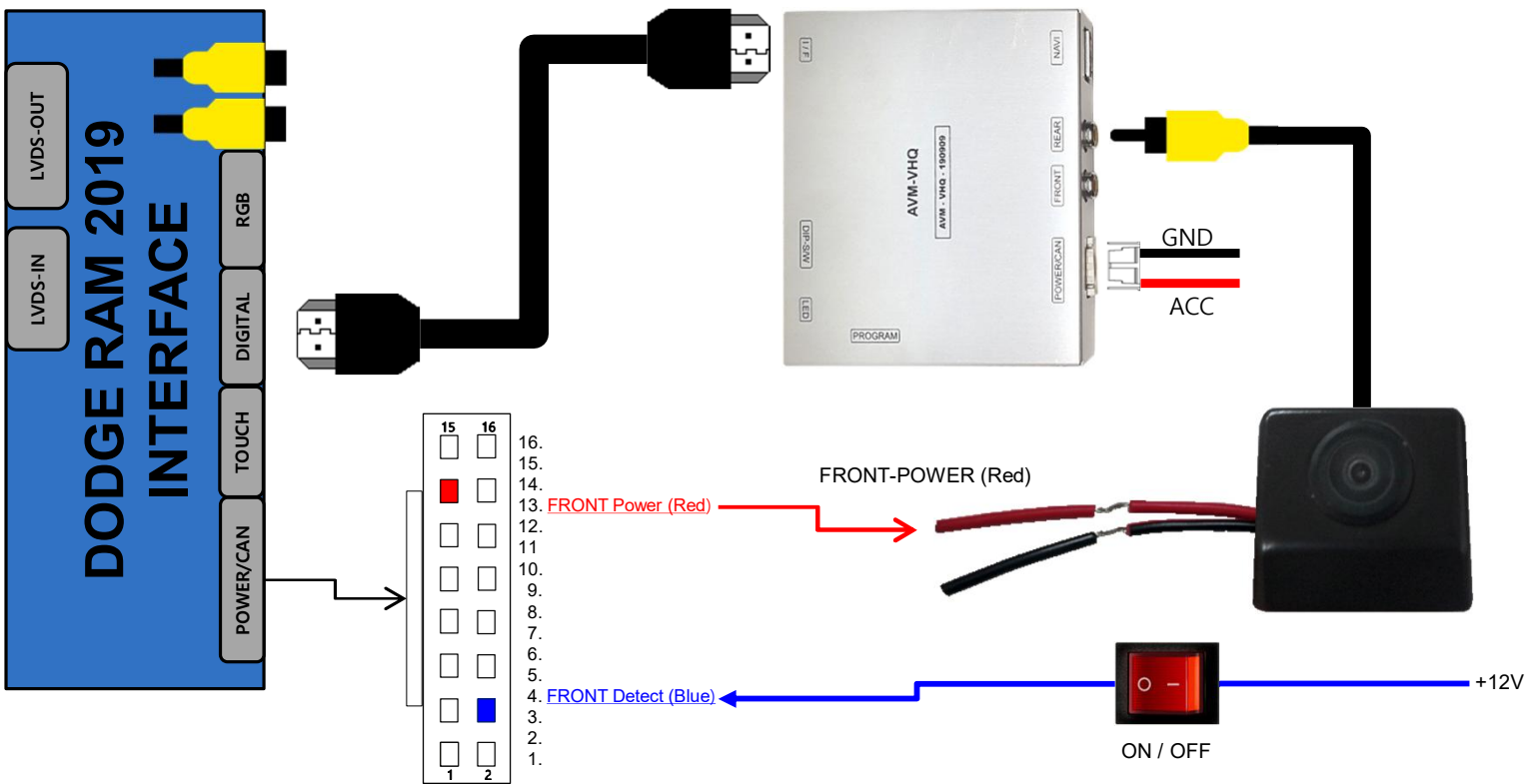


MENU	RearCam		REAR
Config	NAVI-RGB	AVM	
Option	DVB-T(DMB)	DIGITAL-NVC	
Image	DVD	Default	
Screen	RearCam		
Parking	FrontCam		

- Select the RearCam you want to use from the above items.

