



INSTRUCTION
MANUAL

Video Interface and Wireless Connected Car System

FORD SYNC3 TDC2

FORD SYNC3 INTERFACE

DATA. 2020.05.06

CONTACT

W kaptrader.com

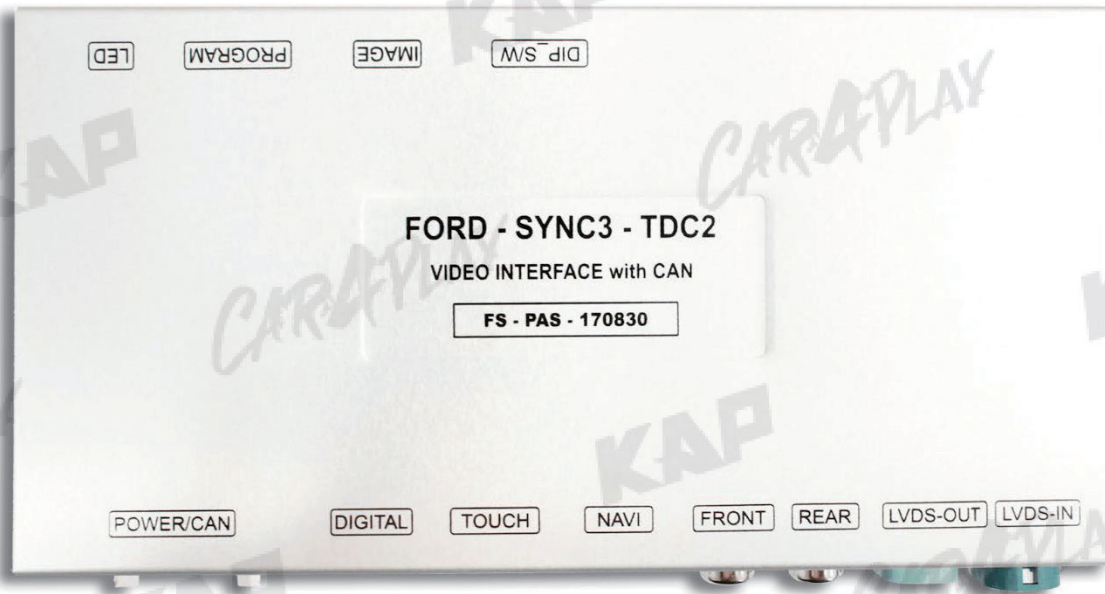
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Songpa-Dearo, Songpa-gu, Seoul, Korea

F (+82) 6204 - 0913



CAR COMPATIBILITY SHEET



BRAND	MODEL	SCREEN	YEAR
FORD	F-150 FX4		2015 ~
	Mustang		2017 ~
	Ranger		2018 ~
	Ecosprot	8"	2019 ~
LINCOLN	MKX		2018 ~
	MKZ		2018 ~
	Contnental		2018 ~
	Navigator	12"	2019 ~



SYNC3



SYNC

COMPONENT



INTERFACE



RGB NAVI CABLE



POWER CABLE



MODE SWITCH



OSD Board



LVDS IN CABLE



LVDS OUT CABLE

► Warning

- Please contact your dealer if any component is missing.

COMPONENT



KPLAY



KPLAY Power Cable



HDMI Cable



MIC



Wifi/Bluetooth Antenna



AUX Cable

▶ Warning

- Please contact your dealer if any component is missing.

INTERFACE SPEC

1 KPLAY INPUT

- Wireless APPLE CARPLAY
- Wired APPLE CARPLAY
- Wired ANDROID AUTO
- USB storage media

2 INPUT

- 1 x DIGITAL RGB IN (HDMI PORT)
- 1 x ANALOG RGB IN (7PIN)
- 1 x CVBS FRONT CAM IN
- 1 x CVBS REAR CAM IN
- 1 x LVDS IN CAMMAND SYSTEM

3 OUTPUT

- 1 x LVDS OUT OPERATION

4 TOUCH

- VIRTUAL ANALOG TOUCH (4PIN)
- UART DIGITAL TOUCH

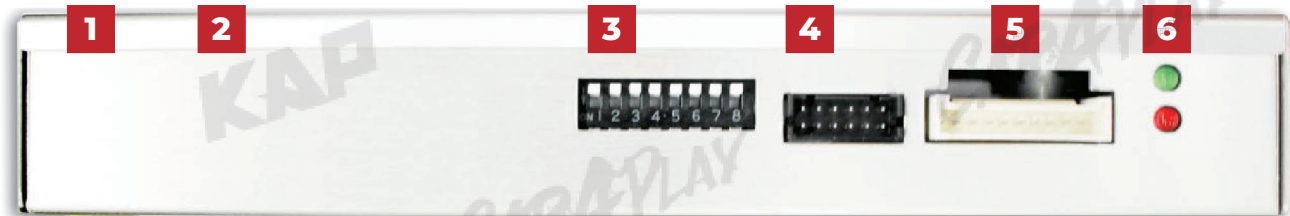
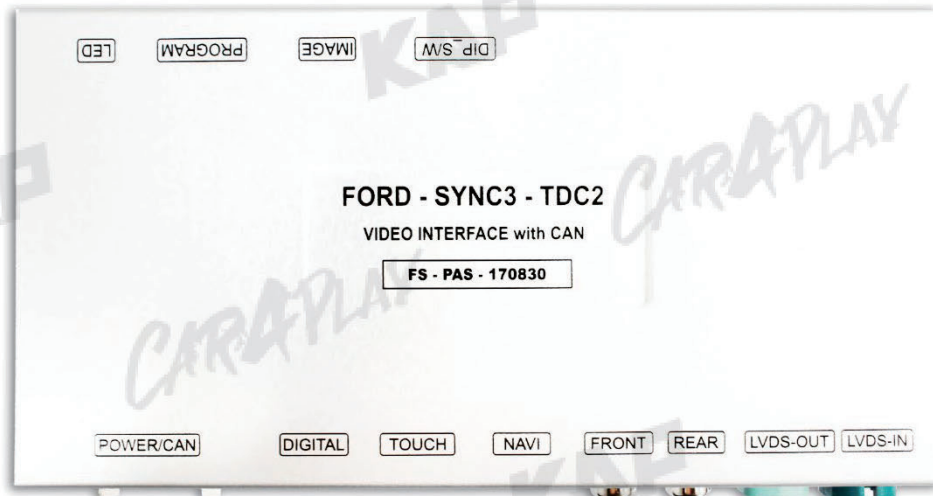
5 POWER

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

6 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

EXTERNAL DEVICE SPECIFICATIONS



1 DIP SWITCH

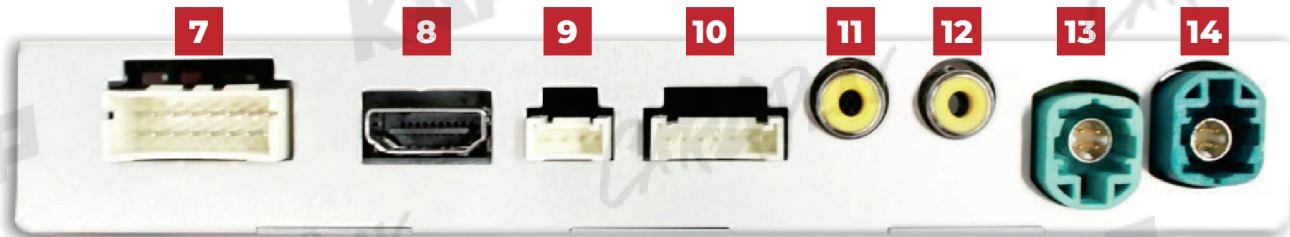
2 IMAGE

3 PROGRAM

4 LED

- OSD connection

- Interface error check



7 POWER/CAN

8 DIGITAL RGB

9 RESISTIVE TOUCH

10 ANALOG RGB

- 4PIN Touch

11 FRONT

12 REAR

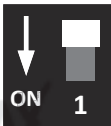




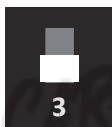
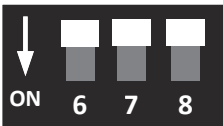

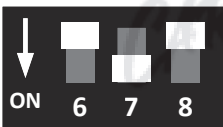
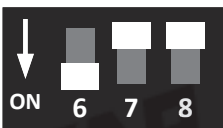

13 LVDS OUT

14 LVDS IN

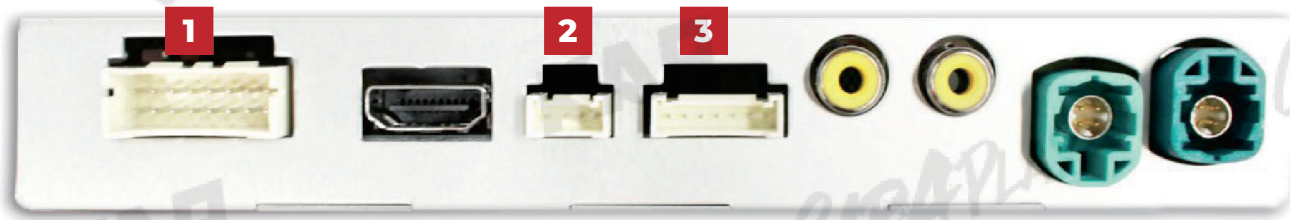
- FRONT CAMERA IN
- DVB-T or DVD IN




- REAR CAMERA IN

DIP SWITCH SETTING

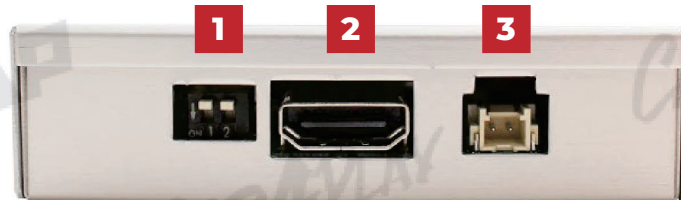
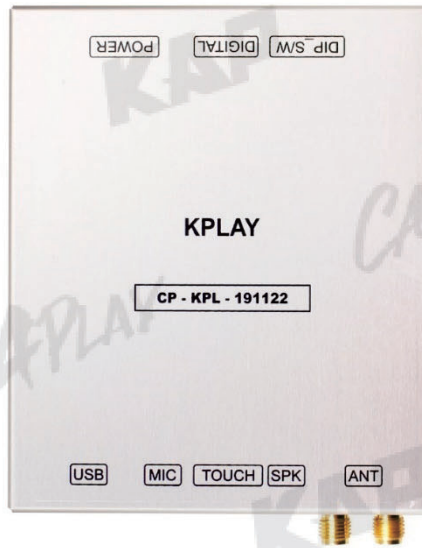
PIN	FUNCTION	INFORMATION	
		▲ OFF	▼ ON
1	NAVIGATION	 USE	 Do not use
2	AV1 (DVB-T)	 USE	 Do not use
3	AV2 (DVD)	 USE	 Do not use
4	No function		
5			
6	Car Type	 FORD - F-150 FX4 2015~	
		 FORD - F-150 FX4 (Vehicles that do not function as basic)	
7		 FORD - Mustang / Ranger 2017~	
		 FORD - Ecosport 8" (2019~)	
8		 LINCOLN - Navigator 12" (2019~)	

