Ford Sync3 TDC2

- MODEL: HW REV 05

- DATE: 2021.12.27



Index

- 1. Main Spec
- 2. Block Diagram
- 3. Dimension
- 4. External Appearance
- 5. Connector Pin Assignment
- 6. Product Composition
- 7. DIP S/W Setting
- 8. Mode Change
- 9. Touch Control
- 10. OSD(On Screen Display) Control
- 11. Install Manual
- 12. Q & A

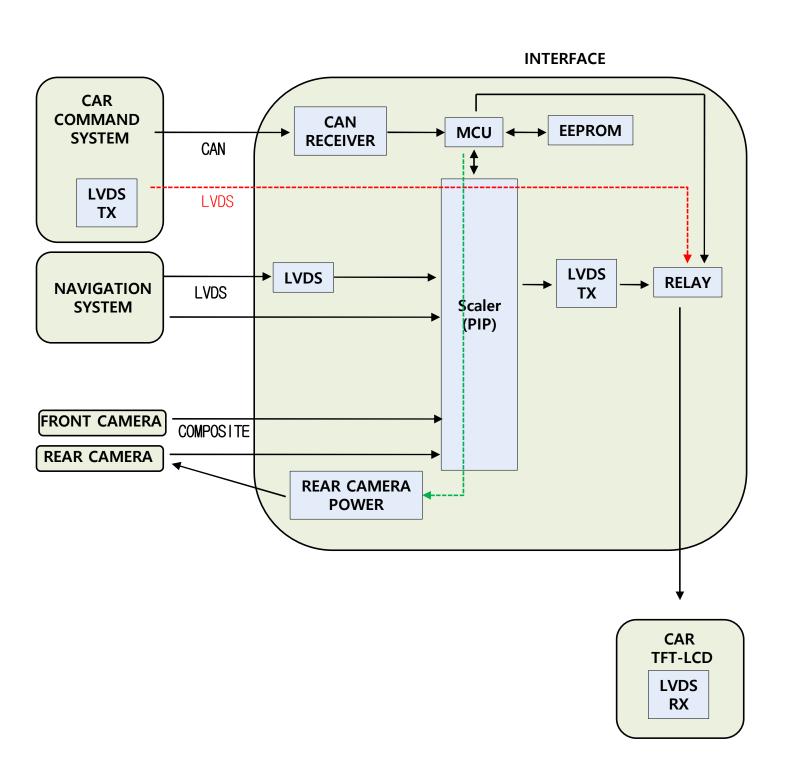


1. Main Spec.

- 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 Vertual 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



