



<https://www.fcarusa.com/products/F3SN>

Service and support:

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FCAR F3SN Operation Manual Instruction

- Before using FCAR F3SN, please read this manual carefully.
- This manual is based on the current product features and configurations. If adding new features and configuration, this manual will subsequently be amended. The new specification can be download at FCAR website (<http://www.fcar.com>).
- Please carefully read the "Note" "Remark" of the user manual to ensure that users can use the products properly and safely.

FCAR F3SN Main Unit Maintenance and Use Attentions □

- Do not allow unauthorized demolition.
- Avoid strong impact.
- Avoid closing to a magnetic field.
- Do not put the machine in a high-temperature environment for a long time.
- Do not put the machine in a low-temperature environment for a long time.
- Do not click on the screen violently or by using a weapon.
- Do not use water and chemical solvents to clean the machine; using a soft clean cloth and neutral detergent.

Automobile Inspection Notes

- Shall operate by adhering to auto repair industry safety rules. Special attention to the impact or damage caused by environmental factors such as the surrounding pH, poisonous gas and high pressure.
- Vehicle battery fluid contains sulfuric acid, which is corrosive to skin. Users should avoid skin having direct contact with battery fluid in operation. Please be particularly careful not to splash into eyes and avoid closing to the fire.
- Engine exhaust emission contains a variety of toxic compounds and inhalation should be avoided. During the operation, vehicles should be parked in a well-ventilated place.
- When the temperature of working engine is high, users should avoid touching with high temperature components such as water tank and exhaust pipes.
- Before starting the engine, users should hold the handbrake in order to avoid the vehicle rushing out and cause accident when starting the engine. Gear lever is placed in neutral (manual transmission) or **【P】** gear position (automatic transmission).
- Before repairing the vehicles, users should hold the parking brake well, shifting transmission gear into the neutral position or **【P】** gear, and lowering the driver's seat side doors and windows.
- If the engine cannot start, firstly warm up to normal temperature (water temperature at about 80 °C), and close the auxiliary electrical appliances (such as air conditioning, lighting, sound, etc.).

- Find the diagnostic socket of the car, check, ensure the intact of the diagnostic socket line, and connect the main unit for diagnosis. Otherwise, do not test to avoid damage to the main unit or use a multimeter to measure the voltage of diagnostic socket if necessary.

Instrument Use Notes

- When testing FCAR series products, users must handle with care and be away from heat and electromagnetic field, to avoid interference with the main unit.
- The matched touch pen, rather than any other sharp tool, is recommended to click the touch screen.
- When electrical components are energized, you cannot disconnect the circuit to prevent the self-inductance, mutual inductance attacking sensors and automotive ECU.
- When electrical equipment works, avoid putting magnetic objects close to the vehicle control unit, otherwise the vehicle control unit may be damaged.
- When dismantling vehicle control unit or electrical components, it must be carried out 1 minute after turning off the ignition switch.

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1. Product Introduction

1.1 Introduction

As professional multi-functional intelligitized automotive diagnostic computer equipment, FCAR F3SN follows the international standard design. With large color touch screen, high resolution display integrated structural design, single-track working and touch operation, these special designs make you feel faster and more convenient in use and during diagnosis. In addition, FCAR F3SN adopts flexible drive technology, with good extensibility, which fully satisfies the test of all kinds of communication BUS of vehicle electronic control system.

1.2 Care and Maintenance

1.2.1 Storage Environment

- 1) Store FCAR in a flat and dry place with suitable temperature.
- 2) Do not put FCAR under direct sunlight or near heating source.
- 3) Do not put FCAR in the magnetic field.
- 4) Avoid smoke erosion, water and oil splashing into FCAR.
- 5) Avoid shock, dust, moisture and extremely high temperature.
- 6) Power off the machine and make sure the power cable is removed, then clean the outside surface and touch screen with soft cloth that is dipped with a little water if main unit is dirty.
- 7) Pperiodically turn on the FCAR main unit to avoid moisture if it has not been used during a long time.

1.2.2 Main Unit Protection

- 1) Handle it with care and avoid hitting.
- 2) Be careful to plug and unplug the main cable and diagnostic connector. Tighten the screw before operation to avoid unexpected disconnecting and/or damage to the diagnostic port.
- 3) Put back the machine, cables, connectors and accessories to assembly case to avoid loss.

