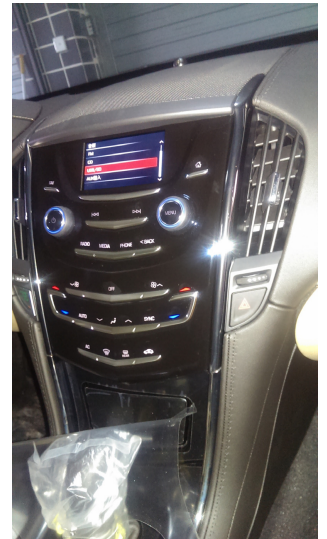


FN-CUE2013 interface+NAVI+Guide installation

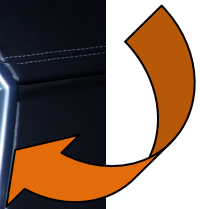
manual_v20131220 Product Type: FN-CUE2013

This interface with internal navigation module can insert High definition navigation picture+ 2AV and 1 reverse camera video into the 2013 Cadillac CUE screens[including Cadillac,Buick,Lacrosse-2013], the following are the features.

- ✓ Interface with internal navigation module and plug and play connectors, the OEM capacitive touch screen is used to control the internal navi.
- ✓ the internal navigation module inside supports many kinds of map like igo primo. Digital connection is used between the navi module and display. The customer can also order the version without internal navigation to insert video or camera onto OEM screens.[FV-CUE2013]
- ✓ GMLAN decoder is used inside so automatic reverse camera and guide line displayed are supported.
- ✓ Adjustable Guidelines can be displayed so whatever camera the installers use, the safety area is accurate.
- ✓ One single module fits into 2 displays: 8-inch Cadillac big screen[set DIP7/8 both up], and 4-inch small screen.[Set DIP7/8 both down.], for both displays, it is plug-n-play connectors, automatic reverse, and guide displays.



Reverse and Guide displayed on 4-inch Cadillac ATS OEM display.



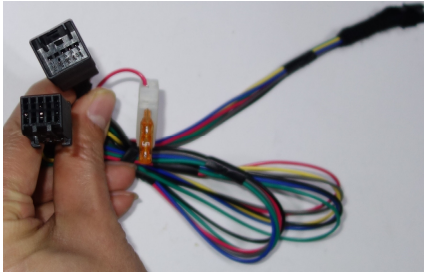
Map/navigation/Reverse camera displayed on Cadillac/ lacrosse 8-inch OEM display.



- ✓ Internal direct input selection, when in AV1/2, the user hold on the touch panel for >1 second, this control panel will pop up, and the user can touch the icon to go directly to one input.
- ✓ When in AV2[DVR] input, the user can long press the left-top area of the LCD to pop up the MMI-icons, so he can control the digital video recorder[power on/off], play, stop, record etc.