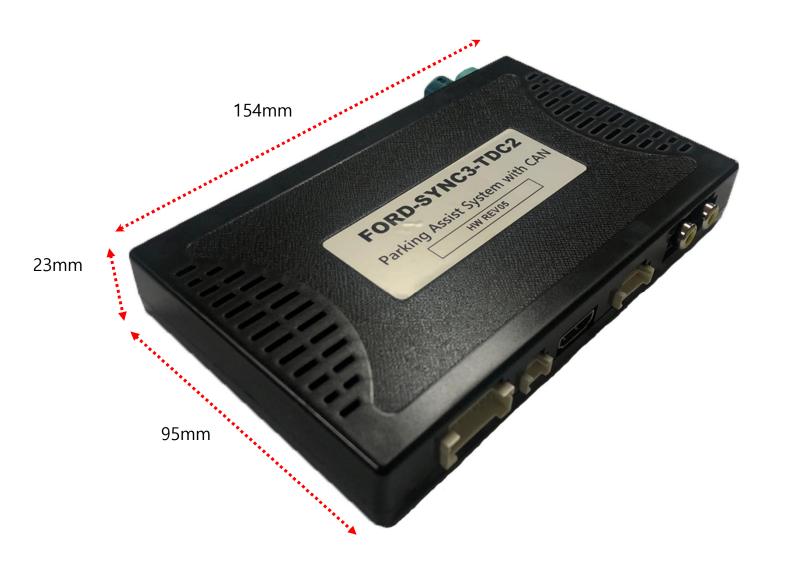
2. Block Diagram





3. Dimension

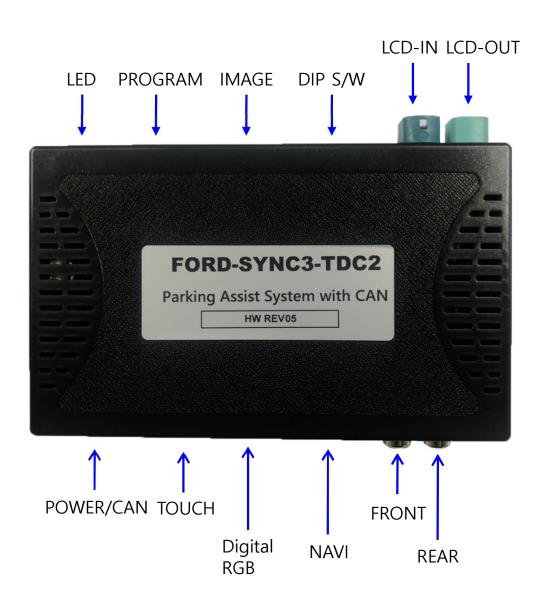
154mm * 95mm * 23mm



* This can change under manufacturer's circumstance

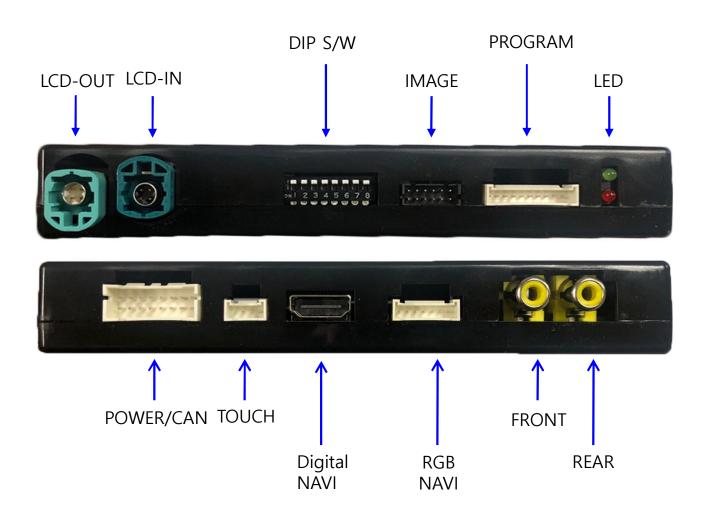


4. External Appearance



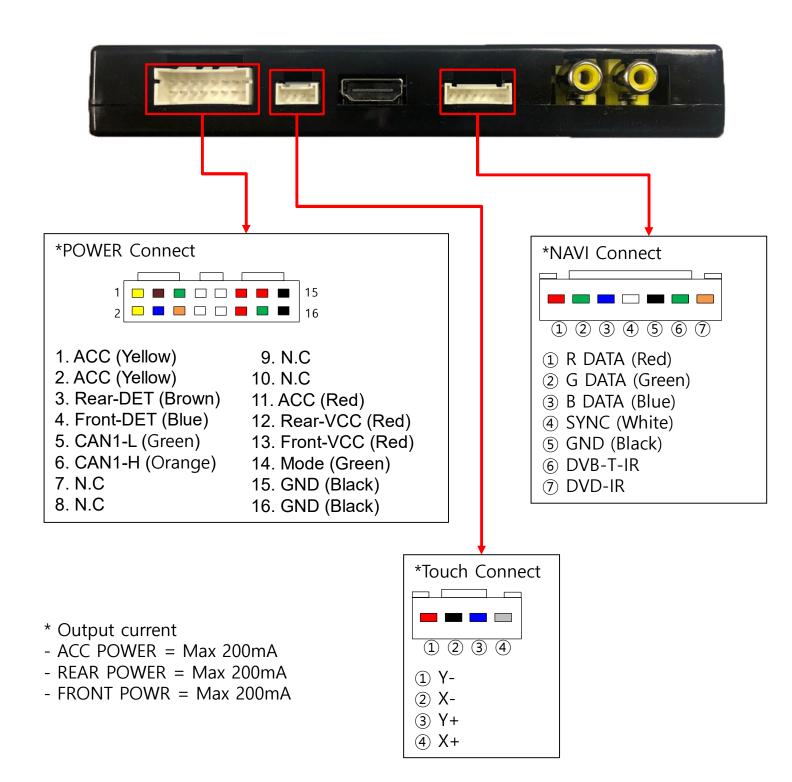


4. External Appearance





5. Connector Pin Assignment





6. Product Composition



Interface 1 EA



Mode S/W 1 EA



Power Cable 1 EA



Touch convertor Cable(KD-900) 1 EA



RGB NAVI Cable 1 EA



OSD Board 1 EA



LVDS IN Cable 1 EA



LVDS OUT Cable 1 EA



6. Product Composition

* CarPlay Set Sales(option) - KPLAY



Interface 1 EA



AUX Cable 1 EA



Power Cable 1 EA





Bluetooth / Wifi Antenna 2EA



Microphone 1 EA



6. Product Composition

* CarPlay(NV17) Set Sales(option)



CarPlay Main 1 EA



AUX Cable 1 EA



Power Cable 1 EA





Microphone 1 EA



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	N.C	
5		
6		Diaht Diatona
7	CAR type SEL	Right Picture
8		

* DIP S/W Example



F150 Model



Vehicles that do not function as basic DIP-SW among F150 models Ford Ranger WildTrak (2021/02)



Mustang Model RANGER Model



Navigator 12"



MONDEO 7"



Ecosport 8"



WildTrak, 2021year New



Kuga 2018year



WildTrak, 2021year Old



GEMINI 2021year



7. DIP S/W Setting

how to distinguish between WildTrak 2021year Old and New







Steering Wheel Button Control



Select either "Left" button or "Voice" button. Select "Off" when not using both.



"Left" button

- Switch mode by pressing for 1.5 seconds
- Short press to switch OEM

"Voice" button

- Press Mode for 3 seconds.
- Short press to switch OEM



Specific vehicle - same as F150 but not distinguishable from other vehicle



In this case, set DIP-SW as shown in the figure on the left.



