

FN_Mazda3 interface + NAVI installation manual_v20140113

Product Type: FN_Mazda3[with internal navi.]
 FV_Mazda3[without internal Naiv]

This interface with internal navigation module can insert High definition navigation picture+ 2AV and 1 reverse camera video into the 2014 Mazda3 screens, the following are the features.



This CALL-off key is used to switch the interface, all other operations are done by touch screen.

- ✓ Interface with internal navigation module and plug and play connectors, the OEM touch screen is used to control the navi. It is not necessary to open the monitor, nor the CD unit.
- ✓ Plug and play connectors are used, the installer does not need to cut any wires.
- ✓ Internal navigation modules takes SD card for map, various kinds of navigation software are supported.



1. 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 should ALWAYS Up.	

2. connection description :

Antenna input

**Audio2 in.
Audio1 In.
Audio output.**

Red: reverse camera.
White: AV2 video
Yellow: AV1 video.

**The OEM plug to monitor should be pulled out, and reinserted here.
While the plug of this cable should be inserted to monitor's socket.**

**This harness should be inserted behind CD, so the switch voltage will be given to interface on the white wire.
The Yellow/Red should be wired together to ACC of this car.
The separate Green wire should be connected to reverse signal to make automatic camera display.
The Gray wire: normally 5V when not connected. when connected to Ground for >1second, the interface switches.
The White wire: Analog voltage sensor input, when people press Call-off, the interface switches. It should be connected to the gray wire shown in the picture left side.**

Labels on the interface unit:
 Menu Up Down
 SD Slot
 1. RGB En
 2. AV1 En.
 3. AV2 En.
 4. RGB=HD
 5. CAM En
 6. Touch Call.
 7. Pnl Ctrl.
 8. Res Ctrl.
 1. Red
 2. Green
 3. Blue
 4. CSync
 5. GND
 6. TXD2navi
 7. IR Out
 8. Vsync
 1. CVBS1
 2. CVBS2
 3. camera
 4. GND
 5. RXD1Term
 6. IR.cvbs2
 TXD2Navi T-X+
 TXD.Status T-Y+
 SV_Sw T-Y-
 SV_AV1/2 T-X-
 1. BATT.
 2. ACC
 3. Ctrl.Data
 4. GND
 5. Reverse
 6. Sw.Data
 1 2 3
 4 5 6
 USB
 Touch
 Switch
 LVDS OUTPUT
 Spk IN
 Spk Out
 Navi
 Talkover

The 6PIN power connector signal definition of interface box:

YELLOW: power supply of 12V BATT.

RED: generated ACC (=12V when key in ignition state): when=12V, the interface works. The red/Yellow can be wired together to ACC of the car.

BLACK: Ground to Chassis.

GREEN: Can box generated reverse trigger signal [when =12V the reverse video is enabled].

WHITE: this wire is the switch signal, when the user presses the Call-off key, then the interface switches.

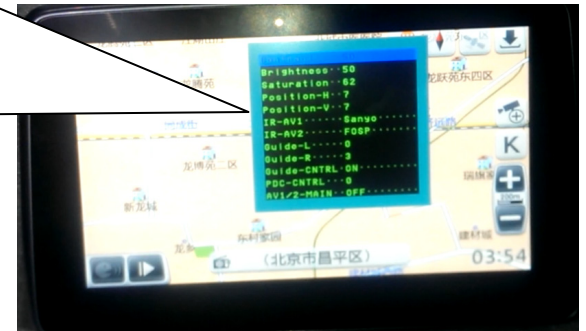
GRAY: CAN box's communication data with guideline angle.

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.



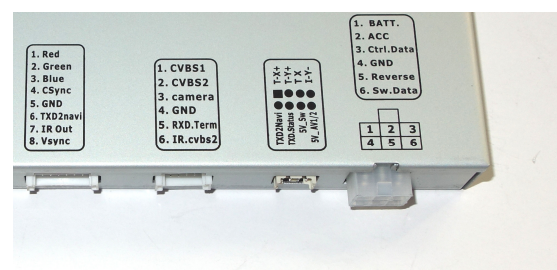
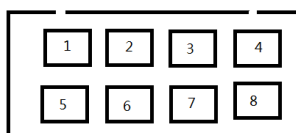
The **"Guide CTRL.....ON"**: the installer can set ON/OFF to enable the parking guide line, which shows the safe zone when parking. please set to OFF.

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:

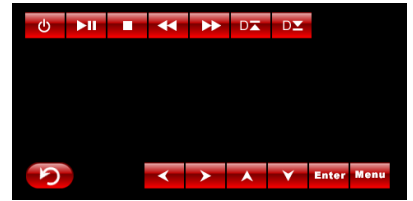
Extra control port



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):

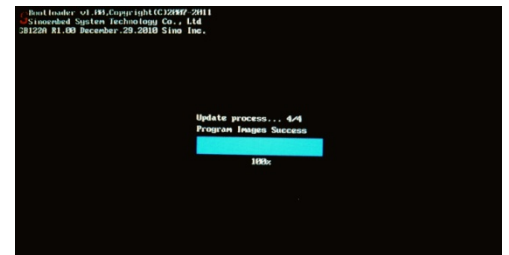
This interface can work in terminal mode, a 3rd developer or installer can send commands into this pin. E.g. when he sends “switchInput 1\r”,the interface will switch into RGB navi, “switchInput 2\r”,the interface will switch into AV1, when he sends“Help\n” , the interface will tell a list of available commands. This Pin works in 11.5K baud rate and it losts 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, Igo, 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 800×480, 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 manu.