CONNECTOR PIN ASSIGNMENT



No	PORT	INFORMATION																																																						
1	POWER /CAN	 <table border="1"> <thead> <tr> <th>No.</th> <th>Color</th> <th>Signal Assignment</th> <th>No.</th> <th>Color</th> <th>Signal Assignment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Yellow</td> <td>ACC</td> <td>2</td> <td>Yellow</td> <td>ACC</td> </tr> <tr> <td>3</td> <td>Brown</td> <td>REAR DET</td> <td>4</td> <td>Blue</td> <td>FRONT DET</td> </tr> <tr> <td>5</td> <td>Green</td> <td>CAN LOW</td> <td>6</td> <td>Orange</td> <td>CAN H</td> </tr> <tr> <td>7</td> <td></td> <td></td> <td>8</td> <td></td> <td></td> </tr> <tr> <td>9</td> <td></td> <td></td> <td>10</td> <td></td> <td></td> </tr> <tr> <td>11</td> <td>RED</td> <td>ACC</td> <td>12</td> <td>Red</td> <td>REAR POWER</td> </tr> <tr> <td>13</td> <td>Red</td> <td>FRONT POWER</td> <td>14</td> <td>Green</td> <td>MODE</td> </tr> <tr> <td>15</td> <td>Black</td> <td>GND</td> <td>16</td> <td>Black</td> <td>GND</td> </tr> </tbody> </table>	No.	Color	Signal Assignment	No.	Color	Signal Assignment	1	Yellow	ACC	2	Yellow	ACC	3	Brown	REAR DET	4	Blue	FRONT DET	5	Green	CAN LOW	6	Orange	CAN H	7			8			9			10			11	RED	ACC	12	Red	REAR POWER	13	Red	FRONT POWER	14	Green	MODE	15	Black	GND	16	Black	GND
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2	TOUCH	 <table border="1"> <thead> <tr> <th>No.</th> <th>Color</th> <th>Signal Assignment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Red</td> <td>Y-</td> </tr> <tr> <td>2</td> <td>Green</td> <td>X-</td> </tr> <tr> <td>3</td> <td>Blue</td> <td>Y+</td> </tr> <tr> <td>4</td> <td>White</td> <td>X+</td> </tr> </tbody> </table>	No.	Color	Signal Assignment	1	Red	Y-	2	Green	X-	3	Blue	Y+	4	White	X+																																							
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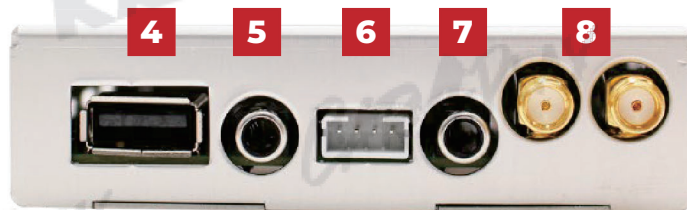
EXTERNAL DEVICE SPECIFICATIONS



1 DIP SWITCH

2 DIGITAL

3 POWER



4 USB

- Smartphone
- USB storage

5 MICROPHONE

6 RESISTIVE TOUCH





7 SPEAKER

- 4PIN Touch

8 WIFI/BLUETOOTH ANTENNA

KPLAY CONNECTOR PIN ASSIGNMENT



No	PORT	INFORMATION		
1	DIP SWITCH	No	FUNCTION	
		1	800x480 Resolution	
		2	1280x480 Resolution	
		<p>► Warning</p> <ul style="list-style-type: none"> DIP switch No. 2 has no function 		
2	POWER			
		No.	Color	Signal Assignment
		1	Red	ACC
2	Black	GND		
3	TOUCH			
		No.	Color	Signal Assignment
		1	Black	Y+
		2	Green	X+
		3	White	Y-
4	Red	X-		

KPLAY CONTROL

MAIN SCREEN



1 APPLE CARPLAY

- Wireless
- Cable

2 ANDROID AUTO

- Cable

3 USB MEDIA

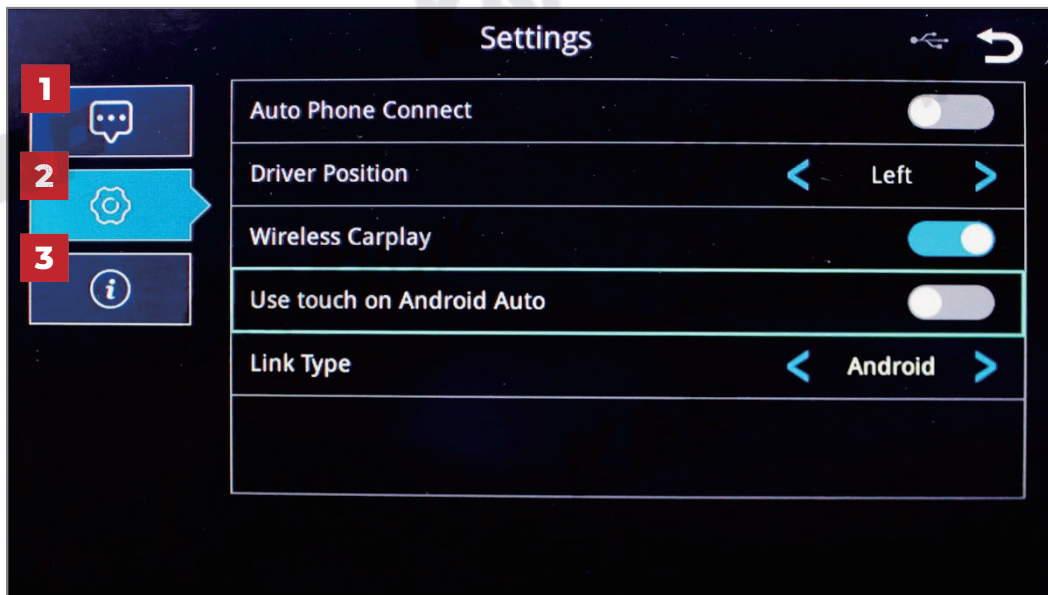
- VIDEO
- MUSIC
- IMAGE

4 SETTINGS



KPLAY CONTROL

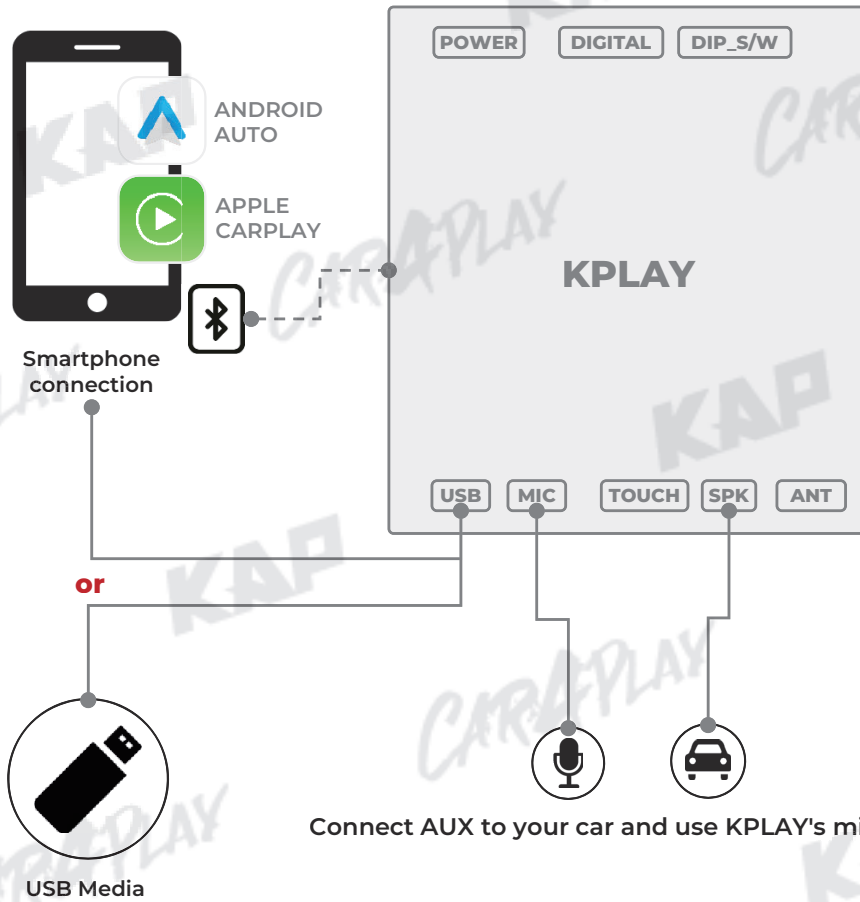
SETTINGS



No	INFORMATION		SELECTION	FUNCTION
1	Language settings	Languages		You can change the language of the settings screen
2	Connection settings	Auto Phone Connect (Only for wired connection)	Activation	Automatically launch Android AUTO or Apple CarPlay when smartphone is connected
			Disabled	Charge only when connecting a smartphone, select icon to launch Android AUTO or Apple CarPlay
		Driver Position	Left	Use when driver's position is left
			Right	Use when driver's position is right
		Wireless Carplay	Activation	Connect Apple CarPlay wirelessly (Bluetooth)
			Disabled	Used to wire Apple CarPlay
		Use touch on Android Auto	Activation	Touch is available when running Android Auto
			Disabled	Touch not available when running Android Auto
Link Type	Android	Android Auto		
	Carlife	do not select (Update Coming Soon)		
3	Firmware Information	Reset	Factory reset	
		Sys Update	Update firmware using USB	