"Left" button

- Switch mode by pressing for 1.5 seconds
- Short press to switch OEM

"Voice" button

- Press Mode for 3 seconds.
- Short press to switch OEM



2020year Mustang 2.3 Coupe



- "NAV" button
- Switch mode by pressing for 1.5 secondsShort press to switch OEM

MENU	SteeringWhee	lBtn NAVI
Config	FrontCam-Type	ExtDevice
Option	FrontCam-Power	Auto
Image	FrontCam-Det	ExtWire
Screen	FrontCam-RcvOpt	0s
Parking	SteeringWheelBtn	Left Voice NAV Off



2021/02 Ford Ranger WildTrak



"Left" button

- Switch mode by pressing for 1.5 seconds
- Short press to switch OEM

MENU	SteeringWhee	lBtn NAVI _
Config	FrontCam-Type	ExtDevice
Opt ion	FrontCam-Power	Auto
Image	FrontCam-Det	ExtWire
Screen	FrontCam-RcvOpt	0s
Parking	SteeringWheelBtn	Left Voice NAV Off



2018year Ford Kuga



"SOUND" button

- Switch mode by pressing for 1.5 seconds
- Short press to switch OEM



2021year GEMINI



"Left" button

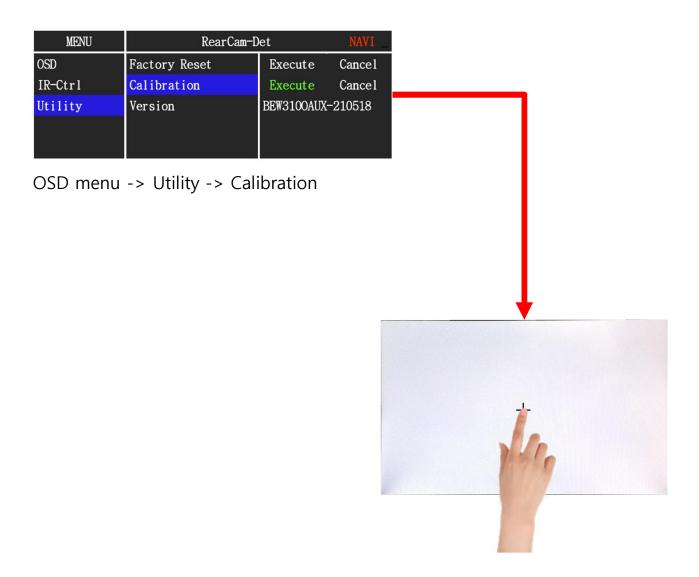
- Switch mode by pressing for 1.5 seconds
- Short press to switch OEM

MENU	SteeringWhee	elBtn NAVI _
Config	FrontCam-Type	ExtDevice
Option	FrontCam-Power	Auto
Image	FrontCam-Det	ExtWire
Screen	FrontCam-RcvOpt	0s
Parking	SteeringWheelBtn	Left Voice NAV Off



9. Touch Control

Touch control - Calibration

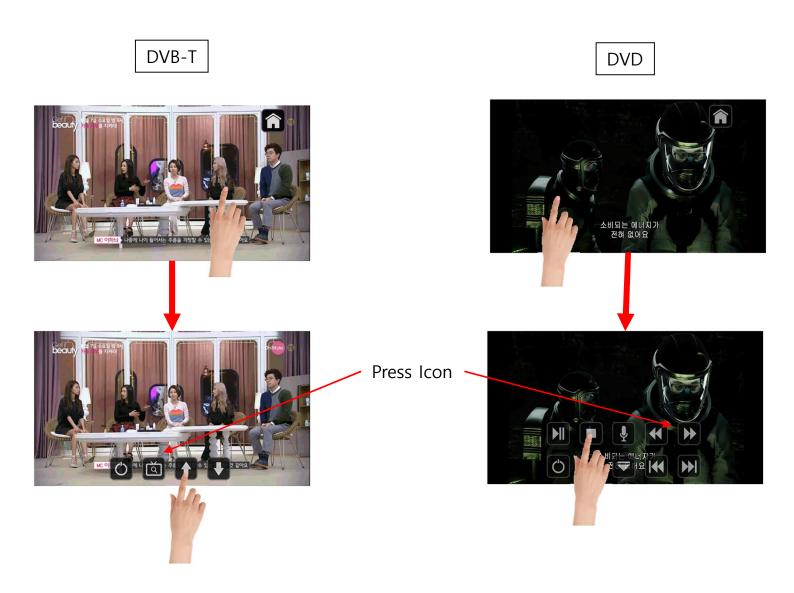


+ Touch according to the shape coordinates.



9. Touch Control

DVB-T/DVD Control



MENU	UI DVB-T	(DMB)	NAVI _
Config	Mode Button	NAV	
Option	UI DVB-T(DMB)	On	0ff
Image	UI DVD	On	
Screen	ScrChg-Btn	On	
Parking	Reset	Execute	Cancel

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

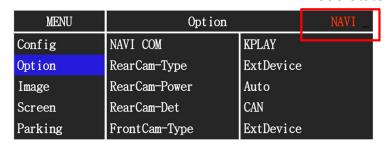


OSD control



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



First Menu Second Menu Third Menu



OSD Config

First Menu	Second Menu	Third Menu	Description
	NAVI-RGB	DIGTAL-INAVI :	Setting the Connected NAVI Model
	DVB-T(DMB)	ELT_DVBT20 :	Setting the Connected DVB-T Model
Config	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	NAVI
Config	NAVI-RGB	DGT-KPLAY-V-1280
Option	DVB-T(DMB)	ELT_DVBT20
Image	DVD	ELT_980XU Slim
Screen	RearCam	AVM
Parking	FrontCam	Default



