

# FN-Android GPS Computer

## Installer's Manual.

Ver: 20140710

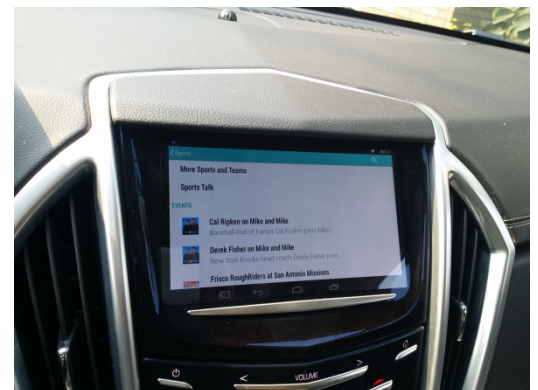


This FN-Android is an Android based GPS navigation computer, which is specially designed to be used in cars, to offer live-traffic navigation like Waze,Baidu etc , or off-line navigation like iGo, Sygic, It has standard Android operation system inside, together with hi-sensitivity GPS sensors and Wifi, Bluetooth functions. So internet radio or web browser or any other android application can also be implemented on it.

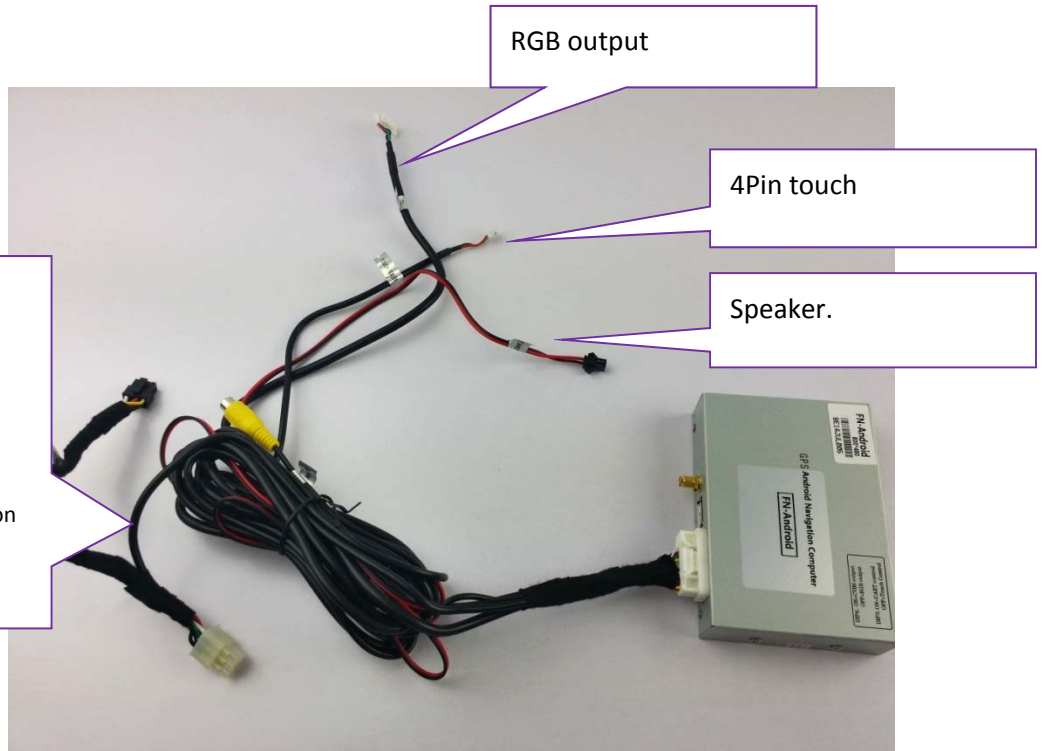
The output is fixed to be 800X480 high resolution RGB and it has 2 ways to input touch operation[4P analog and 1-wire serial]. So it can be connected with FOSP interfaces to insert android navigation pictures onto almost all OEM car screens,like BMW, Mercedes-NTG5 and before, Skoda/VW-2014, Audi, Buick/Cadillac. Etc. OEM touch or added touch can be offered to this inserted android OS.