# 11. Install Manual

## 6. Installation VHQ(Video High Quality) Module - Front Camera Connection



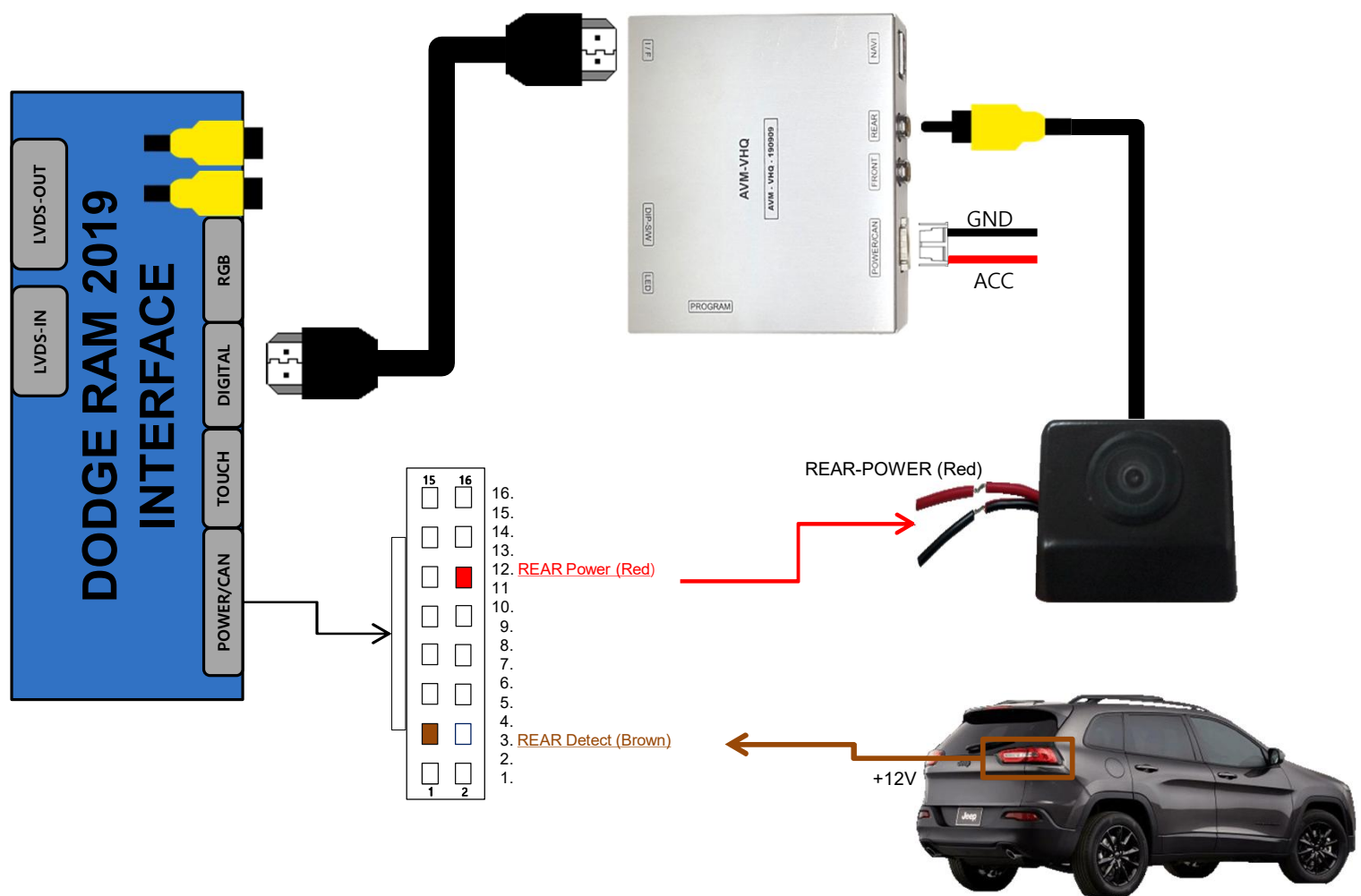
MENU	FrontCam		NAVI
Config	NAVI-RGB	AVM-VIDEO	
Option	DVB-T(DMB)	AVM-VHQ	
Image	DVD	DIGITAL-NVC	
Screen	RearCam	HDMI-720P60Hz	
Parking	FrontCam	Default	

MENU	FrontCam-RcvOpt		NAVI
Config	FrontCam-Type	ExtDevice	
Option	FrontCam-Power	Auto	
Image	FrontCam-Det	ExtWire	
Screen	FrontCam-RcvOpt	<div><div></div></div> 7s	
Parking	SteeringWheelBtn	On	

- Refer to page. 10. OSD (On Screen Display) Control -> OSD option -> FrontCam-RcvOpt.