OSD - Option Menu

First Menu	Second Menu	Third Menu	Description
	NAVI COM	HMS FINE :	To use UART Touch, select a navigation manufacturer.
		OFF	Do not use features.
	PoarCam Typo	OEM	Original Camera
	RearCam-Type	ExtDevice	Equipped with external camera
		ON	+ 12V continuous supply
	RearCam-Power	AUTO	+ 12V supply only in Rear camera mode
		OFF	+ 12V off
	DoorCom Dot	GEAR	Detected by CAN
	RearCam-Det	WIRE	Detected by Rear-Det Wire
Option	AV Mode	ON	Use "REAR" video input port as VIDOE input.
		OFF	Do not use features.
	FrontCam-Type	OEM	Original Camera
	FrontCam-Type	ExtDevice	Equipped with external camera
		ON	+ 12V continuous supply
	FrontCam-Power	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



OSD - Option Menu

First Menu	Second Menu	Third Menu	Description
	SteeringWheel Btn	Left	Use the "◀" button on the right side of the steeringwheel
		Right	Use the "Voice" button on the right side of the steeringwheel
		NAV	Use the "NAV" button on the right side of the steeringwheel
		OFF	Disable feature
	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
Option	ScrChg-Call ScrChg_Climate	ON	Switch to OEM screen when bluetooth phone comes in, return to original when phone terminated
		OFF	Disable feature
		ON	When there is a change of air conditioning, it switches to OEM screen for 2 seconds and then returns to original state
		OFF	Disable feature
	ScrChg-Audio-Vol	ON	When there is a change in audio volume, it switches to OEM screen for 2 seconds and returns to original state
		OFF	Disable feature
	3D-COMB-REAR	ON	It shows the image quality of the rear camera screen better.
		OFF	Disable feature
	Reset	Execute	Option Menu all Reset



OSD Option -> FrontCam-RcvOpt

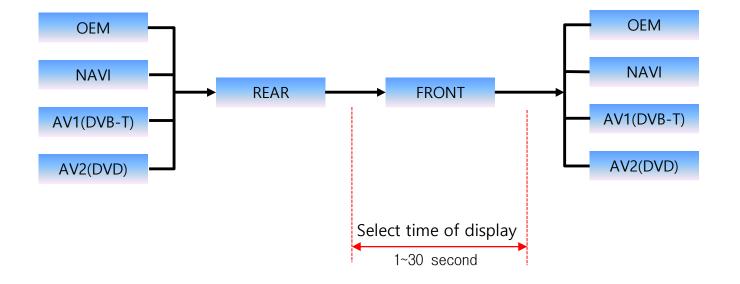
Front Camera Auto Mode

0 second = FrontCam-RcvOpt menu OFF

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





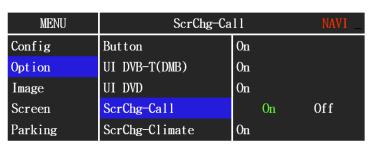


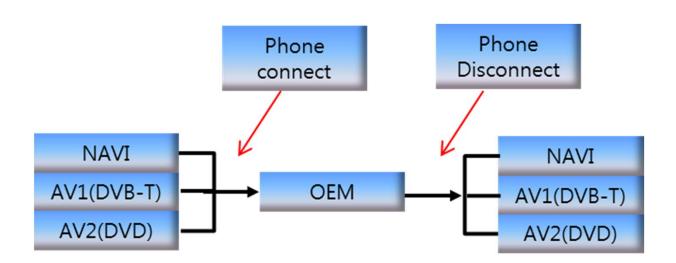


OSD Option -> ScrChg-Call

Setup for switching from external screen to OEM phone mode screen automatically when phone rings







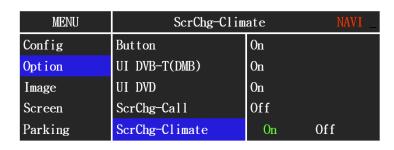
♦ If you touch an arbitrary area of the OEM screen, it keeps the OEM screen.

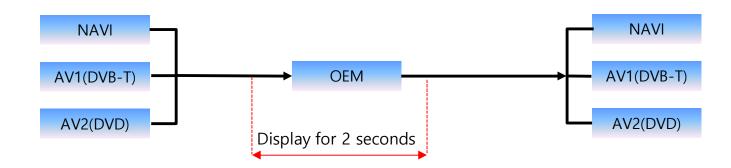


OSD Option -> ScrChg-Climate

Setup for switching from external screen to OEM mode screen automatically when changing climate value







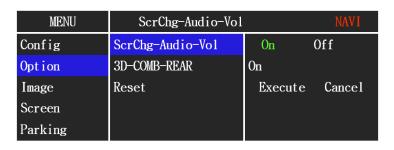
♦ If you touch an arbitrary area of the OEM screen, it keeps the OEM screen.

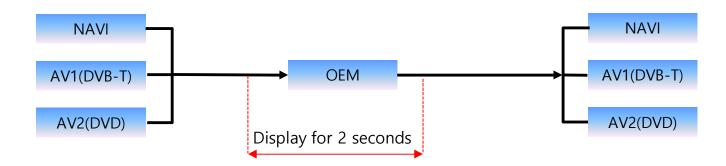


OSD Option -> ScrChg-Audio-Vol

Setup for switching from external screen to OEM mode screen automatically when changing audio volume level







♦ If you touch an arbitrary area of the OEM screen, it keeps the OEM screen.