Here are the features of this module:

1. High sensitivity GPS + Android operation system inside, this computer can run a lot of on-line navigation software like Waze, Baidu, Sygic, also off-line navigation software like iGo, etc. the driver can also plenty of freedom to install other apk software onto this standard Android 4.2. operation system.
2. Easy connection to fosp's insterfaces, the user just need to insert the RGB output to fosp's insterface, then the android picture will be displayed on OEM car screens like Volkswagen, BMW, Audi, Buick, Cadillac, Range Rover etc. Fosp's interface can zoom the 800X480 RGB picture onto many car screens like : VW-golf7[800X480], Skoda-Octavia[400X240], BMW-CIC2[1400X480], Benz-NTG5[1560X480] etc.
3. 2-kinds of control to this navigation computer. 4pin standard touch and 1-wire UART data, makes this unit can be easily controlled by touch screen.
  - The one wire UART has the same connector as FOSP interface's RGB input. For cars has OEM touch like Chrysler 300C, VW, Skoda, and Cadillac, the OEM touch data will be generated by interface and this navigation computer can controlled by the OEM touch, exactly like the OEM way.
  - The 4pin touch gives another possibility to control the android computer, on the cars without OEM touch like BMW, Audi, Mercedes, thus the installer just put one extra touch foil and connect to this computer by the 4Pin way.
  - When this unit boot up without SD card, it shows the touch-calibration cross. This makes the installation job really simple, when the installer put a new touch foil on, he needs to calibrate the touch coordinations.
4. Internal WIFI makes this unit easily connected to a phone's hot-spot, thus live traffic situation is received so much better navigation based on traffic situation is offered than most car OEM navigation today.
5. External SD card slot make the end-user can copy and installer more apk onto the computer. He has the freedom to install whatever other Apk, just like a normal Android OS. For example tuneln internet radio.
6. The navigation can be directly embedded inside FOSP interface to drastically reduce the system wiring complexity. The installer just take the internal navi core module and plug it onto FOSP interface, like FV-cadillac, FV-VW2014. The FAN-series of FOSP modules has android navigation module instead of winCE modules, e.g. the FAN-VW2013 is the android module for VW/Skoda cars.



# 1. Connections



Power input: only 3 wires used:  
Red/Yellow should =12V when working.  
Black =GND.  
This harness is used to give plug-play connection in case an interface is connected.

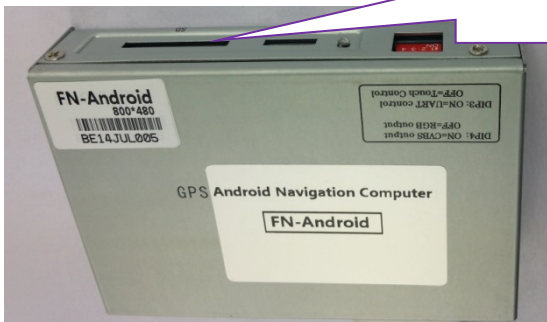


Speaker for navigation sound output, the installer can also wire it to the Car's AUX input. so this speaker can be removed.  
The Installer can also use Bluetooth to send sound to car.

GPS antenna

4Pin touch, it can be used to connect to 4Pin touch foil, in case the car does not have OEM touch panel.

SD card for external memory of Android.



- When connected with an interface,[e.g. FN-Cadillac], the connection would be like this:



The FN-Cadillac has already an internal WinCE based navigation module. It can offer plug and play navigation insertion onto Cadillac screens already.

The installers can make this FN-Android connected like this, so, besides the WinCE navi inside the interface, the user get another internet based Android navi:

The Red/Yellow get power from the Red wire on the interface's power cable, the Black to Black for the same ground. And RGB connector inserted to interface like picture shows. The 6<sup>th</sup> pin of the RGB connector carries touch data to FN-Android. So the 4pin touch should not be connected.

The Customer can also ask for FOSP sales people, to replace the WinCE module with Android module from the 2 boxes above, so he gets a complete module of Android Navi+Interface.

