# FORD-SYNC2-TDC2 for FORD Video Interface

<u>(010)</u>	БВОС	100-	
F150 VIDEO INTER FD - PA	- SYNC RFACE with CAN AS - 170327		

### Video Interface

MODEL.	FD-PAS-170327
DATE.	2019.07.26



Korea Auto Parts

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

- 1 x Digital RGB Input (Navigation System source)
- 1 x Analog RGB Input (Navigation System source)
- 1 x CVBS(REAR CAMERA) Input (Rear camera source)
- 1 x CVBS(FRONT CAMERA) Input (Front camera source)

#### 2. Output Spec.

- 1 x LCD Output (LCD Operation)
- 1 x REAR 4P IN Touch (Navigation System source)

#### 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



LED IMAGE DIP S	/W PROGRAM	LCD-OUT
S/W) (IMAGE) LED	ОПР (МАЯВОЯЯ)	(LCD-OUT)
	F150 - SYNC VIDEO INTERFACE with C/ FD - PAS - 170327	AN ]
POWER/CAN	DIGITAL NAVI	VIDEO REAR TOUCH
A Power/CAN	Digital NAVI	FRONT REAR R-Touch





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### **Connector Pin Assignment**



POWER Connect (16Pin)		3	5	7	9	11 ●	13 ●	15 ●
	2	4	6	8	10	12	14	16

No	1	3	5	7	9	11	13	15
Color								
Color	YELLOW	BROWN	GREEN			RED	RED	BLACK
Connect	BATTERY	Rear-DET	CAN1-L	N.C	N.C	ACC	Front-VCC	GND
No	2	4	6	8	10	12	14	16
Color								
	YELLOW	BLUE	ORANGE			RED	GREEN	BLACK
Connect	BATTERY	Front-DET	CAN1-H	N.C	N.C	Rear-VCC	Mode	GND



#### This product does not support DVB-T / DVD IR function

3 T	OUCH Connect (4Pir	n) (	•	•	•	•		
		·	1	2	3	4		
No	1			2			3	4
Color	RED		GF	REEN			BLUE	WHITE
Connect	Y-			х-			Y+	X+



### **Product Composition**

(91 Jones (1977), Bernsen (2000) F199-STNC veterstand on (n. m. no. 1997) Jones (1975), Gaus (1960) (1960)		
Interface	Power Cable	RGB NAVI Cable
LVDS Cable(800mm)	SUB Board (R01)	JIG Board (REV02)
		Touch FFC 100mm
OSD Board	Mode S/W	Touch FFC Cable
80mm		

LVDS FFC Cable – 2EA



### **Dip Switch Setting**



- OFF : ▲UP
- ON : ▼DOWN

PIN	FUNCTION	DIP S/W Selection
1	NAVI	ON : Not Used OFF : Used
2	N.C	
3	N.C	
4	N.C	
5	N.C	
6		
7	CAR type SEL	Bottom Picture
8		

#### Car Type Select







FORD F150 (Special Model)

Vehicles that do not function as basic DIP-SW among F150 models



FORD Explorer



### Mode Change

Steering Wheel Button Control – F150 2015



#### Steering Wheel Button Control – F150 2014





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

- 2 VOICESwitch mode by pressing for 3 seconds
- Short press to switch OEM

MENU	Steering Wh	eel NAVI
Config	FrontCam-Power	Auto
Option	FrontCam-Det	ExtWire
Image	FrontCam-RcvOpt	Os
Screen	Steering Wheel	Left Voice Off
Parking	Reset	Execute Cancel

• You can set the mode change time of the 'LEFT' or 'VOICE' button in the OSD menu (Select "OFF" when the button is not used)



### Mode Change

Steering Wheel Button Control – Explorer



#### Mode Change Button

#### 1 LEFT

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

#### 2 VOICE

- Switch mode by pressing for 3 seconds
- Short press to switch OEM

MENU	Steering Wheel NAV				
Config	FrontCam-Power	Auto			
Option	FrontCam-Det	ExtWire			
Image	FrontCam-RcvOpt	Os			
Screen	Steering Wheel	Left Voice Off			
Parking	Reset	Execute Cancel			

• You can set the mode change time of the **'LEFT**' or **'VOICE**' button in the OSD menu (Select "OFF" when the button is not used)



OSD(On Screen Display) Control Board



MENU	<ul><li>The OSD screen can be switched ON/OFF</li><li>Return to previous menu</li></ul>
SEL	<ul><li>Select the currently active item</li><li>If the OSD screen is off, mode changes can be made.</li></ul>
UP	<ul><li>Move up from the menu</li><li>Increase the selected item value</li></ul>
DOWN	<ul><li>Move down from the menu</li><li>Decrease the selected item value</li></ul>

MENU	Option		NAVI
Config	RearCam-Type	ExtDevice	
Option	RearCam-Power	Auto	
Image	RearCam-Det	GEAR	
Screen	AV Mode	Off	
Parking	FrontCam-Type	ExtDevice	

Mode State

First Menu	Second Menu	Third Menu



Config

MENU	NAVI-RGB NAV		Π
Config Option Image Screen Parking	NAVI-RGB Reset	GI5000_WVGA Execute Canc	el

First Menu	Second Menu	Third Menu	Description
Config	NAVI-RGB	DIGTAL- INAVI :	Setting the Connected NAVI Model
<b>,</b>	Reset	Execute	Reset to default value of Config menu



Option

MENU	RearCam-1	Type NAVI
Config	RearCam-Type	OEM
Option	RearCam-Power	Auto
Image	RearCam-Det	GEAR
Screen	AV Mode	Off
Parking	FrontCam-Type	ExtDevice