NAVI-RGB menu

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



<< Brightness >>





<< Contrast >>





<< Saturation >>





OSD - Screen Menu

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

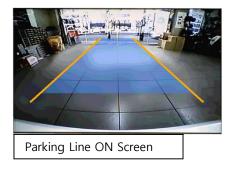


OSD – Parking Menu

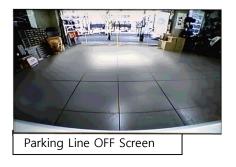
First Menu	Second Menu	Third Menu	Description
		ON	Show parking line
	Line Display	OFF	Do not show parking lines
	Warnings Lang		Set warning text language
Parking	Horizontal		Moving a parking line horizontally
	Vertical		Moving a parking line vertically
	Transparency		Parking line transparency
	Reset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

OSD Parking - Guide line On / Off

MENU	Line Di	Line Display REAR	
Config	OPS Display	On	
Option	Line Display	On	Off
Image	Warnings Lang	English	
Screen	Horizontal		0
Parking	Vertical		0



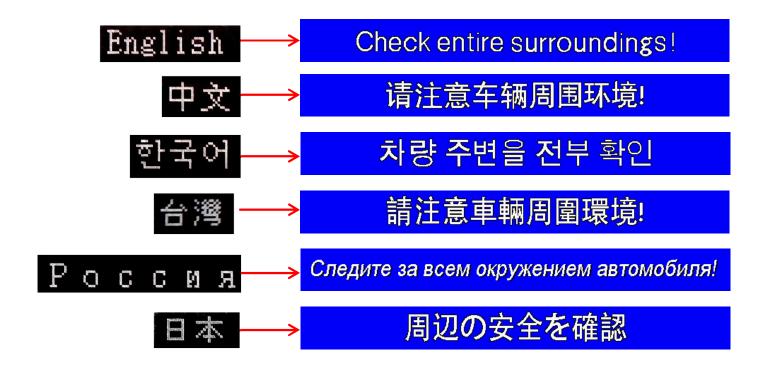
MENU	Line Display REAR		REAR _
Config	OPS Display	On	
Option	Line Display	On	Off
Image	Warnings Lang	English	
Screen	Horizontal	o	
Parking	Vertical	o	





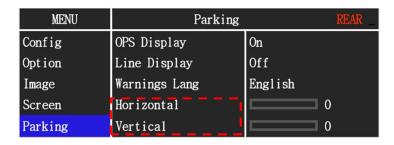
OSD Parking – Change warning language





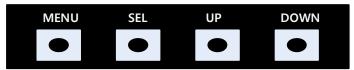


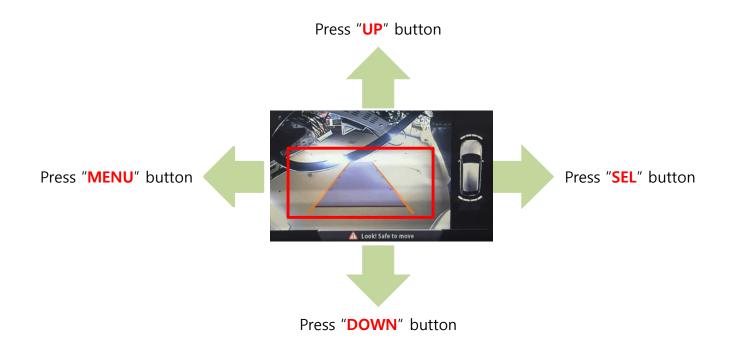
OSD Parking - Adjust position of parking guide line



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.







OSD - OSD Menu

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

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

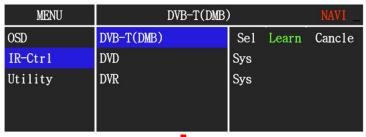
MENU	Reset		NAVI _
OSD	Reset	Execute	Cancel
IR-Ctr1			
Utility			



OSD - IR learning function



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



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



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

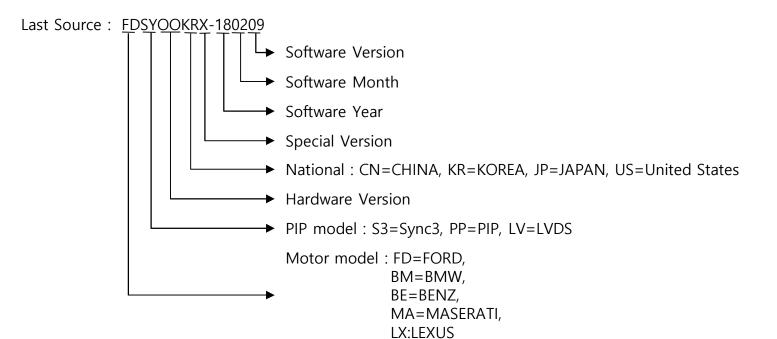


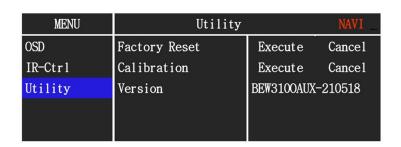
4. Press the remote control button to be used in each ICON once in New Code, press once again in Cfm Code to confirm it is the same and save it.