KPLAY CONTROL

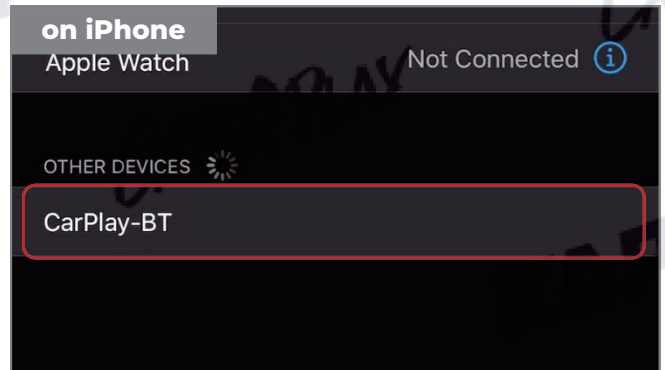
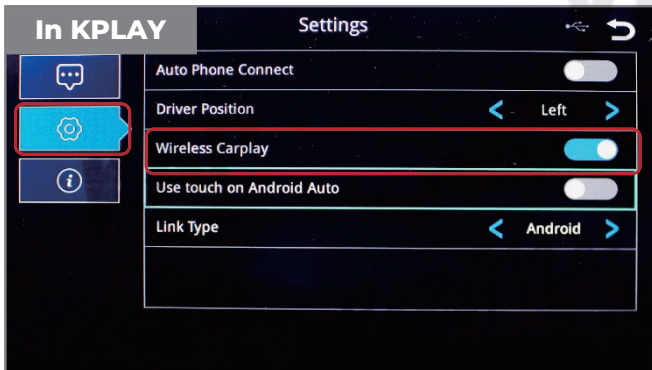
MEDIA CONTROL



No	INFORMATION	Can be used	CONTROL	NOTICE
1	Apple CarPlay	Wireless connection	Use all Apple CarPlay Functions	<ul style="list-style-type: none"> • AUX • MIC • TOUCH <ul style="list-style-type: none"> • Multiple connections are not supported • Only one device can be connected unconditionally
	Cable Connection			
2	Android AUTO	Cable Connection	Use all Android AUTO Functions	
3	USB Media	Connection	Music, Photo, Video	

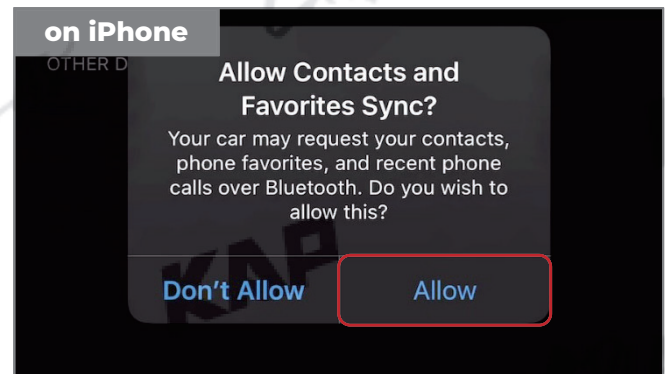
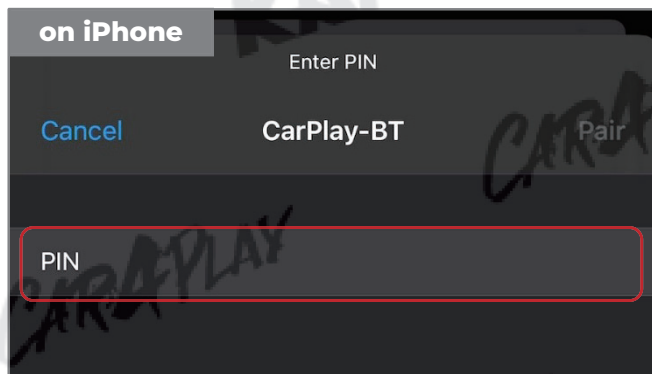
KPLAY CONTROL

iPhone Wireless connection - Connection method



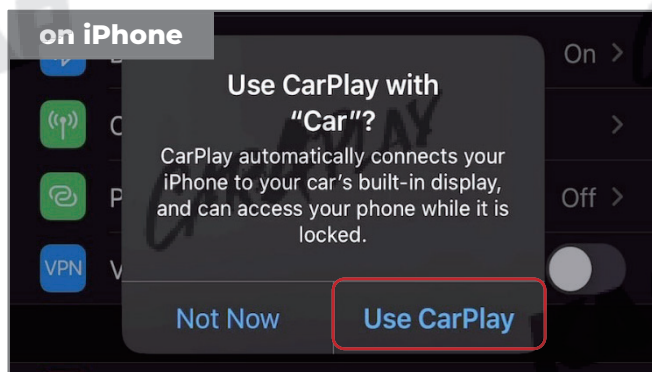
1. Activate Wireless Carplay in KPLAY Settings Menu
(If Wireless Carplay is enabled, you cannot connect by wire)

2. Choose CarPlay-BT in Bluetooth on iPhone



3. PIN Number "0000" enter

4. "Allow" select



5. "Use CarPlay" select
(Once connected, Bluetooth will be disconnected and connected via Wi-Fi)

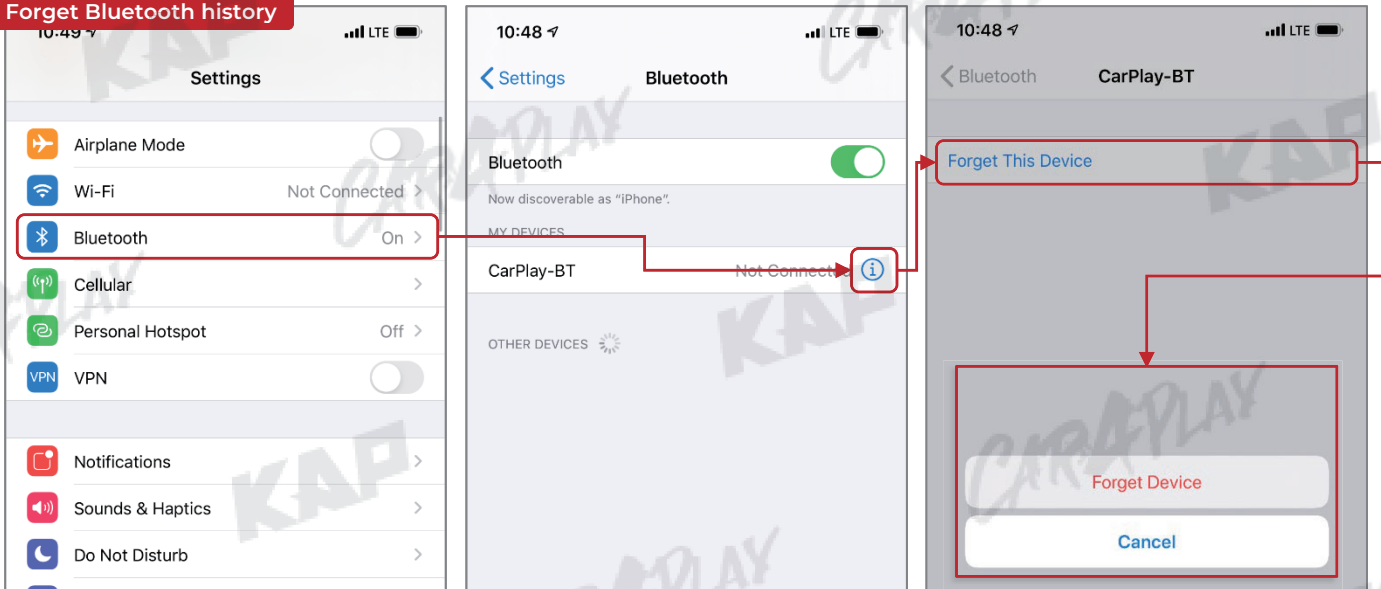
6. Enjoy CarPlay!

KPLAY CONTROL

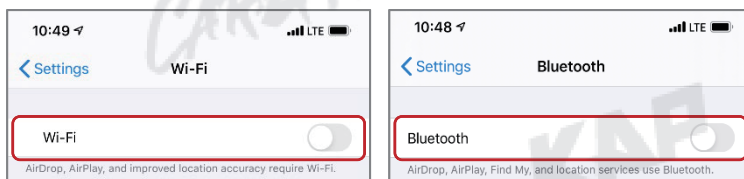
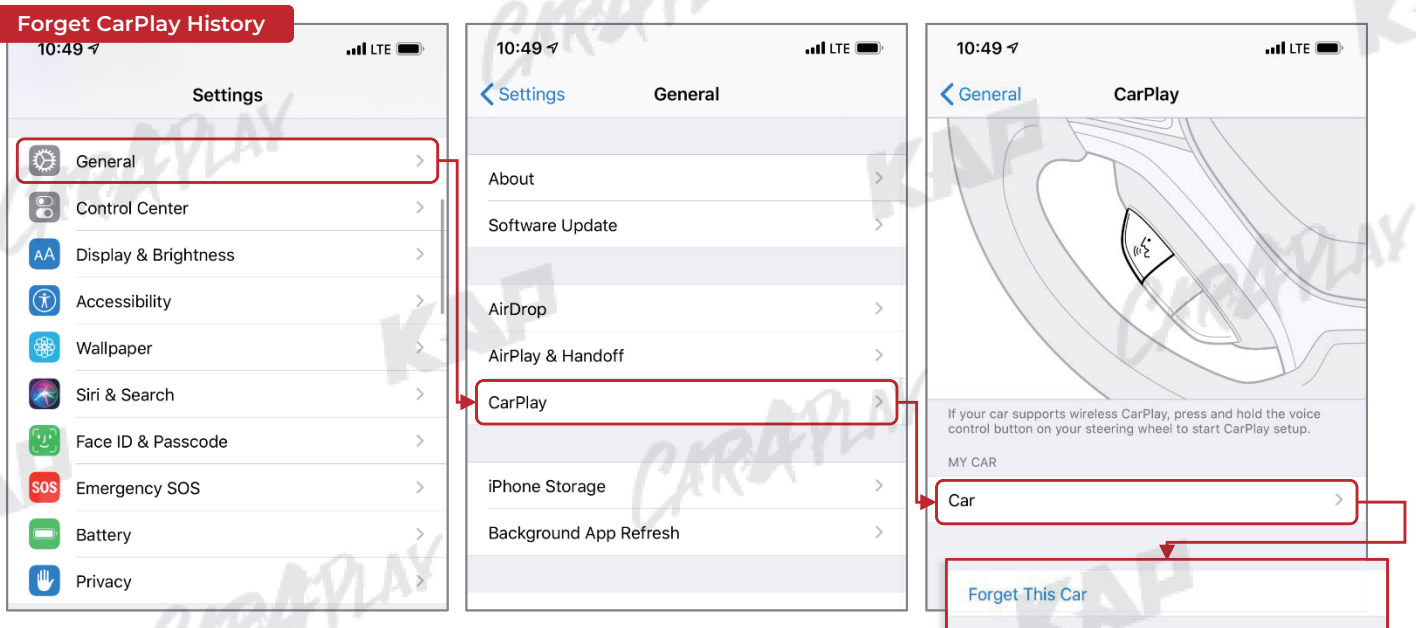
If your iPhone fails to connect