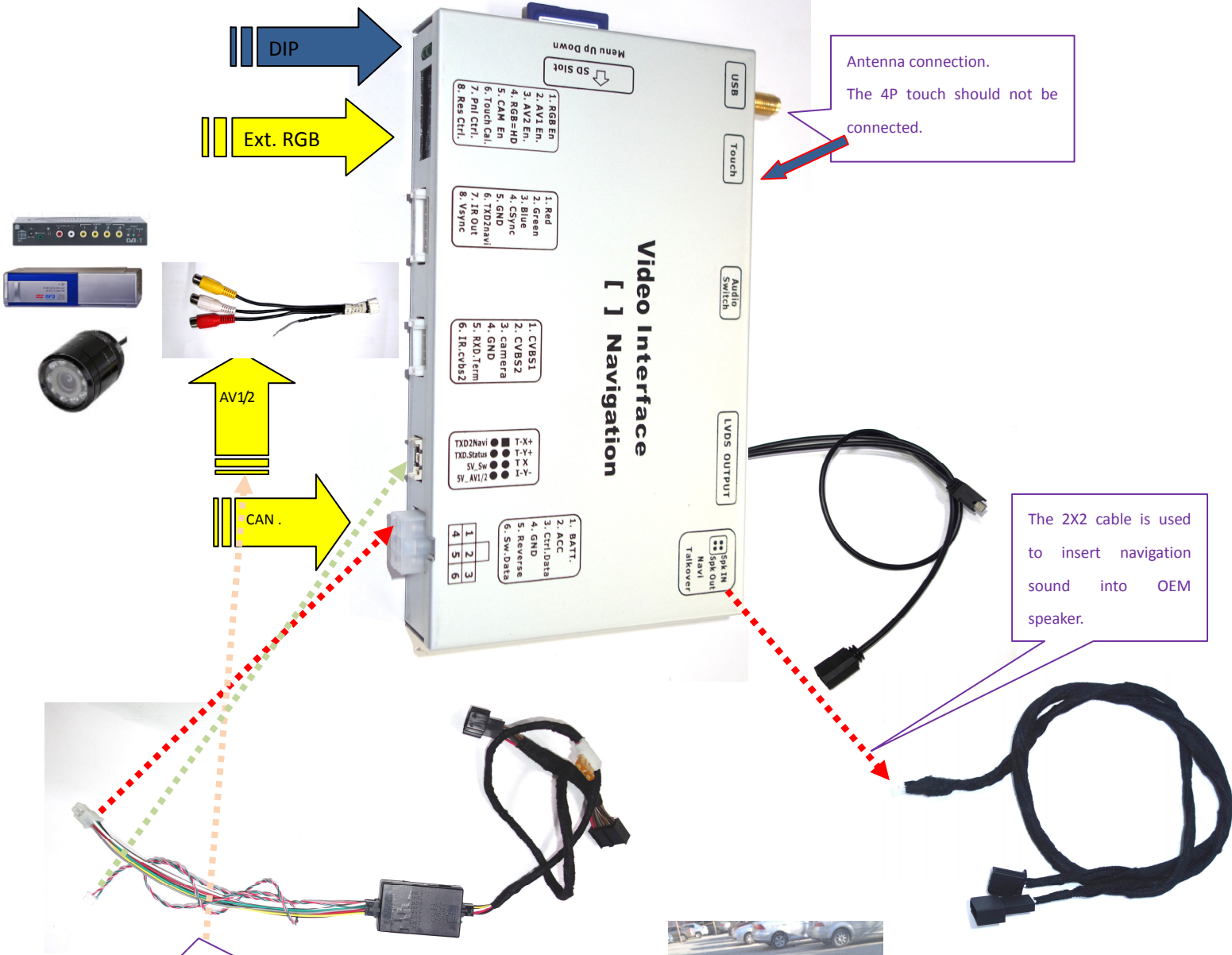
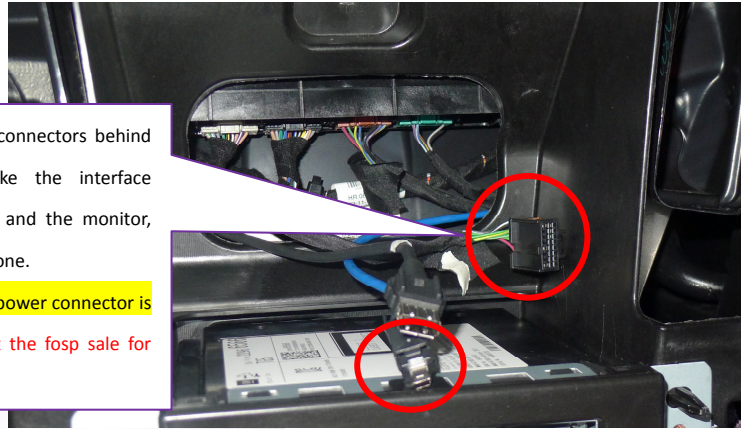


2. connection description :



There are these 2 connectors behind the monitor, just make the interface inserted between them and the monitor, then the installation is Done.

For Buick, Only the power connector is different. Please contact the fosp sale for the less harness.



Antenna connection. The 4P touch should not be connected.

The 2X2 cable is used to insert navigation sound into OEM speaker.

Red reverse camera video input.
White : AV1-DVD video input.
Yellow: AV2-TV video input.
Gray: IR data output to control external DVD etc. it should be wired to DVD/DTV's signal wire in IR sensor.



The 6PIN power connector signal definition between the Can box and interface box:

YELLOW: power supply of 12V BATT.

RED: generated ACC (=12V when key in ignition state): when=12V, the interface works.

BLACK: Ground to Chassis.

GREEN: Can box generated reverse trigger signal [when =12V the reverse video is enabled], this wire is automatically generated by CAN bus.

WHITE: this wire is the switch signal, when the user presses the touch panel for >1 second, this wire goes to 5V, then the interface switches.

GRAY: CAN box's communication data with guideline angle.

