FV_BMW_CCC installation manual_ver.120317

Product type: FV-BMW-CCC

This interface is suitable for BMW 5series（523，530 etc），3series，New X5，X6，with DIP switch settings, this interface support all BMW 8.8， 6.5 LVDS screens in M-ASK system and CCC systems.

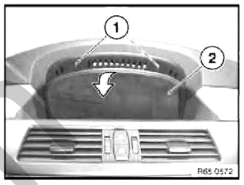
With the iDRV CAN bus to IR signal converter inside, the interface can also control DVD/DVBT operations based on the iDrv knob operation.

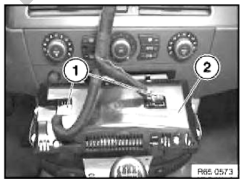
1.Interface installation location

Then the video cable and power cable can be seen:

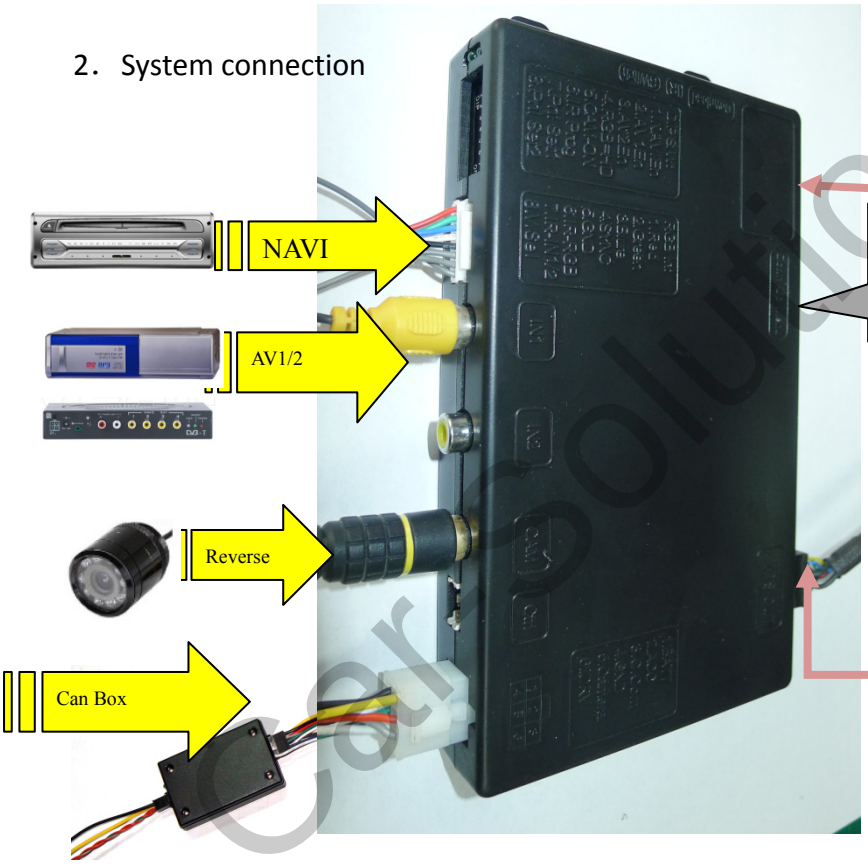
The video cable should be inserted into the interface first, then the interface's output will be inserted back into the monitor.

The Control cable provides CAN signal and power to the CAN box of this interface。

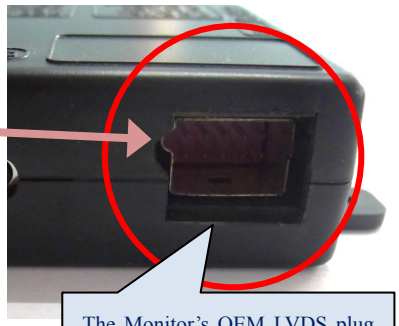




2． System connection



3 keys for color tuning.