# 11. Install Manual

## 7. Installation VHQ(Video High Quality) Module - External Reverse(Rear) Camera Connection

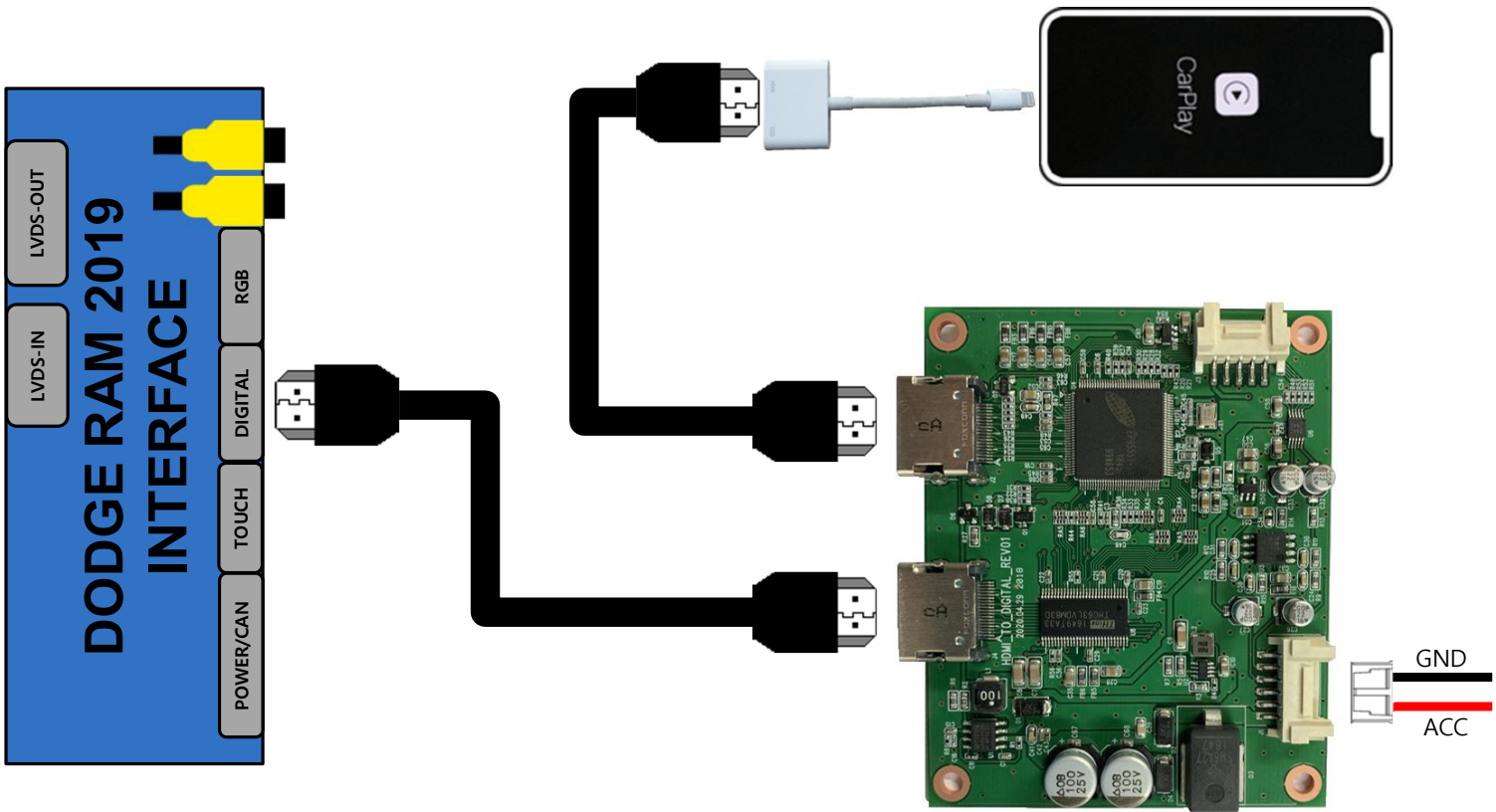


MENU	RearCam		REAR
Config	NAVI-RGB	AVM-VIDEO	
Option	DVB-T(DMB)	AVM-VHQ	
Image	DVD	DIGITAL-NVC	
Screen	RearCam	HDMI-720P60Hz	
Parking	FrontCam	Default	

- Select the RearCam you want to use from the above items.

# 11. Install Manual

## 8. Installation HDMI-TO-DIGITAL Connection



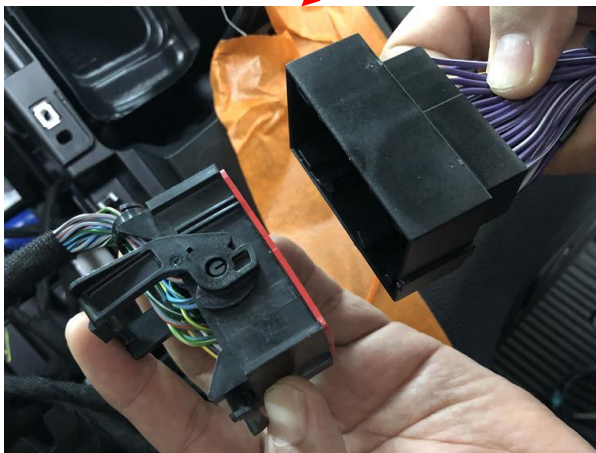
MENU	NAVI-RGB	NAVI
Config	NAVI-RGB	DIGITAL-ROIK
Option	DVB-T(DMB)	HDMI-720P60HZ
Image	DVD	GI5000-WVGA
Screen	RearCam	BF500G-WVGA
Parking	FrontCam	CUBE-WVGA

- Select the navigation you want to use from the above items.