2. DIP settings

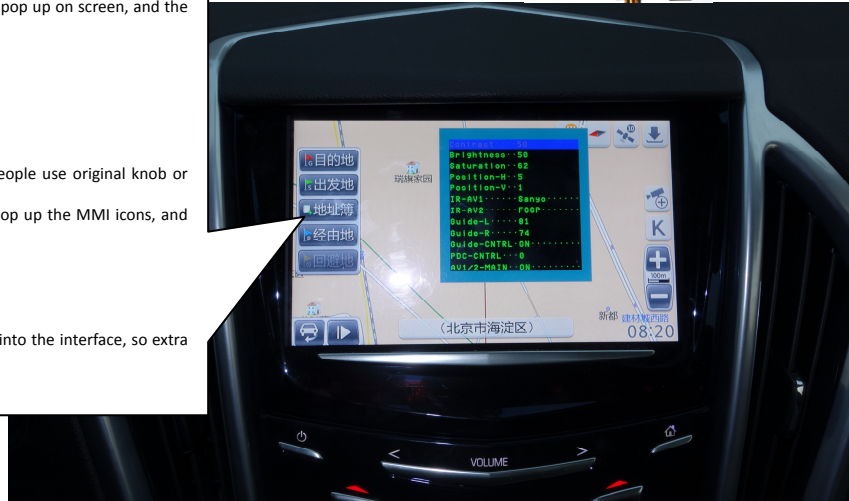
DIP	Down side (=ON)	Up side (=OFF)
1	External RGB input enabled This box has internal navi module with digital connection. Make DIP1=ON only one extra navi or possibly FOSP SmartPhone connection inserted.	RGB input disabled
2,3	AV1/2 input enabled	AV1/2 input disabled
4	RGB input= VGA resolution 800X480 This is the suggested resolution, no matter the panel resolution.	RGB input= NTSC resolution 400[or 480]X240.
5	AV4 video is selected when green wire goes to 12V.[this is for the case aftermarket camera is installed]	Car oem picture is selected when green wire = 12V.
6	Set to ON once for IR programming, and to ON 5 times for touch panel calibration.	Set to OFF for normal use. Note: this Calibration is for touch to control DVD/TV in AV1/2 mode, the navi mode is done by powering this unit up without SD card in slot.
DIP 7, 8	The DIP7/8 both= Up: 8 inch display in Cadillac or Buick cars. The DIP7/8 both=Down: 4-inch display The DIP 7/8 in other settings will lead to black screen when in interface mode.[nothing will be damaged , the installer just need to make it in correct setting.]	

3. the 3 side key buttons

The input box has 3 side keys, the installer may use it to tune the picture display, and touch function for the connected DVD or other devices. The 3 keys are : **menu, +, -**. The first 5 options has separate state memory. The modification of one input is different not affecting others.



- The 3 side keys are : menu, +,- respectively. When menu is press, OSD strings will pop up on screen, and the installer may adjust the best video effect. The +/- will change the value.
- The brightness/contrast/saturation tunes the color of the current video input.
- The position H,position V set the image position on screen.
- The DVD/TUNER/NAVI is to set the IR code output to the installed device, so people use original knob or touch screen to control the installed device in AV1/2 mode. Left/right push will pop up the MMI icons, and push will execute the selected icon.
- When set to "none", the control icons will not pop out
- When set to "Prog", the installer can use DIP6=Down to program the IR code into the interface, so extra new devices can be controlled.



The "Guide CTRL.....ON": the installer can set ON/OFF to enable the parking guide line, which shows the safe zone when parking.

The Guide L option set the left guide line's offset on screen, when the value changes, the left guide moves its location.

The Guide R option set the Right guide line's offset on screen, when the value changes, the Right guide moves its location. With this combination, the guide line can always fits the car and show the safety area no matter whatever camera the installer uses.



The Last option (AV1/2--MAIN) is for AV2-DVR direct switch control. When=ON, and the user press the touch panel for >1second on the left-down corner, this control panel will pop up, and the user can hold to one icon to go to the input directly.

When in AV1/2, the user can long press the left-top area of the LCD to pop up the MMI-icons, so he can control the digital video

recorder[power on/off], play, stop, record etc.

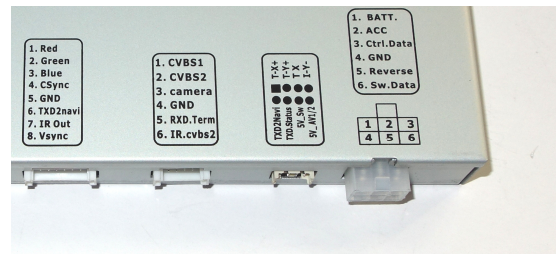
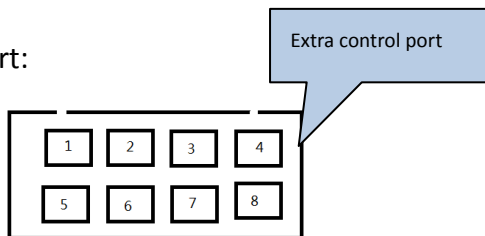


Reverse: when the driver goes to R, the can box's output [Green wire=12V], then the reverse image will be shown. And guideline can be shown if enabled by OSD.