1.2.3 Touch Screen Care

- 1) Dust may be accumulated on the LCD screen due to electrostatic. Users are suggested to buy the special LCD screen wiper to clean the screen gently.
- 2) Do not wipe the screen with bare finger to avoid fingerprint attached. Never use chemicals to clear the screen.
- 3) Never put FCAR close to the electromagnetic wave products to avoid any effect on the screen.
- 4) Never put FCAR under direct sunlight or ultraviolet radiation for a long time to shorten the service

life of screen.

1.2.4 Operation Precaution

- 1) Forbidden to switch main unit frequently and cut off the power suddenly, power supply instability and abnormal power supply.
- 2) Unplug the power after usage in case of the aging of the products.
- 3) Never insert or pull out SD card when machine is turned on to avoid SD card damage or SD card data loss.
- 4) Do not expose product under the chemical volatility environment to avoid any corrosion of hardware.
- 5) Never clear product with chemical solubility reagents like banana water, engine cleaning agents and gasoline.
- 6) Don't put anything on the screen to avoid any damage.
- 7) Starting up FCAR main unit periodically, if it is not operated for long time to avoid moisture.

1.2.5 SD Card Maintenance

- 1) Do not switch on/off FCAR main unit frequently.
- 2) Adopting antistatic precautions to avoid static electricity to contact SD card.
- 3) Do not operate SD card during upgrade or connection to main unit until data transmission is completed.
- 4) Do not plug or unplug SD card with electricity or brutal force.
- 5) Please remember the password if encrypt the content of card, or not to encrypt data.
- 6) Please use high-quality data transmission device during connection.
- 7) Randomly plug and unplug SD card from main unit are strictly prohibited during the operation of main unit.
- 8) Do not use cleaning liquid or water to clean SD card.
- 9) When insert SD card, the insert direction must be correct (Error insertion may lead to damage of SD card or SD card slot).
- 10) Do not twist and bend SD card.

1.3 Help

FCAR F3SN, provided with supporting service, is easy and simple to maintain. From purchase, use, upgrade to maintenance, the marketing network spreads over various regions that will provides users with the most convenient and efficient service.

FCAR Company provides users with online help. If users want to know the latest products, or automotive diagnostic information, please login FCAR website via internet: <http://www.fcar.com> and contact us.

2. F3SN Product Configuration

2.1 F3SN Hardware Description

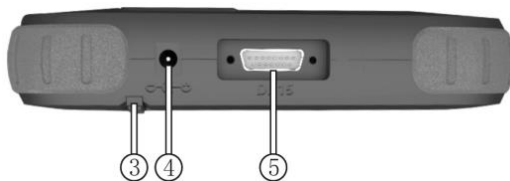
2.1.1 Main Unit Front Side

Figure is the front side structure diagram of FCAR main unit.

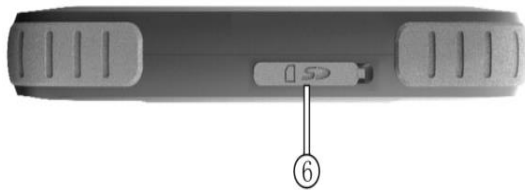


F3SN Main Unit Front Side

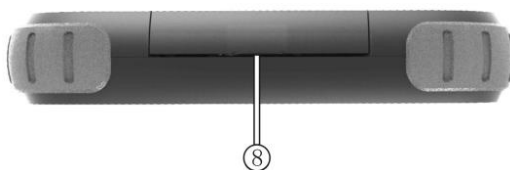
No.	Name
①	Printing Paper Out Button
②	Main Unit ON/OFF Button
③	Touch Pen
④	Power Interface
⑤	Main Testing Cable Interface
⑥	SD Card Slot
⑦	Printer Cover
⑧	Printing Paper Outlet



F3SN Main Unit Top Side



F3SN Main Unit Right Side



Main Unit Structural Schematic



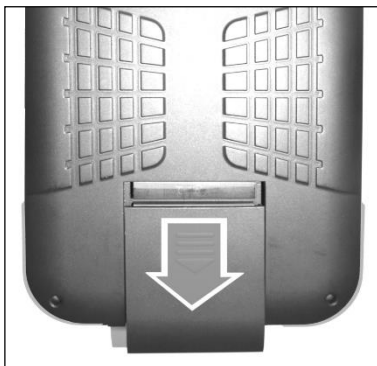
Main Unit Back Side



F3SN Main Unit

Parameter Items	Unit / Method	Parameters
Printing Method	Thermal Row Printing	----
Row	Dot/Row	384
Resolution	Dot/mm	8
Paper Width	mm	58±0.1
Print Width	mm	48
Print Speed	mm/s	62.5
Feed Direction	Straightly Into	Curvedly Out
Testing Method	PTH Heat, Heat Sensor	----