1. Make sure Siri is active
2. Delete the Bluetooth and CarPlay records as shown below,
3. disable and re-enable WiFi and Bluetooth, then try to connect again.

Forget Bluetooth history



Forget CarPlay History



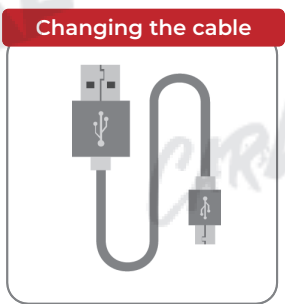
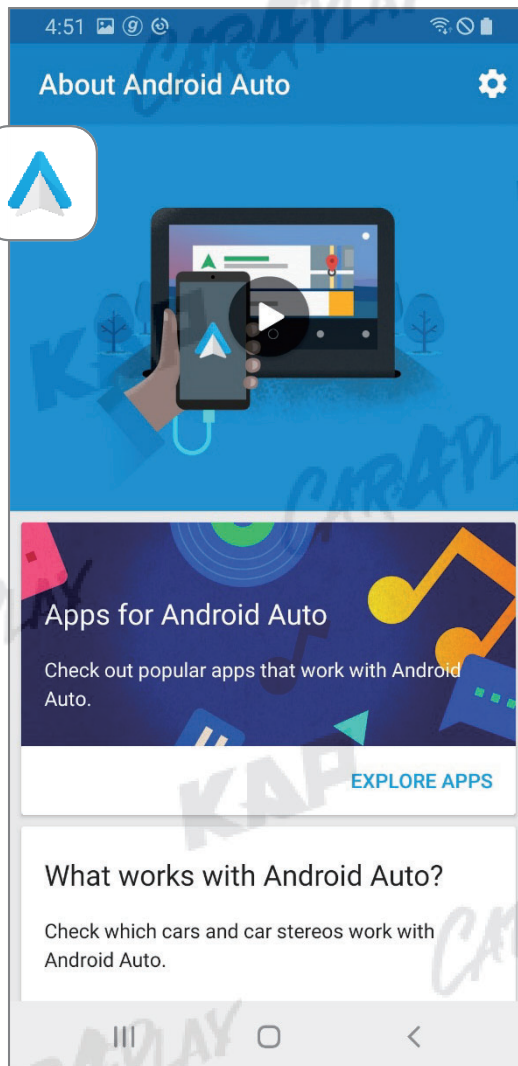
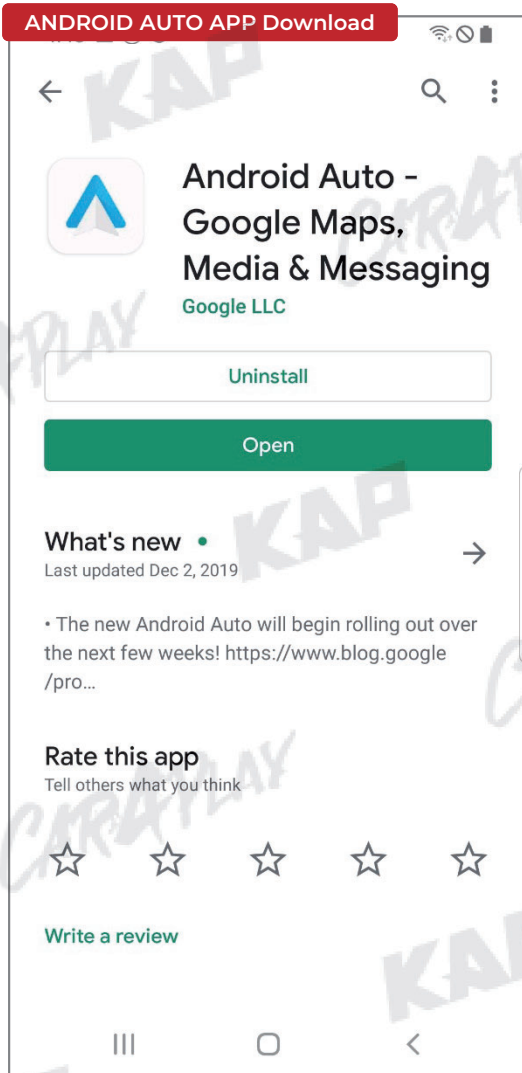
Warning

- Due to the nature of the wireless connection, sometimes the connection is not working properly
- If you follow the same procedure as above, but the connection is not working properly, reboot KPLAY and iPhone and try again

KPLAY CONTROL

If your Android Phone fails to connect

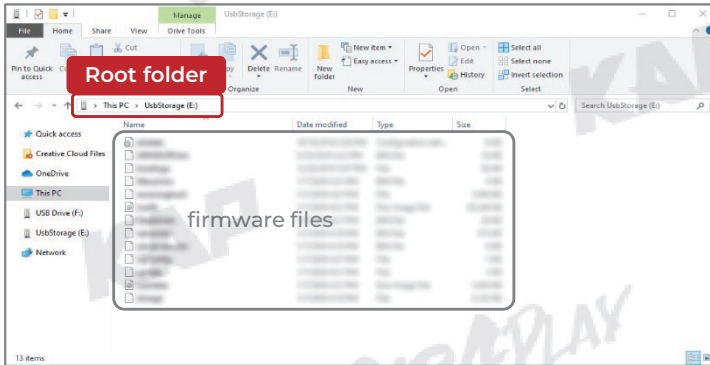
1. Check if your smartphone has ANDROID AUTO application
2. Replace the cable



Warning

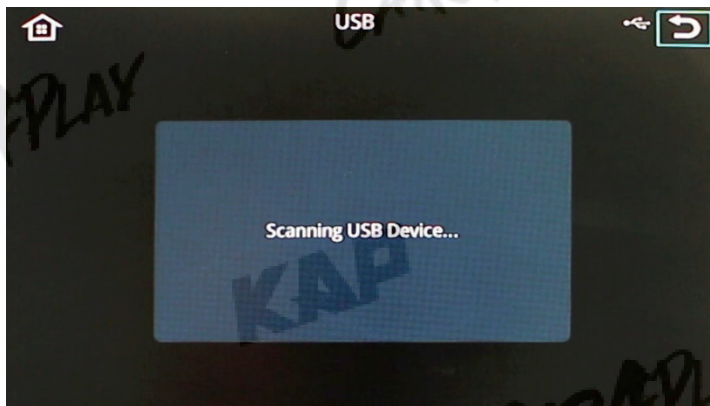
- Android Auto may not run even if the cable is not broken
- If you follow the same procedure as above, but the connection is not working properly, reboot KPLAY and iPhone and try again

FIRMWARE UPDATE



1. Add the firmware file provided in root folder * of the USB

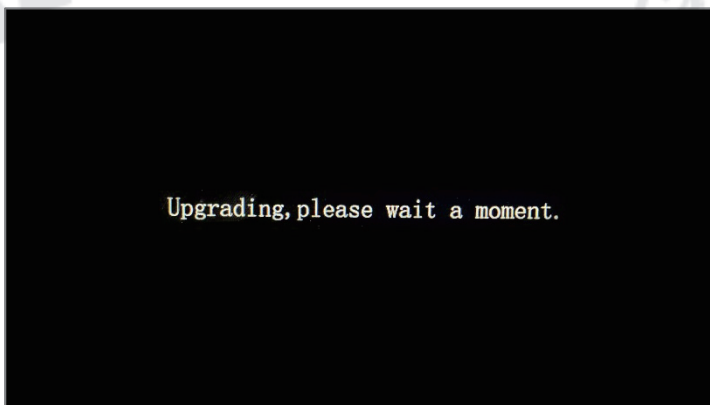
*Root folder : Top-level folder without adding folder



2. Connect USB to the KPLAY board with the update file. The USB media will be scanned automatically
Press the Home button on the top right corner of the USB Media screen and select the Settings menu



3. Select 'Sys Update' from the Settings menu



4. After the device reboots, check the message and wait for the update to complete.

▶ Warning

- If USB with firmware is connected, the update will be performed every time the device is rebooted

BUTTON CONTROL

Change Mode to Interface Screen



LEFT / VOICE

BUTTON	PRESS	FUNCTION
LEFT VOICE	Long press	OEM screen to interface screen Interface screen to the OEM screen
	▶ Screen change sequence : OEM > NAVI > AV1 > AV2 > OEM	

▶ **Warning**

- "Left" or "Voice" must be activated in Steering Wheel item in OSD menu

BUTTON CONTROL

Change Mode to Interface Screen



LEFT / VOICE

BUTTON	PRESS	FUNCTION
LEFT VOICE	Long press	OEM screen to interface screen Interface screen to the OEM screen
	▶ Screen change sequence : OEM > NAVI > AV1 > AV2 > OEM	

▶ Warning



- Turn on NO.8 on the dip-switch to use the following buttons.
- "Left" or "Voice" must be activated in Steering Wheel item in OSD menu

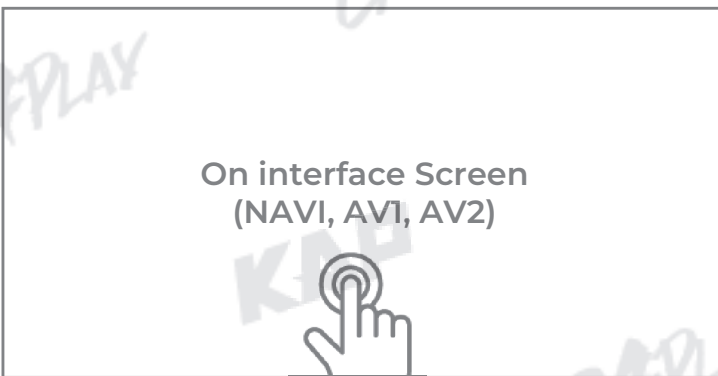
TOUCH CONTROL

Touch Calibration

MENU	Config	NAVI
OSD	Factory Reset	Execute Cancel
IR-Ctrl	Calibration	Execute Cancel
Utility	Version	Interface version

Select OSD menu> Utility> Calibration.

or



Press and hold the display for longer than 10 seconds.

