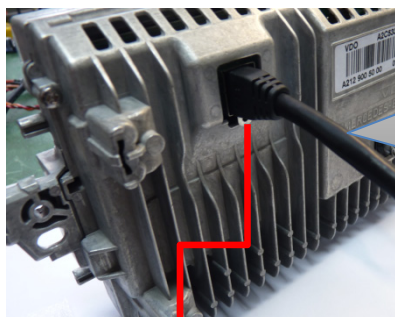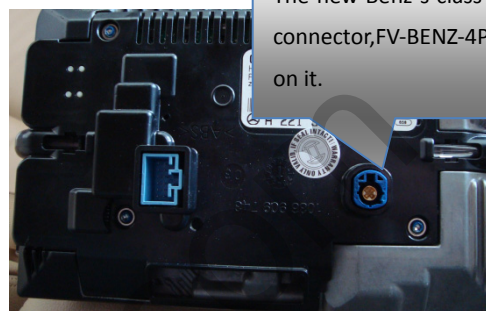# FV-Benz567，FV-Benz-A221 installation manual

Most Mercedes Benz cars use this 10P square connector, the FV-Benz567 works on all the cars of this connector although different resolution and screen sizes, including C，GLK，E，S

The new Benz-s class use a 4P connector,FV-BENZ-4P works on it.

This interface can insert High definition RGB navigation video, AV and reverse camera video onto Mercedes-Benz W204,W221,W212 car screens.

5inch screens resolution.e.g. W204 C series ,GLK series cars and more.

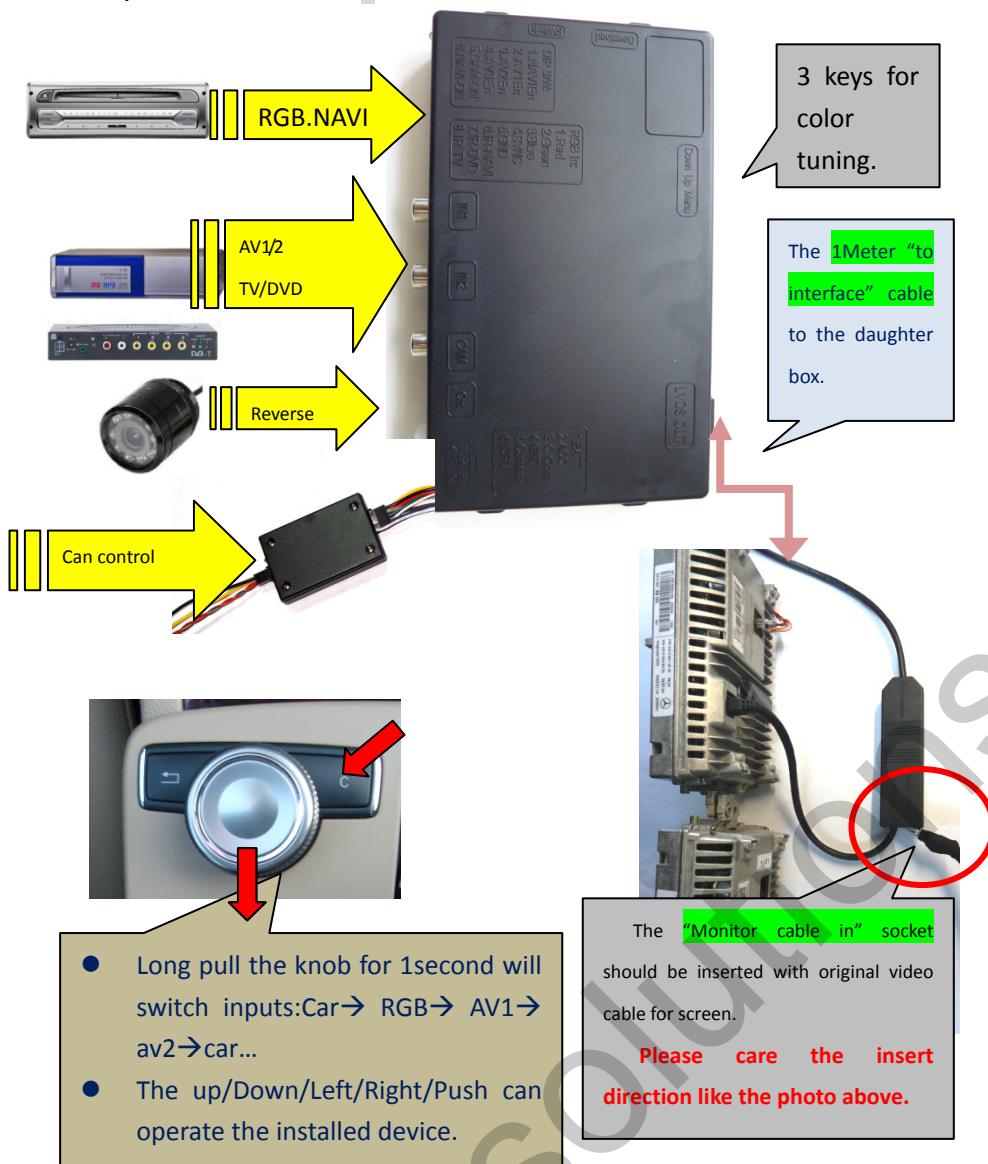6inch[5.8 inch] screen in E，C series, or GLK, S series with 7inch screen.

7inch screen in W212, W204,W221 cars, e.g. C-series C280, Glk300, E300/E260,S-series

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]
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	7=UP,8=UP:　　7inch screen with 800X480 resolution 7=UP,8=DOWN:　6inch screen with 480X240 resolution 7=DOWN,8=DOWN:　5inch screen with 280X100 resolution	

2. system connection:

RGB.NAVI

AV1/2
TV/DVD

Reverse

Can control

3 keys for color tuning.