Printer Parameter Table



2.1.2 Main Unit Parameters Description

Hardware	Parameters	Type / Unit
CPU	553MHZ	SAMSUNG ARM2416
RAM	128M	SMD
Flash Memory	SD Card	PTB
Power	12V/3A	DC
Diagnostic Interface	---	DB15
SD Card Interface	---	ISO
Display	8	Color Touch LCD Display
Resolution	600*800	Dot
Shape Size	282*192*43	mm
Net Weight	1390	g

2.2 Printer Parameter and Printing

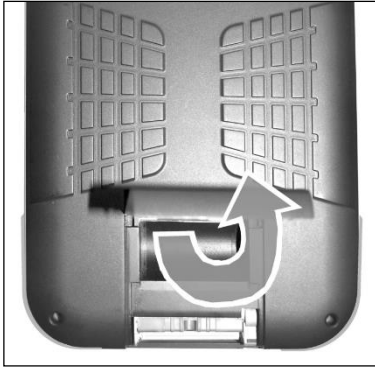
Paper Installation

2.2.1 Printer Parameter

FCAR F3SN main unit internally installs a mini thermal printer, adopting a method of straightly-in & curvedly-out, reducing the problem of paper jam.

2.2.2 Printing Paper Installation

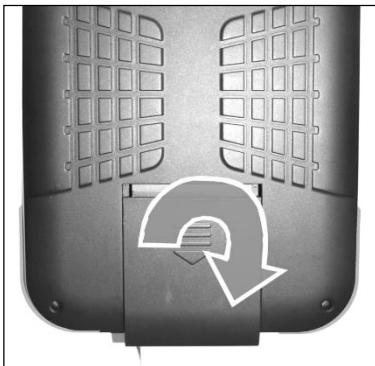
1. Place main unit on a table or other planes, pull outward the printer cover below main unit.



2. Upward unfold the printer lid.



3. Input printing paper, and remind that printing paper has two sides and there is no word if printing paper is put the wrong side. Install with the other side will be OK.



4. Downward close the printer lid.



5. Upward push the lid, and complete installation.

3. Operation Guide



Connection

3.1.1 Main Unit Power Supply

Four methods of power supply are available.

- ① Power adapter.
- ② Main testing cable, connector and vehicle diagnostic socket.
- ③ Connection of cigarette lighter with vehicle.
- ④ Connection of battery terminal line with vehicle battery.

3.1.2 Cable Connection Method

If the diagnostic socket is not equipped with power supply, methods ① ③ ④ can be chose as one of these three power connection methods to provide power for the main unit.

If the diagnostic socket is equipped with power, users do not need to connect another power cord.

The prerequisites for vehicle:

1. Confirm the diagnostic socket location, shape, and whether there is a need for external power supply.
2. Select the appropriate connector base on vehicle model and shape of diagnostic socket.
3. Connect one end of the main testing cable to the other end of main unit diagnostic connector.
4. Plug diagnostic connector that connected with the main testing cable into the vehicle diagnostic socket.
5. Confirm the main unit with power and start it up.


3.1 Power and Testing Cable

Remark: Diagnostic interface is the standard OBD-II interface. During the connection, two ends of testing cable are required to separately connect with OBD-II connector and main unit, plugging OBD-II


connector into vehicle diagnostic socket to finish connection. Not all cars are equipped with OBD-II connectors, thus, connection is subject to the actual connectors.




3.1.3 Start Up

Use any one of the four power supply methods, press  in the bottom left of main unit screen. The main unit will start, and then enter into the running state.

3.1.4 Shut Down

Click touch screen and back to desktop after using, press  in the bottom left of main unit screen to shut down.

Notes: When startup or shutdown, the button operation time is generally 1 ~ 2mins, long press the button  may cause key failure.