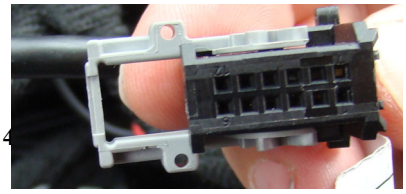


The Monitor's OEM LVDS plug should be pulled out and insert into the interface's LVDS socket.

The interface's output LVDS cable should be inserted back into the monitor LVDS socket.

CAN box input wires connection：

CAN wrong connection is not hurting device, the LED will be blinking when connected correctly。



CAR -----to-----		-----CANbox-----
Pin5=CAN+ High	**Black wire**	**CAN+ High--- /Blue**
Pin6=CAN- Low	**Yellow wire**	**CAN- Low---- /Gray**

Pin3 GND	Black/Brown	Big Black
Pin1 BATT	RED/Voilet	Big RED[2A FUSE]

The signal definition of 6P on interface from CAN box： These signals are generated b the CAN box, so in most cases, the installer does not need to modify anything.

Yellow：constant power of 12V。 **black**：GND of chassis。

RED[ACC]：when the monitor works, this wire=12V，otherwise=0V。

Green：reverse signal wire[=12V when in reverse], it can be connected to reverse wire for trigger signal。This signal can also be used to power a camera since it can offer 2A.

White wire：switch signal wire, when =12V or 5V, this interface switches.

Gray wire：CAN bus control data to interface, it is used to pop up the control icons.

3. DIP switch setting:

DIP	=ON [DIP=Down side.]	=OFF
1	RGB enabled	RGB disabled.
2,	AV1 for DVD enabled	AV1 disabled
3	AV2 for Tuner or extra video enabled	AV2disabled
4	RGB=HD RGB [800X480 or VGA 640X480]	RGB=Normal NTSC [480X240] This is the suggested input.
5	This is reverse camera trigger wire. go to CAM when Green wire= 12V]	go to car video when Green wire= 12V
6	IR programme when once to ON Touch calibration when get to ON >5 times.	OFF for normal work.
7,8	DIP7: this DIP is not used, leave it UP when in normal use. DIP8=UP: 6inch BMW-CCC or M-ASK screen with 480X240 resolution DIP8=DOWN: 8.8 inch screen with 640X240 resolution [BMW-X5,X6 etc.]	

4. OEM keys to control the interface.

when in inserted video mode, people can rotate/push the knob to control inserted devices, with the icons on screen.

MENU:

When pressed long, the inputs of RGB/AV will be switched.

When shortly pressed in inserted video, the display mode of 16:9 / 24:9 will be toggled if DIP8=DOWN.

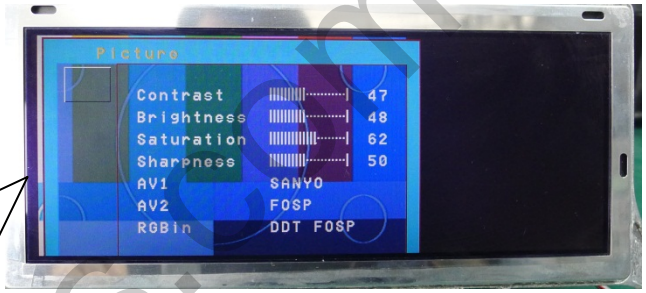
For the multi-key IDRV：

- NAVI：the input switch: →RGB →AV1—AV2→Car。
- CD： the display goes to OEM CD，
- RADIO：the display goes to OEM radio.
- Option: the display ratio will toggle 16：9/ 24：9for inserted video.

- The user can also use the extra keypad to switch inputs.