OSD - Utility Menu

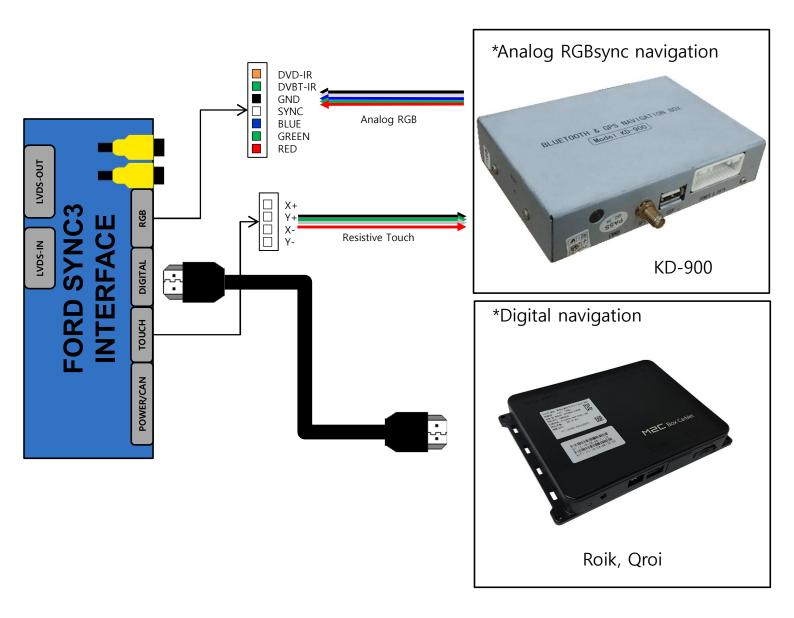
First Menu	Second Menu	Third Menu	Description
	Factory Reset	Execute	Initialize all settings
Utility	Calibration	Execute	Calibration mode Execute
	Version		FDSYOOKRX-180209 (Check for future upgrades)







1. Installation Navigation Connection



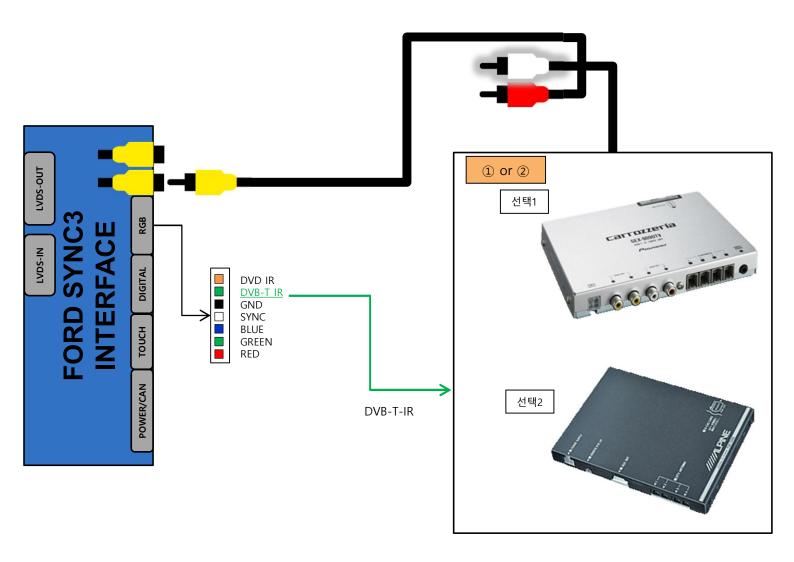
MENU	NAVI-RGB	NAVI _
Config	NAVI-RGB	DGT-NV17-800
Option	DVB-T(DMB)	DGT-NV17-V-800
Image	DVD	DGT-KPLAY-800
Screen	RearCam	DGT-KPLAY-1280
Parking	FrontCam	DGT-KPLAY-V-1280

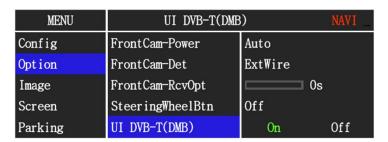
MENU←	FrontCam-Type NAVI	
Config⊖	NAVI COM←	OFF←
Opt ion←	RearCam-Type←	GU←
Image⊖	RearCam-Power∈	KPLAY←
Screen←	RearCam-Det←	NV17← ³
Parking←	FrontCam-Type←	NVC←