3.2 Startup Interface Menu

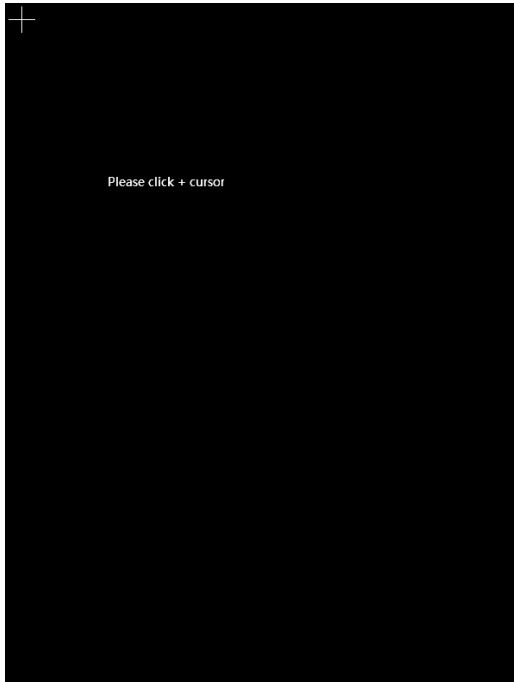
Introduction

3.2.1 Startup Interface

Connect the power supply, press the power switch key, FCAR product identification firstly appears on the screen, then **【Please click the screen if it needs calibration.】** appears at the top of the starting up progress bar.

Notes: If users need to adjust touch screen, please at this time click on anywhere of the screen with the touch pen to enter adjustment mode. During adjustment, users must use touch pen to adjust. If there is no need to adjust the touch screen, system will automatically enter desktop in 2s.





Desktop top from left to right are as follows:

- 1 **【Diagnostic Function】**
- 2 **【System Settings】**
- 3 **【Professional Dictionary】**
- 4 **【Maintenance information】**



Note: The bottom right of the menu shows **【month ** day **** year】** , means the last update time of the software program.**

1	Trouble Diagnostic Program
2	System Setting
3	Dictionary
4	Maintenance Information

3.2.2 Startup Screen Calibration

Use touch pen to click on anywhere of screen, main unit menu enter into the touch screen adjusting mode. The main unit screen prompts **【 Please touch + cursor】** , click on the cross cursor appears on the 4 corners of screen clockwise in turn with a touch pen from top left corner of the screen.

After adjustment, main unit shows correct information, then jump to the desktop menu.

3.2.3 Desktop Menu Description

When it starts normally, the main unit will enter the desktop menu. The top of desktop is menu bar. Desktop background displays product models, service line and company website.

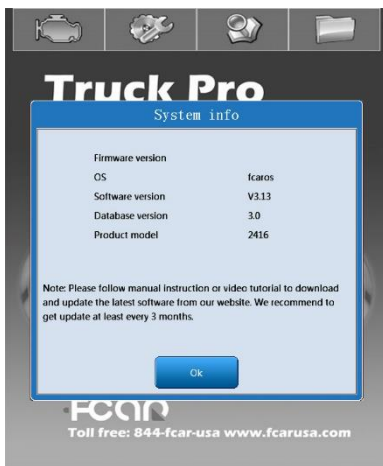




3.4 System Setting

Select the menu **【System setting】** with the touch pen at the top of desktop, then the sub-menu of system setting menu appears.

- 【SYSTEM INFO】**
- 【SCREEN CALIBRATION】**
- 【USER INFO】**
- 【LANGUAGE】**
- 【SYSTEM ACTIVATION】**
- 【DATA MANAGER】**
- 【SELF-TEST】**
- 【SD CARD TEST】**
- 【SET UNIT】**



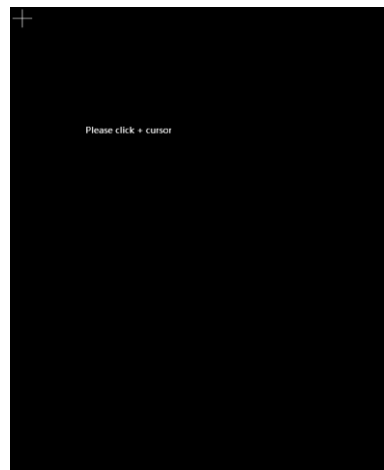
3.4.1 System Information

Select **【System info】** and enter, the main menu pops up a dialog box of hardware information, operating system version, software version, database version and memory information of product. Operate the button **【OK】** to return to previous menu.

3.3 Use of Diagnostic Program

The actual interface is subject to the one displayed on the decoder.

Notes: Car type, software system and menu of F3SN differs from each other, all these are subject to the actual product configurations.