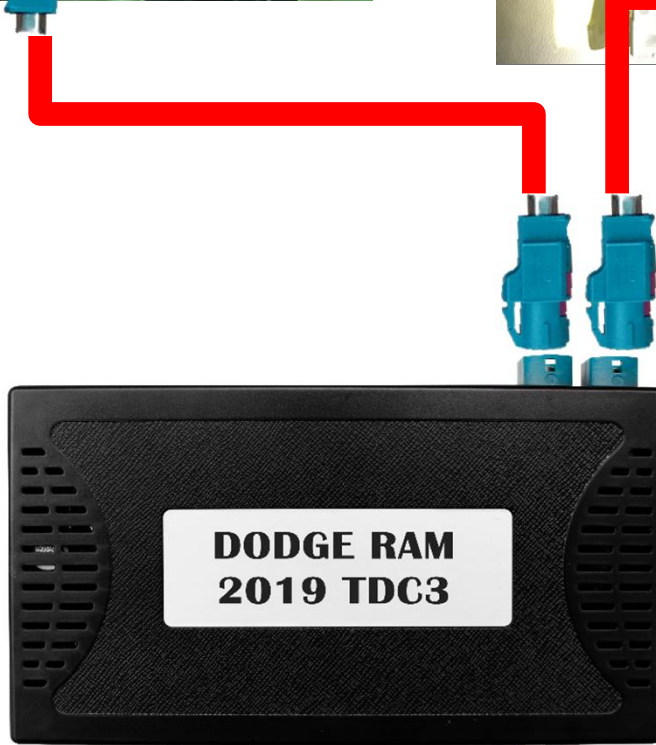
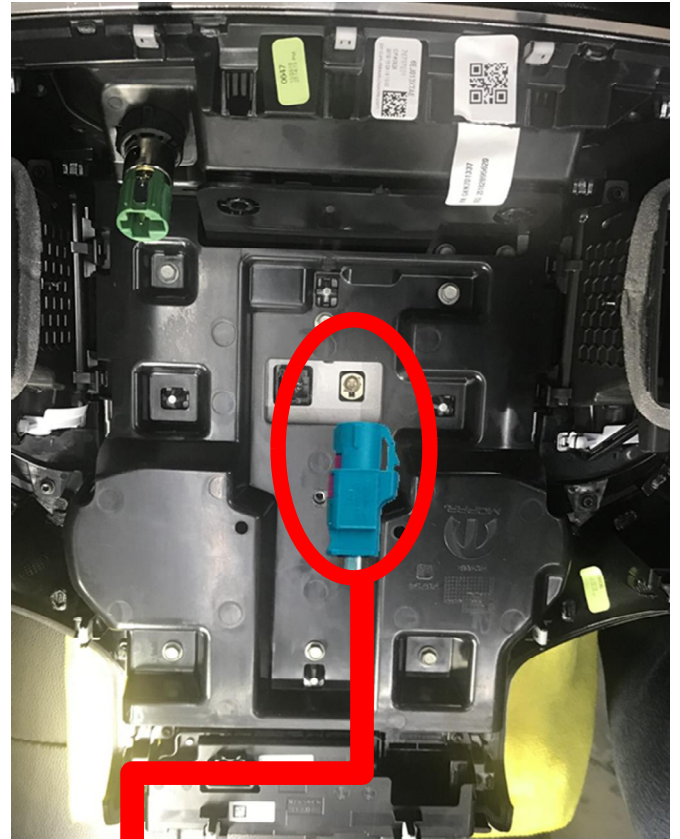
# 11. Install Manual

## 9. Installation POWER/CAN connection



# 11. Install Manual

## 10. Installation LVDS connection



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# 12. Q & A

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## FAQ

1. Not possible to switch mode
  - Check connection of OSD Key pad wire
  - Check CAN connection
2. Display wrong size of picture
  - Check Dip s/w setting
3. Display black screen in OEM mode
  - Check connection of LVDS/LCD cable
4. Not possible to switch to rear screen
  - Check the packing setting (OSD Menu – option – RearCam-Det)

## Caution

1. The device must not be installed in where it interferes driving  
(close to brake pedal, steering wheel, airbag etc.)
2. LVDS cable must be connected correctly according to the manual
3. Insulate the end of wire by using electrical tape
4. The installation should be done by expert
5. GU electronic does not take any responsibility for any problem caused by wrong installation