▼



+ Touch according to the shape coordinates

Warning

- Touch control icon in DVBT / DVD



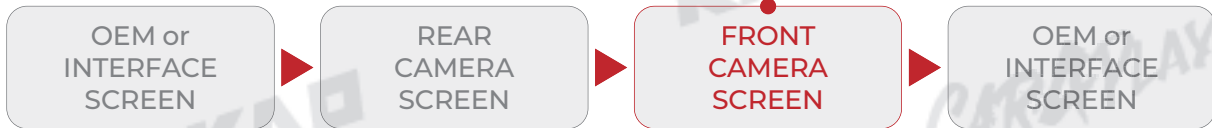
PARKING CONTROL

FrontCam Rcv Option

1 FrontCam-RcvOpt : ON (1 - 30s)

MENU	Option	NAVI
Config	FronrCam-RcvOpt	<input type="text" value="30s"/>
Option		
Image		
Screen		
Parking		

Displays the front camera screen for the set time (1 - 30second)



2 FrontCam-RcvOpt : OFF (0s)

MENU	Option	NAVI
Config	FronrCam-RcvOpt	<input type="text" value="0s"/>
Option		
Image		
Screen		
Parking		

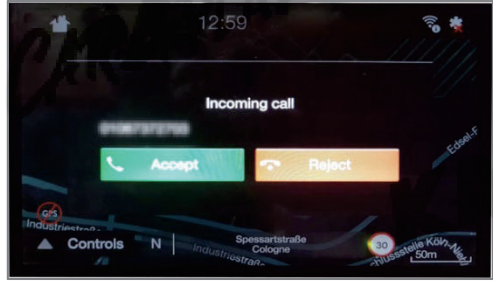


CALL CONTROL

ScrChg Option

1 ScrChg-Call

MENU	Option	NAVI	
Config	ScrChg-Call	On	Off
Option	ScrChg-Climate		
Image	ScrChg-Audio-Vol		
Screen			
Parking			

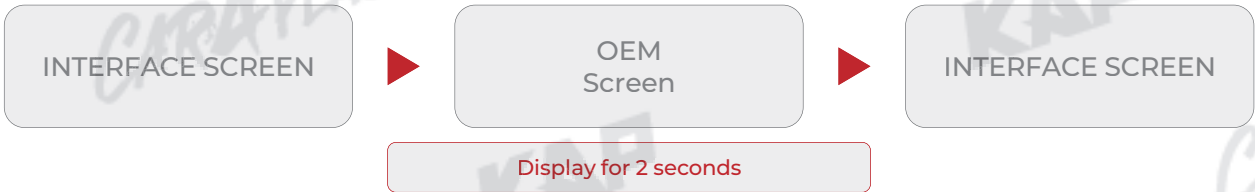


2 ScrChg-Climate / Audio-Vol

MENU	Option	NAVI	
Config	ScrChg-Call	On	Off
Option	ScrChg-Climate	On	Off
Image	ScrChg-Audio-Vol	On	Off
Screen			
Parking			



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



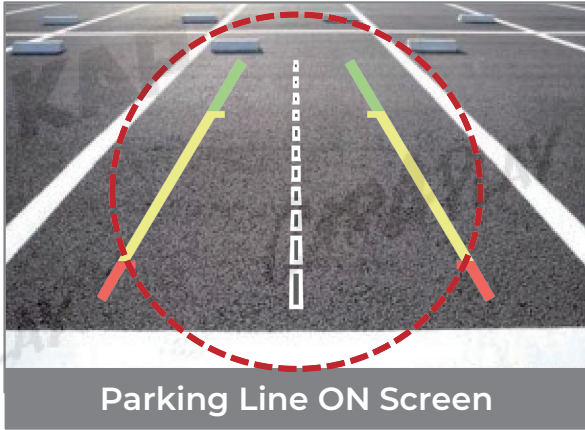
Warning

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

PARKING CONTROL

Parking Line

1 Parking Line Display



Parking Line ON Screen

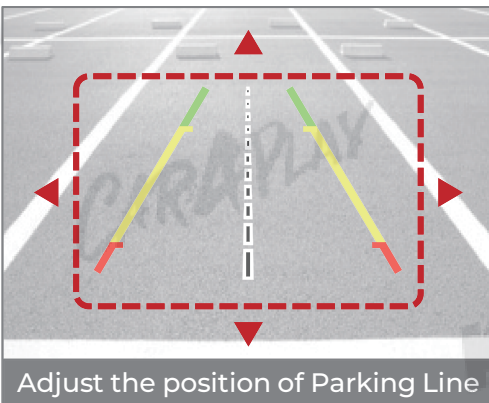


Parking Line OFF Screen

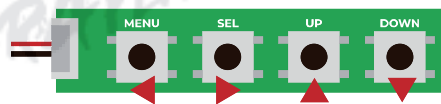
2 Horizontal / Vertical

MENU	Parking	REAR
Config	OPS Display	Off
Option	Line Display	Off
Image	Warnings Lang	English
Screen	Horizontal	<input type="checkbox"/> 50
Parking	Vertical	<input type="checkbox"/> 50

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



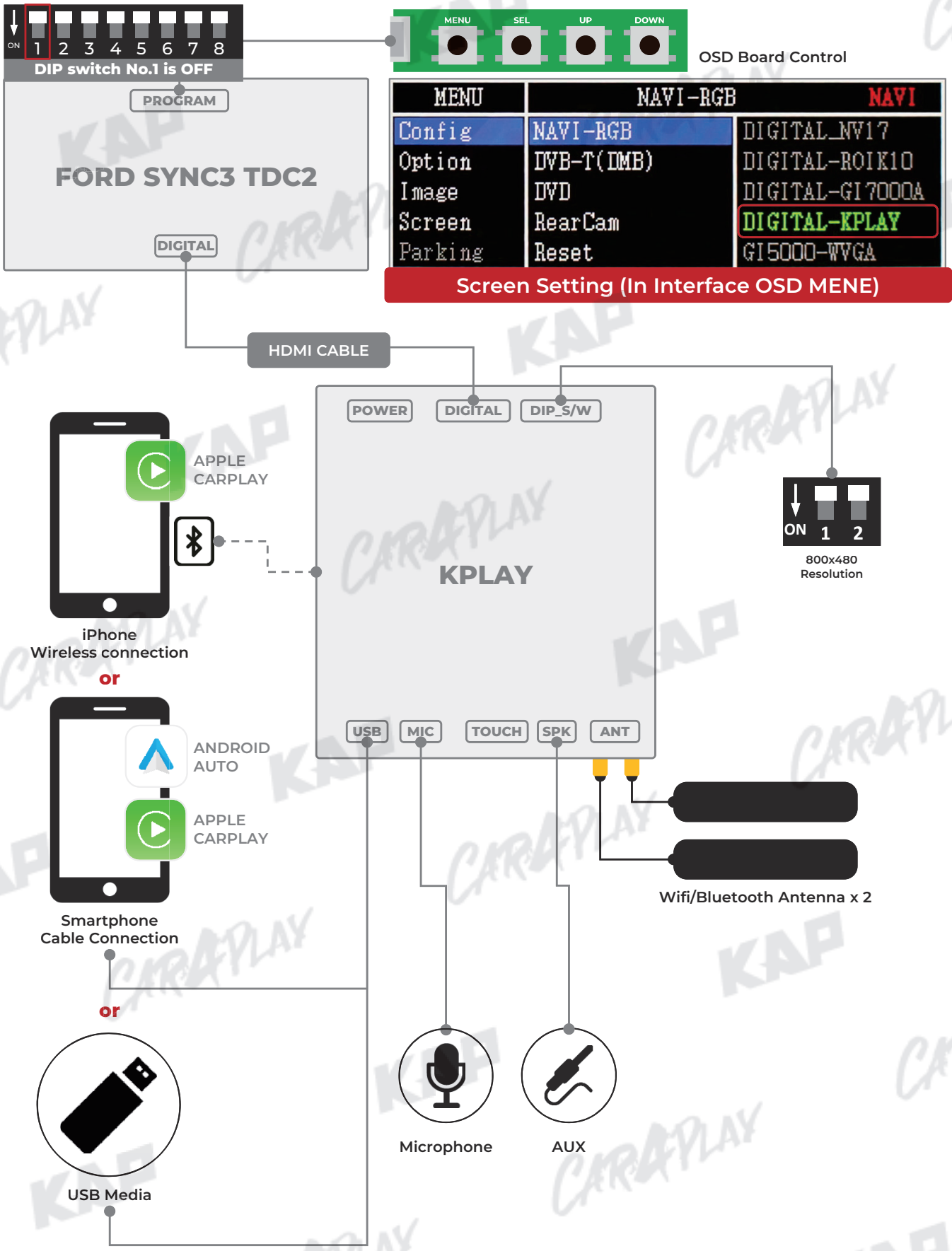
Adjust the position of Parking Line



MENU	• Move the guideline position to the left
SEL	• Move the guideline position to the right
UP	• Move the guideline position upwards
DOWN	• Move the guideline position downward