3.4.2 Touch Screen Adjustment

This function is for screen deviation adjustment when entered menu differs from actual chosen menu during operation of main unit. Operation method is the same to that of startup screen adjustment.

Note: If it cannot be adjusted through the touch screen adjustment menu, users can adjust it when startup.

3.4.3 User Information

After purchasing, users fill in information by themselves: company name (either company name

or individual name is ok), address (the detailed address which is easy to be found by customers who need repairs), post code, call number, fax, support, website, email. After finishing inputting, press **【OK】** to save or **【Cancel】** to drop it.

Note: At entry time, users must firstly select the right input location. **【Upper】** in keyboard of the bottom of screen is for change case. **【EN】** is for English. **【Num】** is for conversion between the letters and numbers. **【Delete】** is to delete the inputted error character or letter. This function is used to print user's information if it needs.

3.4.4 Language

Mainly twelve languages are available for option: Simplified Chinese, English, Russian, Traditional Chinese, Japanese, Spanish, Polish and Deutsch. Tick the small box in front of the language to select appropriate languages, then press **【OK】** to save, or press **【Cancel】** button to cancel this operation.

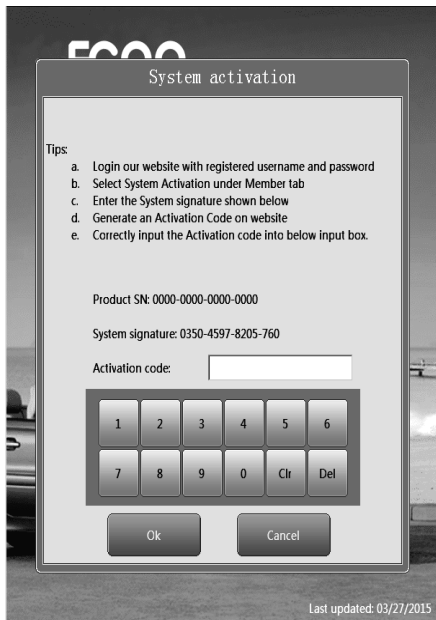
Note: After changing the language type, restart the main unit to have the new language patterns taken effect. If the change has no authorization for other languages, there would be no response after clicking on diagnostic menu.



3.4.5 System Activation

After FCAR main unit leaving the factory, it has not been permanently activated. Only there is no abnormality can users activate the equipment. Each use of the new main unit, it prompts **【You have ** times to use this machine before activation. Please visit our website to register and activate the device.】**

Click **【Later】** to continue, and click **【Now】** to activate immediately. When balanced time is zero, the machine needs to be activated. Turn on the main unit, choose diagnosis program and activate menu will show. Or vehicle diagnosis program cannot be used without activation.

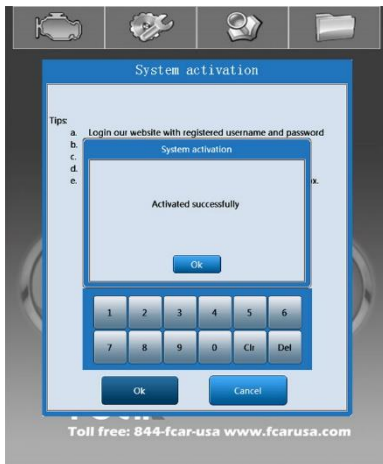


Before machine activation, users should make sure the following information is completed:

Product SN (show on the activated menu)

System signature

Login website: www.fcar.com, enter the Member Center, choose **【System Activation】**, and activate the machine.



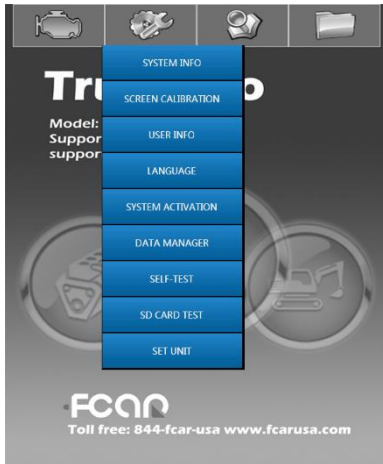
Input activation code successfully, and it can be used.

Note: System signature differs time to time and the corresponding activation codes are different. If activation failure shows during activation code inputting, it may cause by errors of product SN or system signature. Please retrieve the activation code again.



3.4.6 Data Manager

【Image View】 is used to see the saved screenshot pictures. 【Data manager】 is used to clear data stream saved before.