First Menu	Second Menu	Third Menu	Description
		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
	DearCam Det	CAN	Detected by CAN
	RearCam-Det	WIRE	Detected by Rear-Det Wire
Option	AV Mode	On	Video(CVBS) Input (If RearCam-Type is OEM)
	AV MODE	Off	Disable feature
	FrankCarry Truck	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



Option

MENU	FrontCam-Po	wer	NAVI
Config	FrontCam-Power	Auto	
Option	FrontCam-Det	ExtWire	
Image	FrontCam-RcvOpt		Os
Screen	SteeringWheelBtn	Left	
Parking	UI DVB-T(DMB)	On	

First Menu	Second Menu	Third Menu	Description
		CAN	Detected by CAN
	FrontCam-Det	WIRE	Detected by Front-Det Wire
	FrontCam-	ON	After RearCam shows FrontCam and returns to the previous state
	RcvOpt	OFF	Disable feature
Option		LEFT	Use the 'Left' button on the right side of the handle
	Steering Wheel Btn	VOICE	Use the 'Voice' button on the right side of the handle
		OFF	Disable feature
	Reset	Execute	Option Menu all Reset



**Option** FrontCam-RcvOpt

#### Front Camera Auto Mode

MENU	FrontCam-Rev	7Opt NAVI	MENU	FrontCam-Rcv	Opt NAVI
Config	FrontCam-RcvOpt	Os Da	Config	FrontCam-RcvOpt	30s
Option	SteeringWheelBtn	On	Option	SteeringWheelBtn	On
Image	UI DVB-T(DMB)	On	Image	UI DVB-T(DMB)	On
Screen	UI DVD	On	Screen	UI DVD	On
Parking	ScrChg-Climate	On	Parking	ScrChg-Climate	On

0 second FrontCam-RcvOpt Menu OFF

1~30 second FrontCam-RcvOpt Menu ON & time control





Image

#### NAVI – RGB Menu

First Menu	Second Menu	Third Menu	Description
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	Execute	Option Menu all Reset

#### DVD / DVBT / NAVI-AV, REAR, FRONT Menu

First Menu	Second Menu	Third Menu	Description
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	Execute	Option Menu all Reset





Screen

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

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



Parking

MENU	OPS Display REAR	
Config	OPS Display	Off
Option .	Line Display	Off
Image	Warnings Lang	English
Screen	Horizontal	50
Parking	Vertical	60

First Menu	Second Menu	Third Menu	Description
	OPS Display	ON	Show OPS
		OFF	Do not show OPS
	Line Display	ON	Show parking line
	Line Display	OFF	Do not show parking lines
Parking	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

#### Parking Line ON Screen

MENU	Parking / Line	Display REAR
Config	OPS Display	On
Option	Line Display	On Off
Image	Warnings Lang	Россия
Screen	Horizontal	50
Parking	Vertical	50



#### Parking Line OFF Screen

MENU	Parking / Line	Display REAR
Config	OPS Display	On
Option	Line Display	On Off
Image	Warnings Lang	Россия
Screen	Horizontal	50
Parking	Vertical	50





Parking – Change warning message language

MENU	Parking / Warnings Lang		
Config	OPS Display	English	
Option	Line Display	中文	
Image	Warnings Lang	한국어	
Screen	Horizontal	台灣	





Parking – Adjust the position of parking guideline

MENU	Parking		REAR	
Config	OPS Display	Off		
Option	Line Display	On		
Image	Warnings Lang	English		
Screen	Horizontal		50	
Parking	Vertical		50	



- Pressing this Horizontal / Vertical menu, The OSD screen automatically disappears.
- Possible to adjust the position of parking guide line by Keypad in Horizontal / Vertical menu
- Please adjust from the parking line Screen.







OSD

MENU	Horizonta	DVB-T	
OSD	Horizontal		50
IR-Ctrl	Vertical		50
Utility	Display Time		10s
	Transparency		30
	Language	English	<i>a</i>
MENU	Reset		DVB-T
MENU OSD	Reset Reset	Execute	DVB-T Cancel
MENU OSD IR-Ctrl	Reset Reset	Execute	DVB-T Cancel
MENU OSD IR-Ctrl Utility	Reset	Execute	DVB-T Cancel
MENU OSD IR-Ctrl Utility	Reset	Execute	DVB-T Cancel

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



Utility

MENU	Utility		NAVI
OSD IR-Ctrl Utility	<b>Factory Reset</b> Version	Execute FDSYOOKRX	Cancel (-180209

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





**1. Installation Navigation Connection** 





4. Installation External Reverse(Rear) Camera Connection





5. Installation External Front Camera Connection

### FORD-SYNC-TDC2 **VIDEO INTERFACE** TOUCH LVDS-IN POWER/CAN FRONT REAR DIGITAL RGB 15 16 16. GND (Black) 15. GND (Black) 15. GND (Black) 14. Mode (Green) 13. Front-Power (Red) 11. ACC (Red) 10. N.C 9. N.C 8. CAN2-H (Purple) 7. CAN2-L (White) 6. CAN1-H (Orange) 5. CAN1-L (Green) 4. Front-Camera Detect (Blue) 3. Rear-Camera Detect (Brown) 2. Battery (Yellow) 1. Battery (Yellow) FRONT-GND (Black) FRONT-POWER (Red) ON / OFF +12V



6. Installation LVDS connection





6. Installation LVDS connection



Installed appearance







### Q&A

### 1. Check the LED status first when interface failure

- If there is no abnormality after the power is applied, the green LED flashes in units of 1 second.
- If the red LED flashes for 1 second, there is no.
- If the red LED is on continuously, the interface itself is bad.
- If nothing turns on, check that the power and CAN signals are properly connected

#### 2. When the screen turns black

- LVDS cable itself is bad or bad contact.
- 3. How to distinguish between FORD SYNC2 and SYNC3













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