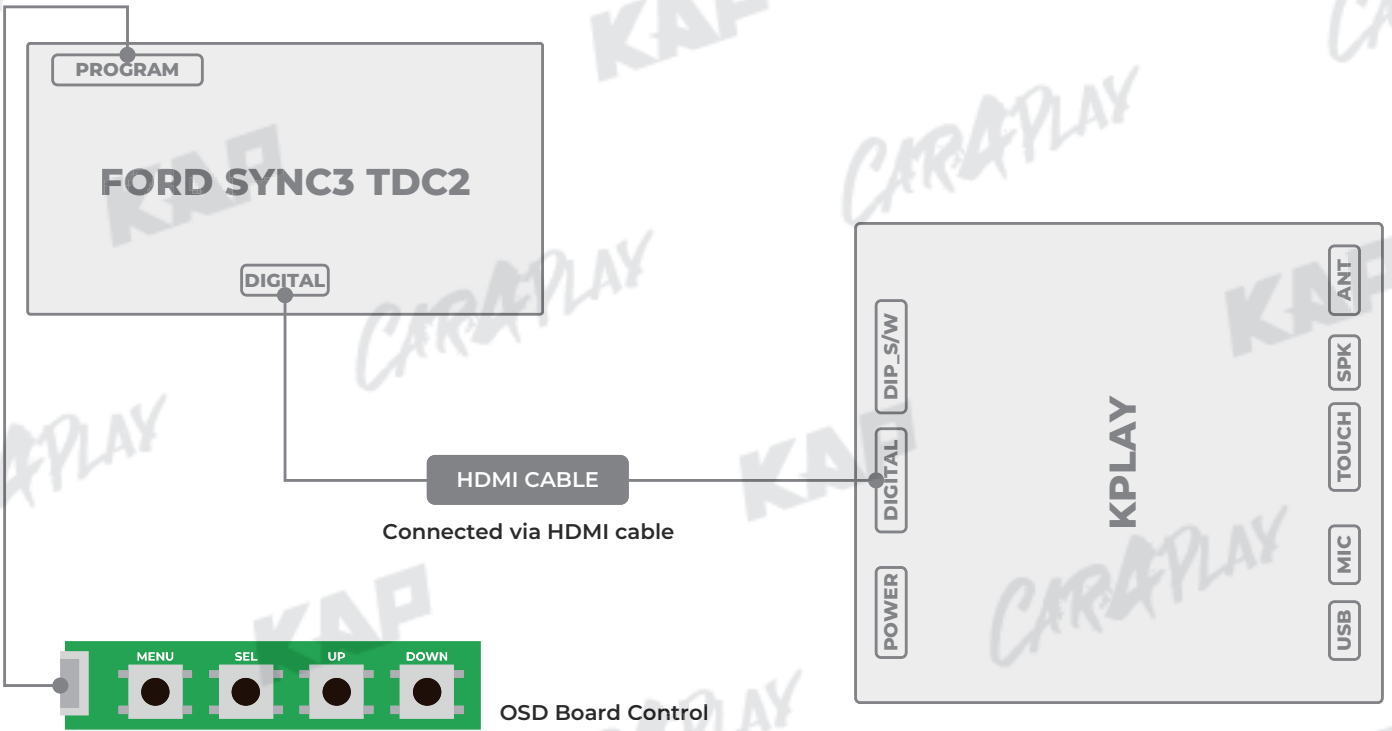
INSTALL MANUAL

KPLAY Connection – Screen Setting



INSTALL MANUAL

KPLAY Connection – Touch Setting



UART TOUCH Setting		NAVI COM	NAVI
Config	NAVI COM	I-MERCURY	
Option	RearCam-Type	NAVTEK	
Image	RearCam-Power	KPLAY	
Screen	RearCam-Det		
Parking	AV Mode		

UART Touch Setting (In Interface OSD MENE)

TOUCH CALIBRATION (IN KPLAY)

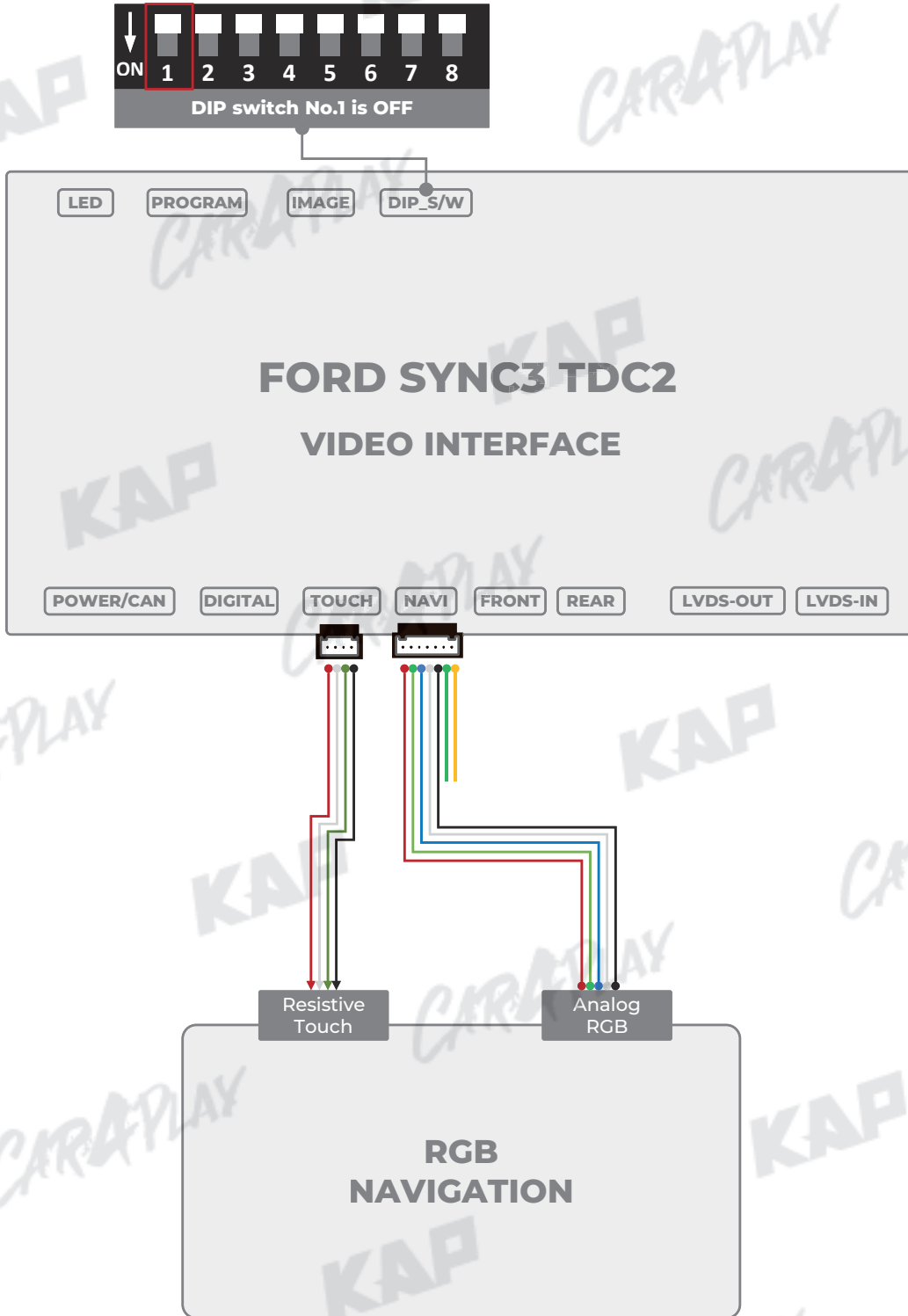
Touch and hold for 10 seconds

+ Touch

- Touch and hold anywhere on the screen for 10 seconds
- Touch in the center of the "+" icon