The programming of IR code:

- There are >10 types of DVD, NAVI, and Tuners' IR code are stored inside the interface. The installer just adjusts the options to select to wanted one, then it works. If the wanted type is not there, he may set the option to be "Prog" in the menu.
- When programming, switch the input to AV1, and set DIP6 down once, then the control icons will be shown, and one of the them will be blinking, which means the suitable IR code is wanted. The installer should now connect the hardware: connect the IR signal wire of the DVD to the gray-wire in the power cable of the interface[the IR input wire.], and press once the related IR key.
- Then the 2nd icon will be blinking, which means one IR code is read and another code is wanted, the installer just repeat the pressing till all code are read.
- When the last icons stops blinking. The installer should change the hardware: connect the IR output wire[RGB port's 7 pin wire] of interface to the DVD's IR signal wire. Then when the user rotates the knob or use the touch foil to generate the IR code, DVD will be controlled.
- The programming of AV2 is the same as above.

4. Extra control port:



This interface has released a lot of hidden functions, so the 3rd party can use it for various usages.

The Extra control port close to the power connector:

- (1) the 4-pin in the up row: touch screen 4Pin input, when in DVD or TV, the touch foil can be switched and connected to these 4Pin, so the controller inside can read the touch



operation and location and generate the IR code for DVD etc.

- (2) the 5th Pin(TXD2Navi): the input pin to take external control data for internal navi, to replace the touch control。
- (3) the 6th Pin (TXD.Status): the interface tells the outside its internal status.
- (4) the 7th Pin (5V_SW) : this pin can output 5V with 1A max, which is enough for a relay pull, when in inserted video this pin=5V, when in OEM video, this pin=0V.
- (5) the 8th Pin (5V_AV1/2) : this pin can output 5V with 1A max, which is enough for a relay pull, when in AV1/2 video this pin=5V, otherwise this pin=0V. it can be used to switch the 4Pin touch so one touch foil is shared by navi, and DVD/TV.

The 5th pin in the Video input port (RXD.Term):

This interface can work in terminal mode, a 3rd developer or installer can send commands into this pin. E.g. when he sends “switchInput 1\r”,the interface will switch into RGB navi, “switchInput 2\r”,the interface will switch into AV1, when he sends“Help\n”, the interface will tell a list of available commands. This Pin works in 11.5K baud rate and it loses all sent commands when drops power.

5. Parameters

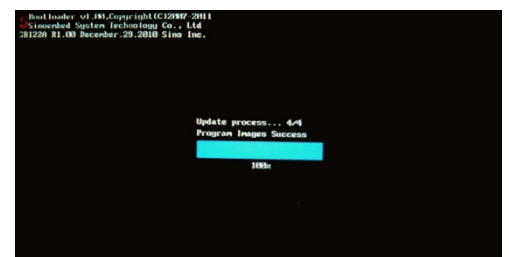
No.	name	parameter
1	RGB map resolution	800X480 HD suggested.
2	Av1, , cam video	0.7Vpp with 75 ohm impedance NTSC/PAL/SECAM automatic switch
3	GPS antenna	5V active antenna from the golden finger connector.
4	Reverse Control wire	>5V will force into camera mode. All these wires can tolerate 12V for <10 seconds.
5	Normal Power consumption	4.8W
6	Standby current	< 10uA
7	Reverse trigger threshold	>5V trigger
8	Work temperature	-40 ~ +85C
9	Size	15.2 * 9 * 2.1CM
11	USB	OTG function,1A output with surge of 3A.
12	Compatible with maps	Navione, navitel, lgo, Primo.sygic, etc.

8. simple manual about the navi module.

- (1) How to update the module software:

Copy the files that FOSP provides into a SD card.

When the units power on, the users may see this picture. He just wait the start Up screen shown again.



- (2) How to make a start up Logo:

Make a directory named YP_A5, and put all the file that fosp supplies for a boot.

The logo.BMP contains the logo. Please be sure it must be 800x480, BMP format, and 16 bit in color.

- (3) The functions of the icons.

The left picture shows the start up picture, the user may go to each icon to get their respective function.

When the navigation map is inserted the first time, the user may click the navigation icon, and the right-side picture will show up, the user should select the *.exe file to run the map.



All the other functions are self-explained in the menu.