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



2. Installation DVB-T Remote Control Connection



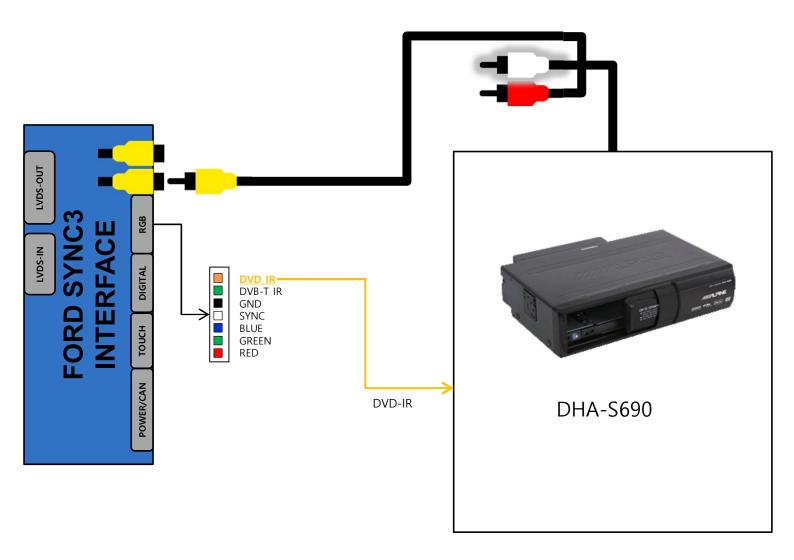


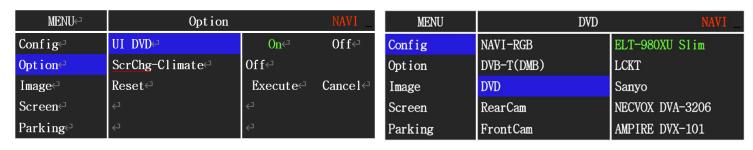
MENU	DVB-T	(DMB) NAVI
Config	NAVI-RGB	ELT_DVBT20
Option	DVB-T(DMB)	NET-770
Image	DVD	MediaLife
Screen	RearCam	Panasonic
Parking	FrontCam	Pioneer

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



3. Installation DVD Remote Control Connection

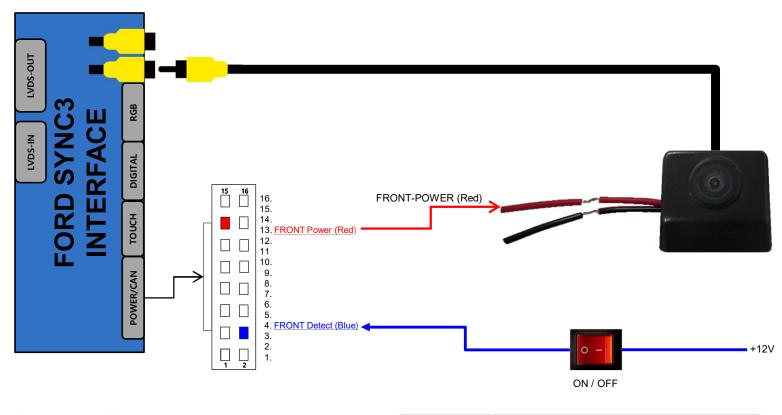




• Select the DVD you want to use from the above items.



4. Installation External Front Camera Connection

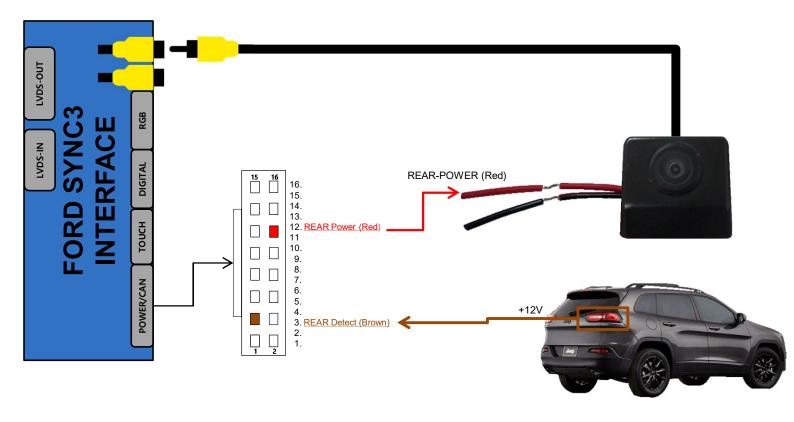


MENU	FrontCa	m NAVI	_	MENU	FrontCam-Rev	Opt NAVI
Config	NAVI-RGB	AVM		Config	FrontCam-Power	Auto
Option	DVB-T(DMB)	DIGITAL-NVC		Option	FrontCam-Det	ExtWire
Image	DVD	Default		Image	FrontCam-RcvOpt	0s
Screen	RearCam			Screen	SteeringWheelBtn	Off
Parking	FrontCam			Parking	UI DVB-T(DMB)	On

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



5. Installation External Reverse(Rear) Camera Connection

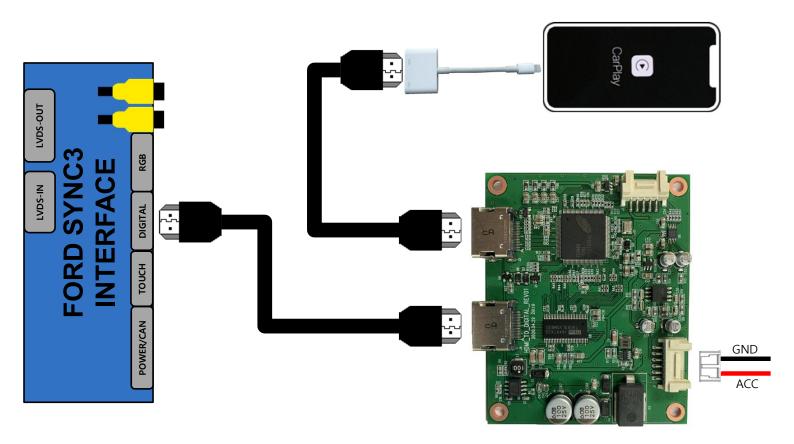


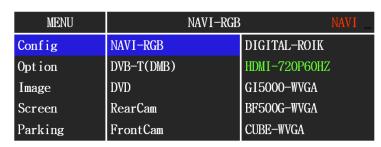
MENU	RearCam NAVI		
Config	NAVI-RGB	AVM-VIDEO	
Option	DVB-T(DMB)	DIGITAL-NVC	
Image	DVD	HDMI-720P60HZ	
Screen	RearCam	AVM-DIGITAL	
Parking	FrontCam	Default	