The **1Meter "to interface" cable** to the daughter box.

The big wooden piece should be take down in class, so the center AirCon output goes off to then the frame of the Screen can be taken down, a the monitor's rear connector can be seen, which are used for the installation, the CD should not be modified.

- Long pull the knob for 1second will switch inputs:Car→ RGB→ AV1→ av2→car…
- The up/Down/Left/Right/Push can operate the installed device.

The **"Monitor cable in" socket** should be inserted with original video cable for screen.

Please care the insert direction like the photo above.

The GLK, E, C series only needs to take off the center air outlet(no screws inside, just hooks), then the frame surrounding the LCD can be taken down. The CD is not necessary to get modified and taken down.

The signal definition of 6P on interface from CAN box:

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

RED[ACC]: when the monitor works, this wire=12V, otherwise=0V。
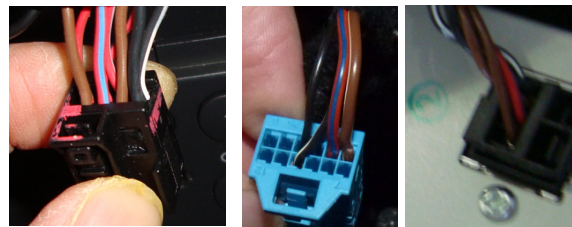
Green: reverse signal wire[=12V when in reverse], it can be connected to reverse wire for trigger signal。

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. See note2 on the end of this wire.

4Pin CAN box input wires connection:

Name	Color in Car connector	Color in CAN-BOX[4Pin]
CAN -	Twitsted BLACK	twisted orange

CAN +	Twitsted BLACK/WHITE	twisted BLUE
GND	BROWN	BROWN
BATT [13.8V]	RED/Blue	RED with 2A FUSE

[note:

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

The CAN wire location may be different from C-class to E-class and GLK, but the color always the same.**]**

The interface can be installed inside the feet stand on the other side of the driver, ----------------→

the aluminum piece can be a heat sink to the interface as well.

2．Interface Settings

- 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.
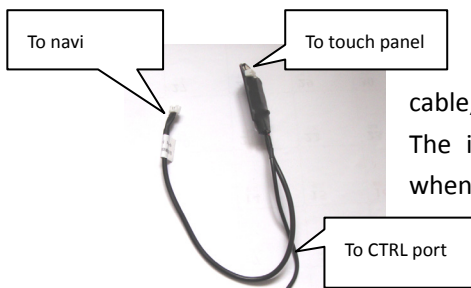

3. CTRL port

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.

To navi

To touch panel

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 ___ input.

To CTRL port

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.	

Note2:

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 fosp interface terminal mode operations, please contact fosp 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

4. other related products.

（1） Benz C180，C200 replacing monitor：FOSP has a specific monitor for the Mercedes C class, it uses 6-inch high definition LCD(with navigation, reverse video and DVD inside) to replace the original 5inch LCD(it has only display of the car air con data and radio data.), while keeping all mechanical dimension and sizes to be the same, and installation connectors the same.

The replacing monitor keeps all the original data the same, and displayed on the big monitor although it is replaced.

（2） The FOSP's GLK replacing monitor has the same feature as above.
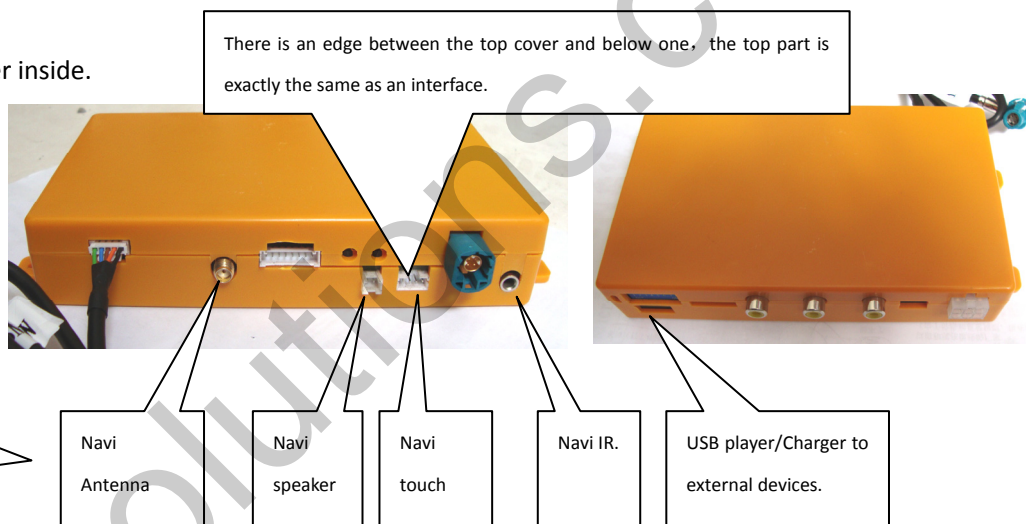

（3）Mercedes RSE monitor.

Fosp's RSE monitor can convert the car original LVDS signal into RSE signal, one extra video can also be displayed.

(4) Interface with navi computer inside.

this interface has another version, which has navigation computer inside. The connectors are shown in the pictures。

the demensions are: 15.6X9.2X3.2cm。

There is an edge between the top cover and below one，the top part is exactly the same as an interface.

The below is for navigation.

Navi Antenna

Navi speaker

Navi touch

Navi IR.

USB player/Charger to external devices.

Dedicated touch screen for FV-volvo