5. The 3 side keys for setup.

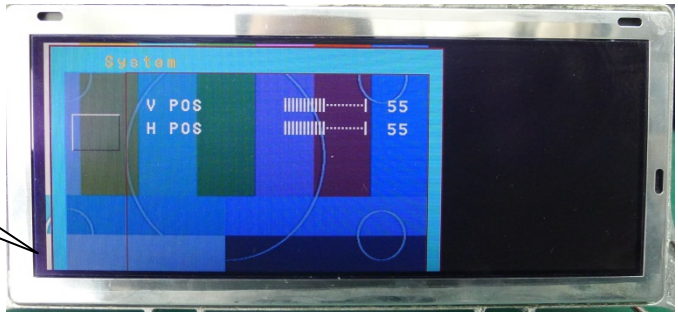
- The 3 side keys are : menu, +,- respectively. When menu is press, OSD strings will pop up on screen, and the installer may adjust the best video effect. The +/- will change the value.
- The DVD/TUNER/NAVI is to set the IR code output to the installed device, so people use original knob to control
- 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 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. Point the IR remote controller to the IR port of interface, the blinking icon will be moved to the next one. Which means one code is programmed. Repeat this step until all icons are programmed.
- The programming of AV2 is the same as above.

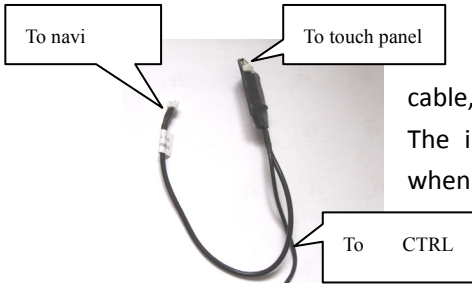
When the menu key is pressed twice, this menu will be shown, the installer can adjust the values to make the image fit into the center of the screen.



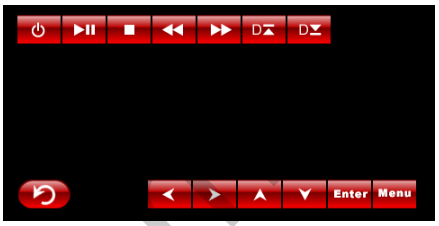
3. CTRL port

There is a 8-pin extra CTRL port on the interface, which the installer does not need to use in normal situation. For experienced users, this port may be used to get extra functions.

One dedicated daughter board can be used, so people just touch the screen, the installed devices can be controlled by the icons, because the interface can generate IR code based on touch screen operations.



the CTRL port can be connected to the left touch cable, so DVD and other devices can be touch controlled. The internal switch makes the navi use touch panel when in RGB-input, and DVD uses the touch panel when L input.



Ctrl port signal definitions：

Pin 1,2	+5V output voltage for sound-switch-relay, when AV1 is selected=5V, 0V when AV2 selected. Max 3A.	
3:	Constant +5V	Max .2A
4，8	Ground	
5:	Dedicated control bus for camera。	Should not be connected to GND, otherwise CPU will halt.
6:		
7	+5V output when in interface mode, 0V when in Car mode.	

Note:

There is a gray wire between the can box and interface box, which is used to deliver control data, so that multimedia icons will pop out and be executed. This wire can also deliver terminal-mode control data. So a 3rd party computer can control this interface.[terminal mode like: to directly go to RGB input, to AV1 input, AV2 input, reverse camera input], to get the full implementation of the interface terminal mode operations, please contact the sales people.

4. Parameters

No.	name	parameter
1	RGB video amplitude	0.7Vpp with 75 ohm impedance
2	sync amplitude in RGB-navi port	3~5Vpp with 5K ohm impedance Sync should be NTSC composite with negative polarity. When VGA is in, put Hsync and Vsync together by XOR(74HC86).
3	Av1,Av2, cam video amplitude	0.7Vpp with 75 ohm impedance
4	Av1,Av2, cam standard	NTSC/PAL/SECAM automatic switch
5		
6	Normal work Power consumption	2.4W [0.2A @12V]
7	Standby current	< 5mA
8	Standby start	10 seconds after the users switch off the CD unit.
9	Reverse trigger threshold	>5V trigger
10	Work temperature	-40 ~ +85C
11	dimensions	15.6 X 9.2 X 2.2 Cm