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



8. Installation HDMI-TO-DIGITAL Connection



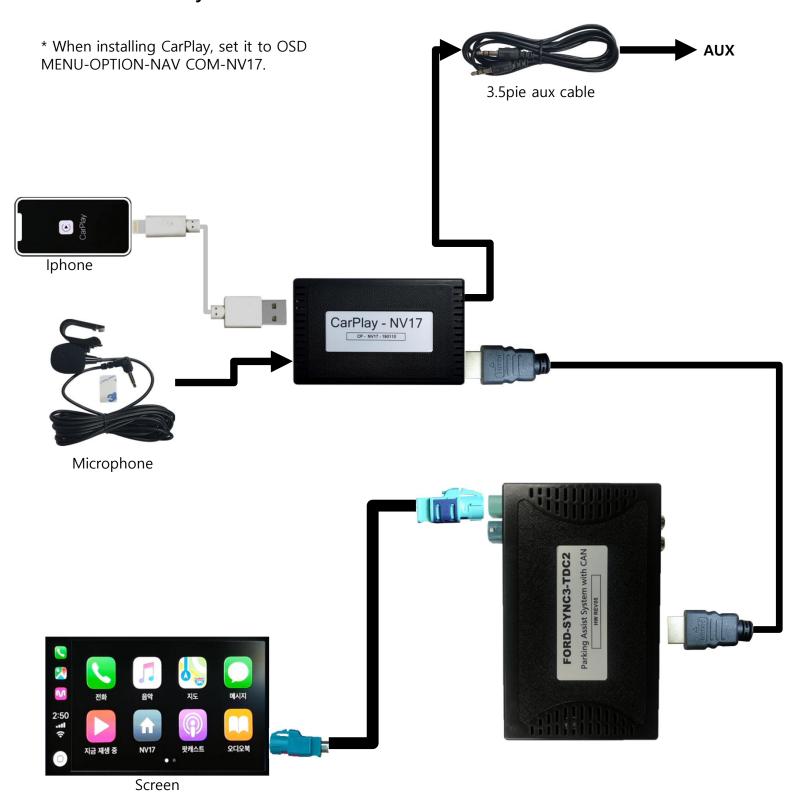


• Select the navigation you want to use from the above items.

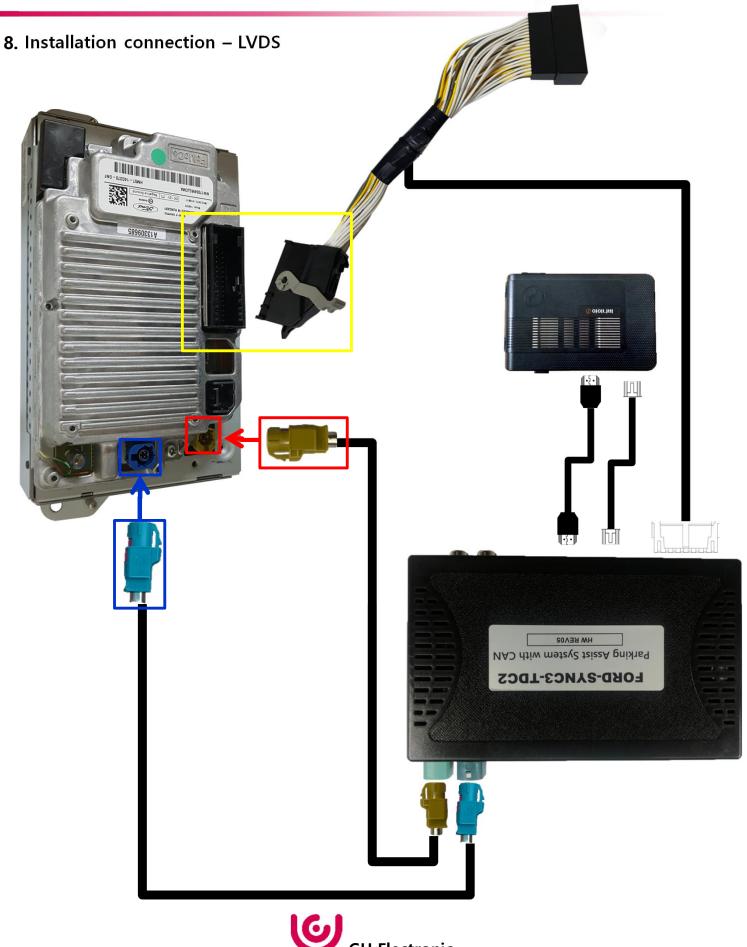




7. Installation CarPlay - NV17









12. Q & A

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
- 6. How to distinguish between FORD SYNC and SYNC3





SYNC2 SYNC3