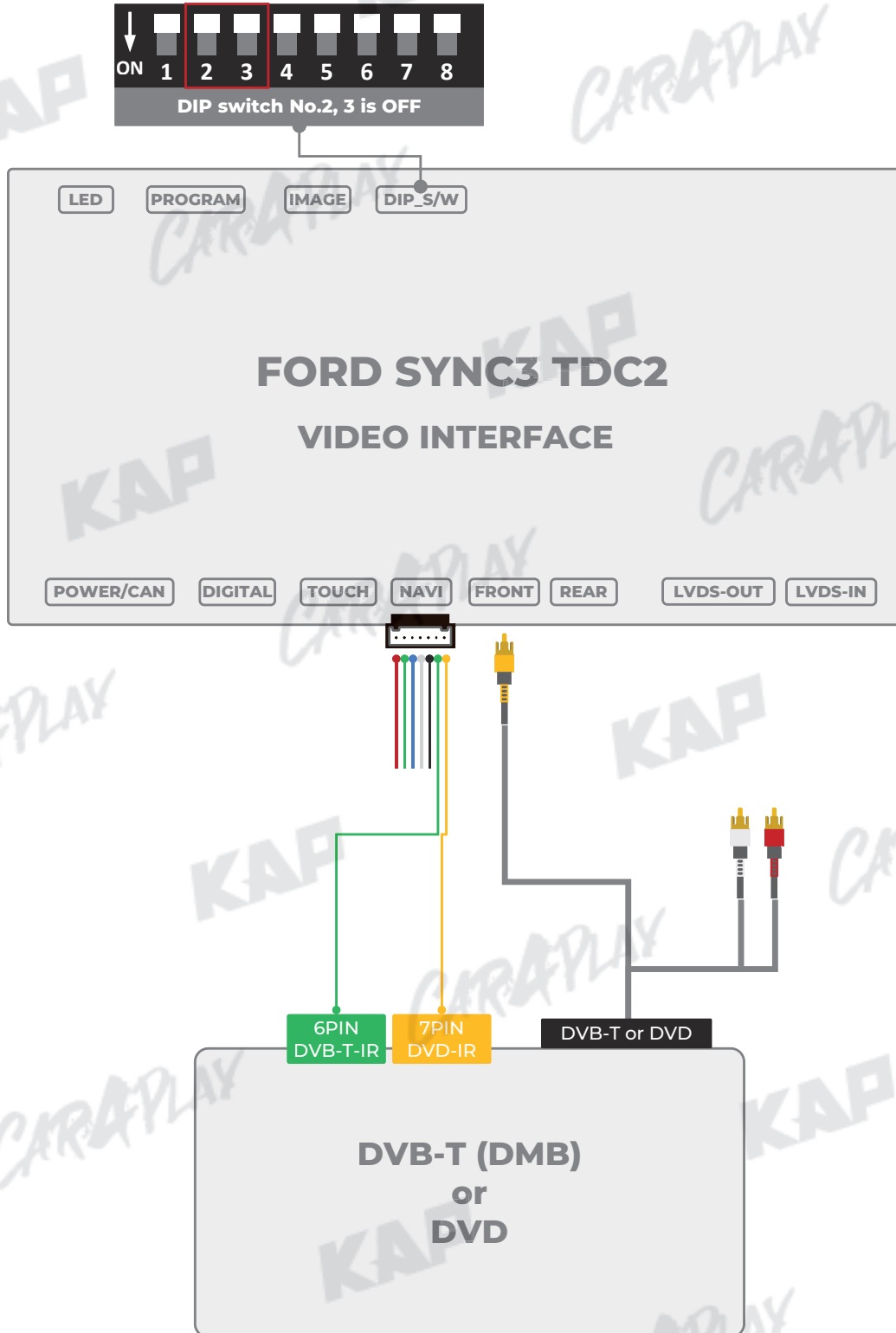
INSTALL MANUAL

RGB NAVI Connection



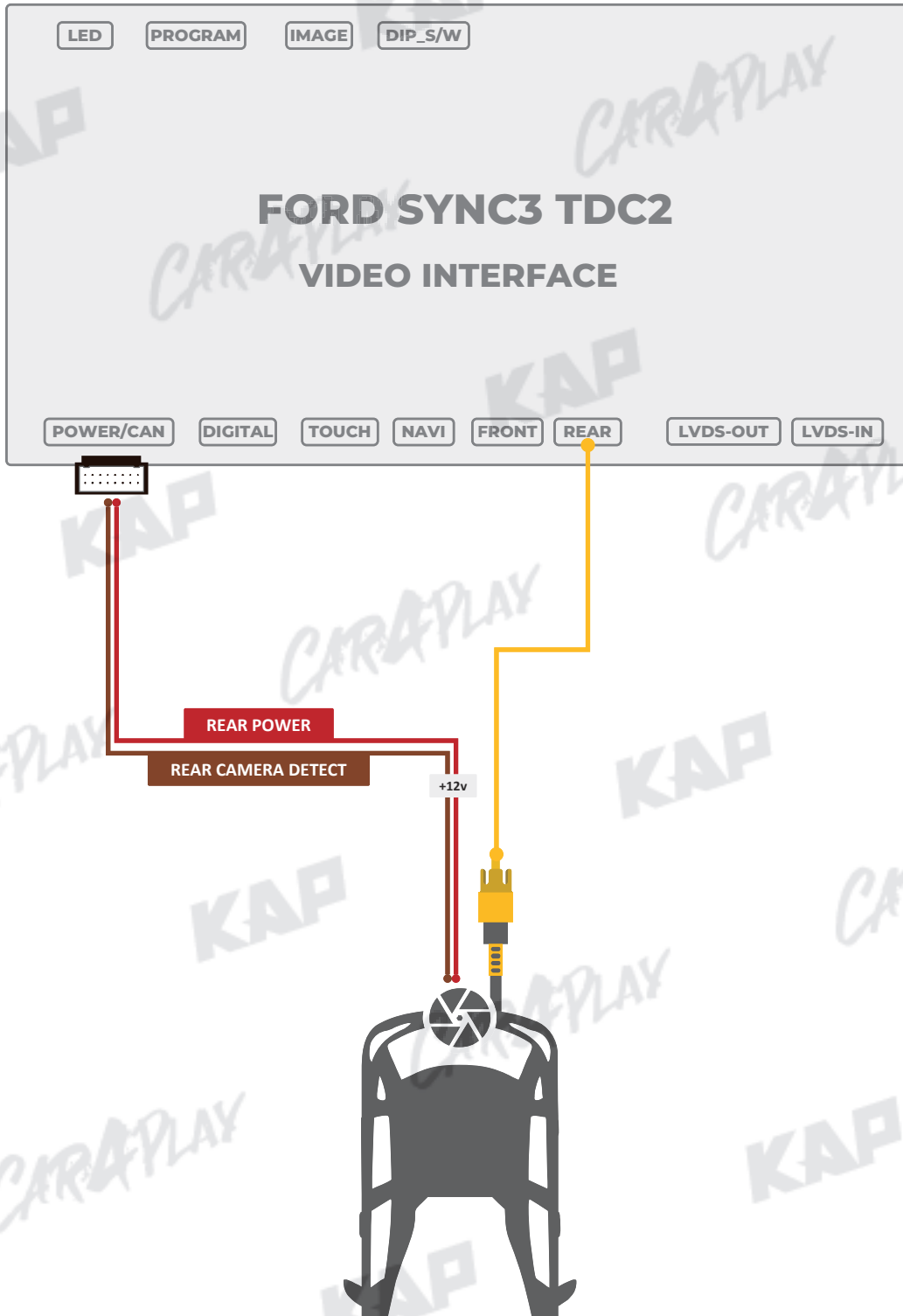
INSTALL MANUAL

DVB-T / DVD REMOTE CONTROL Connection



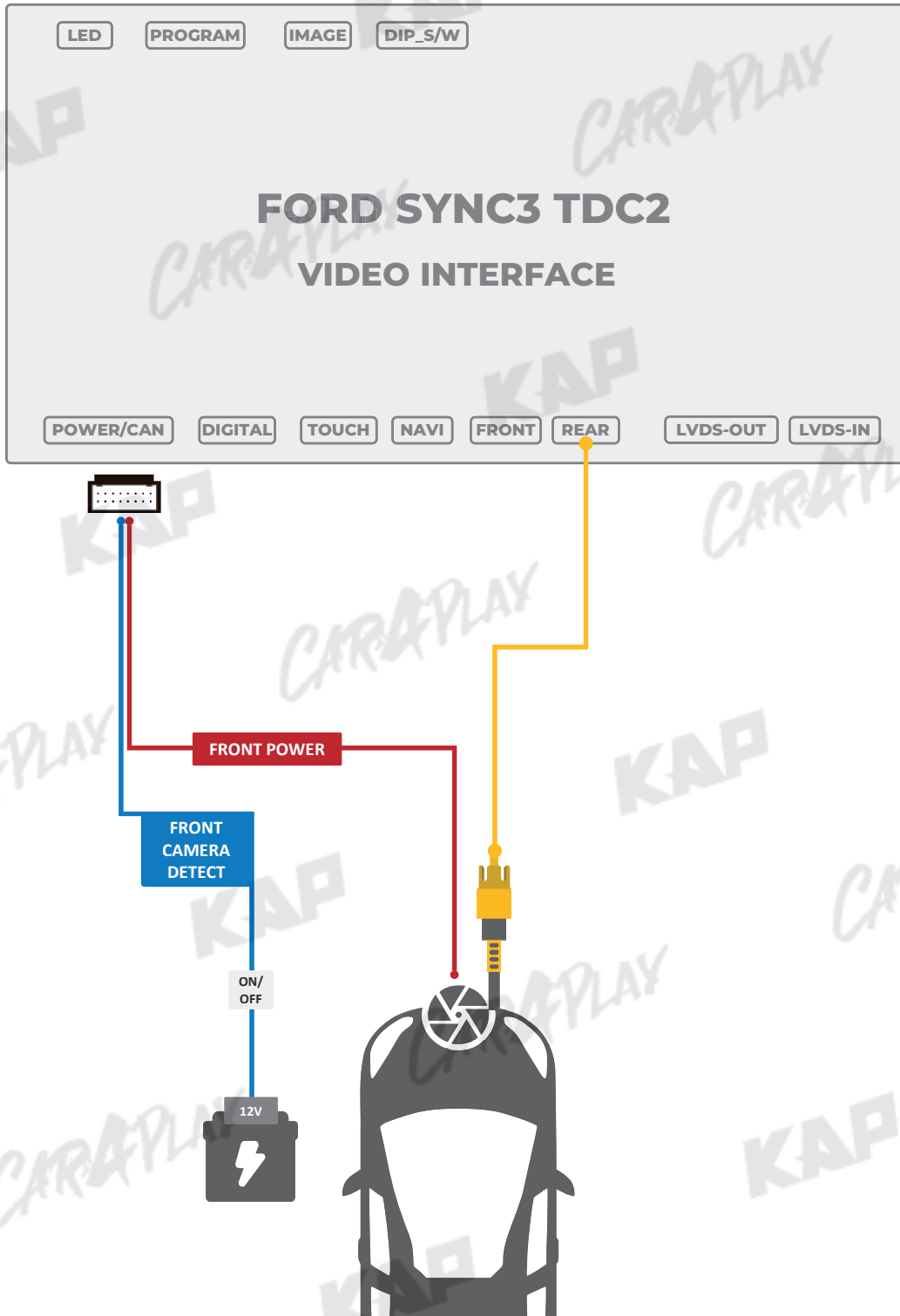
INSTALL MANUAL

External rear camera



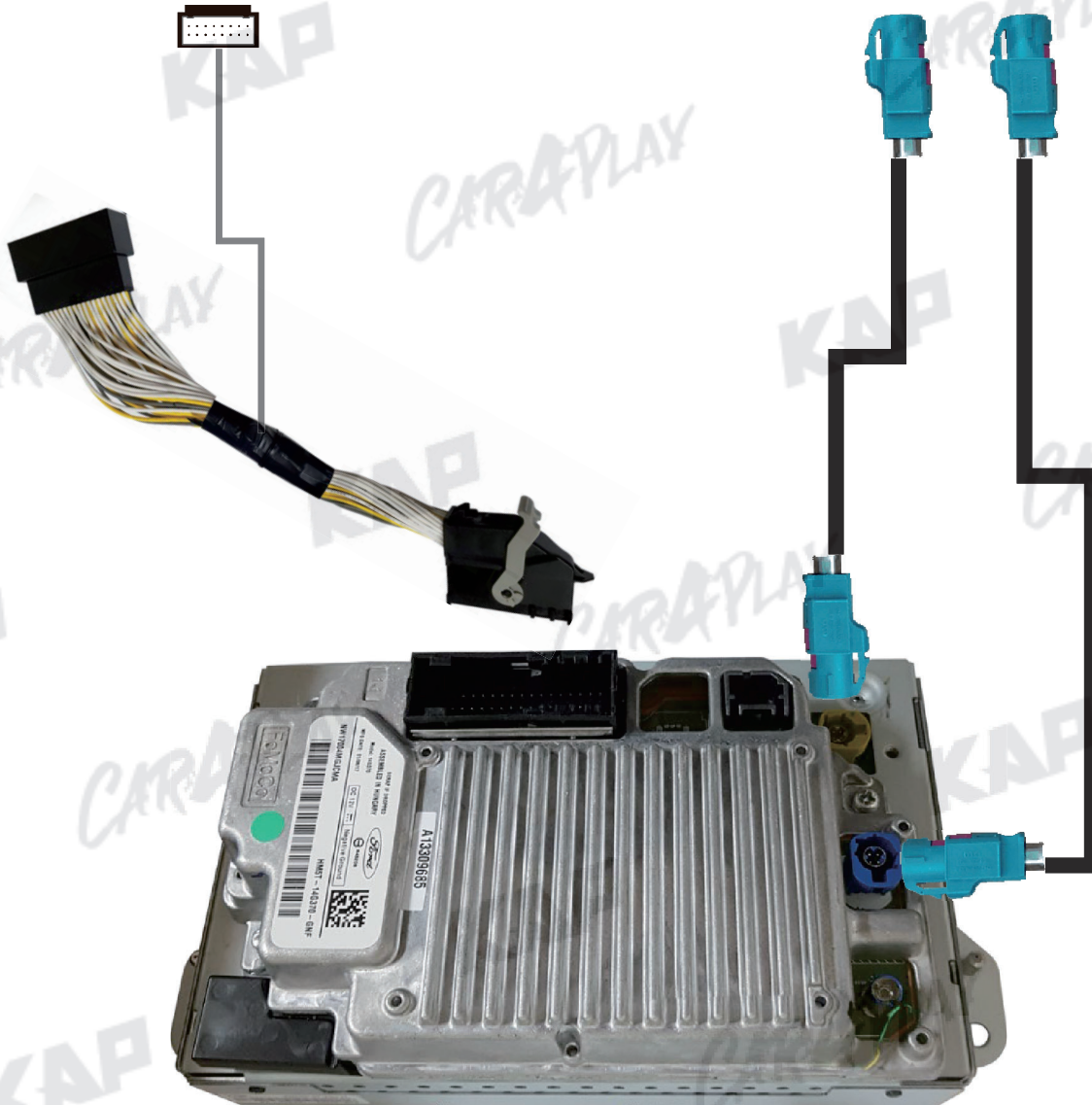
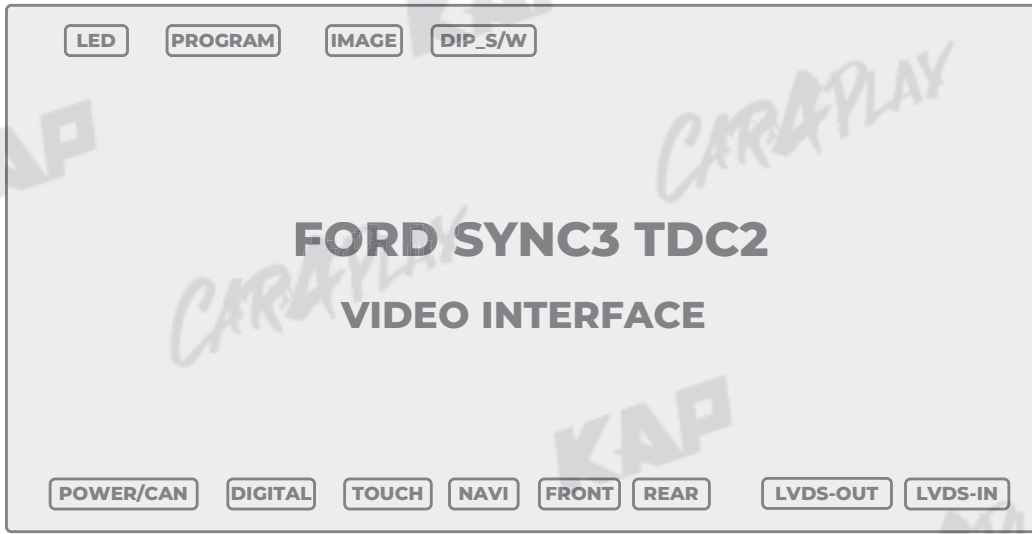
INSTALL MANUAL

External front camera



INSTALL MANUAL

LVDS connection



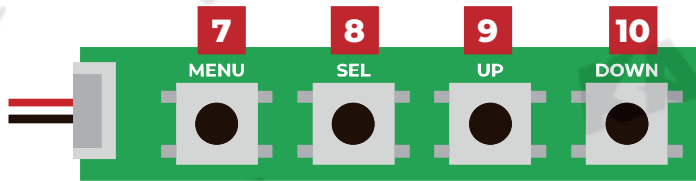
OSD CONTROL

Basic information

1	MENU	2	Option	3	NAVI
4	Config	5	RearCam-Type	6	ExtDevice
	Option		RearCam-Power		Auto
	Image		RearCam-Det		GEAR
	Screen		AV Mode		Off
	Parking		FrontCam-Type		ExtDevide

OSD(On Screen Display) Menu

1	MENU	2	Mode State	3	Interface Status
4	First Menu	5	Second Menu	6	Third Menu



OSD(On Screen Display) Board Control

No	OSD(On Screen Display) Board Control	
7	MENU	<ul style="list-style-type: none"> The OSD screen can be switched ON/OFF Return to previous menu
8	SEL	<ul style="list-style-type: none"> Select the currently active item If the OSD screen is off, mode changes can be made.
9	UP	<ul style="list-style-type: none"> Move up from the menu Increase the selected item value
10	DOWN	<ul style="list-style-type: none"> Move down from the menu Decrease the selected item value

OSD CONTROL

Config Menu

First Menu	Second Menu	Third Menu	Description
Config	NAVI-RGB	DIGITAL : :	Setting the Connected NAVI Model
	DVB-T(DMB)	Default : :	Setting the Connected DVB-T Model
	DVD	Default : :	Setting the Connected DVD Model
	Reset	Execute Cancel	Reset to default value of Config menu

OSD CONTROL

Option Menu

First Menu	Second Menu	Third Menu	Description
Option	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
	AV Mode	ON	Use "REAR" video input port as VIDEO input