These 2 modules are pin-2-pin compatible. And share the same size and installation inside both metal boxes.

## 2. Operations

(1) when the interface is connected like above and the inserted picture is shown, the installer should see if the picture fits the screen nicely.

He should pop up the OSD menu, and tune the "Position H" and "Position V" to make the total screen nicely fit.

Also adjust the "H-Size" an "V-Size" to make the picture a little bit bigger or smaller in Horizontal and vertical directions. So the inserted android picture fits the LCD exactly.



(2) make some basic settings on the Android OS.

Use fingers to touch the LCD[use OEM touch foil or add extra touch foil by connecting it to the 4Pin connector], the installer can control the android navigation box now.



In the **Display** Option, please make the "Auto-Rotate Screen" **OFF**.

And make the Font-size **Huge**.

In the **sound** Option, please make the volume value normally 50%.



Enable the wifi, in order to get the Traffic situation when driving, the driver should enable his phone's hot-spot. Thus the navigation software inside this module can get internet from 3G/4G mobile network.

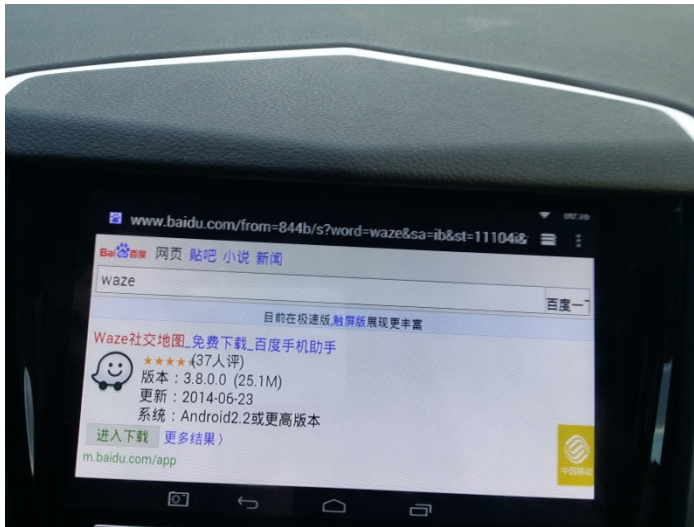
The installer can also get the same effect by connecting a 3G or 4G dongle to the USB connector of this module.

### (3) Experience the Android navigation and internet in Car.

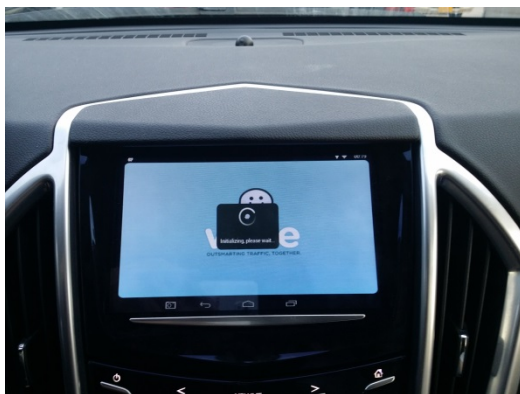
- Execute the GPS tester software to see if we get some GPS signal, find the best place for GPS signal. please note that the film on glass sometimes hurts the sensibility since some types have ferrite inside.



- Turn on some internet radio or web browser to see wifi reception.



- The internet navigation software can then be executed. Like Waze or Baidu.



### 3. Parameters.

	Name	parameters
1	CPU	Dual core A9 @1G Hz +DDRIII
2	Ram	512M/1G
3	Flash	4GB/8G,max 3 2 G
4	OS	Android 4.2 or Above.
5	Wifi	150M 802.11 b/g/n WIFI

6	RGB ouput	0.7Vpp with 75 $\Omega$ , 800X480 resolution.
7	USB port	OTG functions, for external mouse, USB disk camera, 3G/4G dongle etc.
8	Power consumption.	3.4W
9	Standby current	< 10uA
10	Working temperature	-40 ~ +85C
11	size	15.22cm * 9cm * 2.1cm
12	Power supply @ yellow/Red wires	DC 9~16V.