		OFF	Disable feature
	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	CAN	Detected by CAN
		WIRE	Detected by Front-Det Wire
	FrontCam-RcvOpt	ON	The time (1-30 seconds) that FrontCam is displayed before returning to the previous state in RearCam.
		OFF	Disable feature
	Steering WheelBtn	LEFT	Use the 'Left' button of the Steering Wheel
		VOICE	Use the 'Voice' button of the Steering Wheel
		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	
ScrChg-Call	ON	Switch to OEM screen when bluetooth phone comes in, return to original when phone terminated	
	OFF	Disable feature	
ScrChg_Climate	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	
NAVI COM	HMS FINE :	Set up a manufacturer of woodworking device for UART Touch use	
	OFF	Disable feature	
Reset	Execute	Option Menu all Reset	

OSD CONTROL

Image Menu

First Menu	Second Menu	Third Menu	Description
Image	Brightness		Adjust the value of brightness
	Contrast		Adjust the value of contrast
	Saturation		[AV / REAR / FRONT / DVD / DVBT MENU] Adjust the value of Saturation
	Hue		[AV / REAR / FRONT / DVD / DVBT MENU] Adjust the value of Hue
	Sharpness		[AV / REAR / FRONT / DVD / DVBT MENU] Adjust the value of Sharpness
	Color-RED		[NAVI MENU ONLY] Adjust the value of RED
	Color-GREEN		[NAVI MENU ONLY] Adjust the value of GREEN
	Color-BLUE		[NAVI MENU ONLY] Adjust the value of BLUE
Reset	Execute		Image Menu all Reset

OSD CONTROL

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

OSD CONTROL

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	

OSD CONTROL

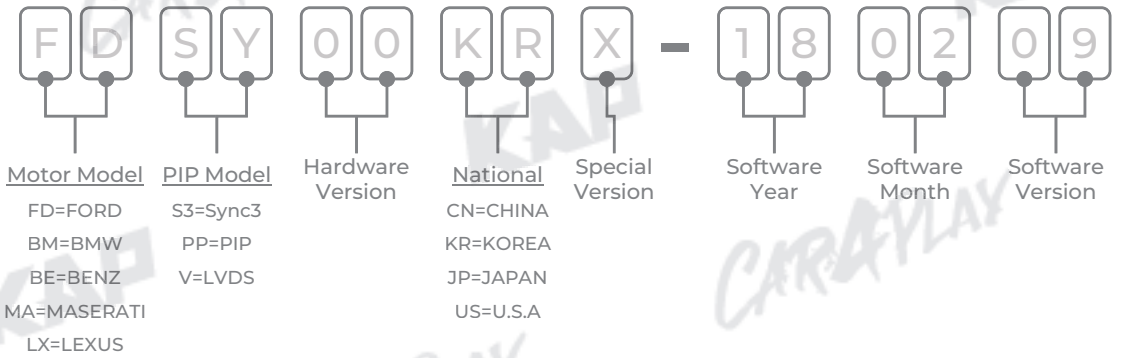
OSD Menu

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

OSD CONTROL

Utility Menu

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





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