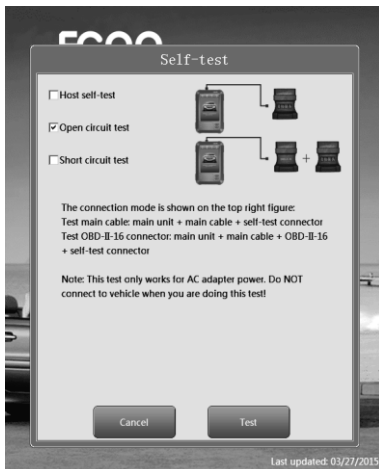
3.4.7 Self-test

This function includes main unit self-test, main test cable, OBD-II-16 open circuit test and short circuit test. Please select the function based on your need and operate in accordance with the requirements and precautions.



3.4.7.1 Main Unit Self-test

This function is used to detect the performance of hardware of main unit. Please use the product configured power adapter to supply power and diagnose.



3.4.7.2 Open Circuit Test

The function is used to detect whether there is open circuit in main testing cable and OBDII-16 connector or not.

We need to test the performance of main testing cable and OBD-II-16 connector when some vehicles cannot be tested.

Please use the product configured power adapter to supply power and diagnose.

The connection method is as below:



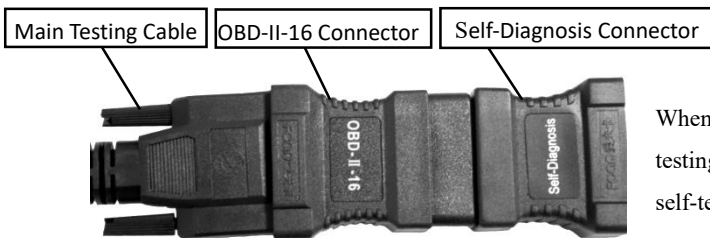
Self-Diagnosis

Note: Self-test connector only can be used in open circuit test.



When test main testing cable, main testing cable directly connects with self-test connector.

Main testing cable connects with self-test connector



When testing standard OBD-II-16 connector, main testing cable connects OBD-II, and then connects self-test connector.

Self-test Connector



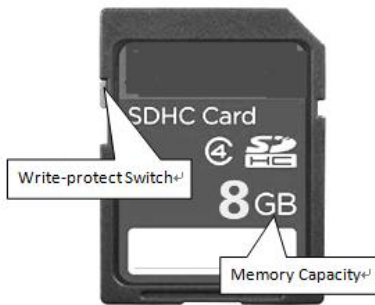
3.4.7.3 Short Circuit Test

(It is prohibited to use self-diagnosis connector to do short circuit test.)

This is used to do short circuit test of main testing cable and OBD-II-16 connector.

We need to test the performance of main testing cable and OBDII-16 connector when some vehicles cannot be tested.

Please use the product configured power adapter to supply power and diagnose.



SD Card

3.4.8 SD Card Test

SD card has C2 and C4 two types, please distinguish them.

Write-protect switch should be on the side without **【LOCK】** mark and if the switch is on the side with **【LOCK】** mark, the SD card will be in write-protected state in which users can read data but cannot write in data, format SD card and update. When users choose format, there will be a prompt **【This SD card is in write-protected state】**.

After SD card testing, it shows **【Speed:1.1730MB/s means the read and write speed is 1.173MB/s, this SD card's performance is good!】**



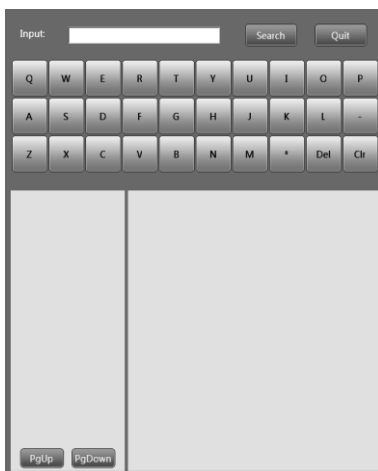
3.5 Professional Dictionary

When users fail to understand the professional vocabulary encountered in the routine maintenance and learning, users can enhance personal skills via professional dictionaries.

For example: Inputting "ABS" in the input box, click **【Search】** to search the word, system will display words related with ABS in the left column, select and click the appropriate search word, the word in Chinese can be automatically translated and displayed in the right column.

If it is finished, please press **【Quit】** to log out.

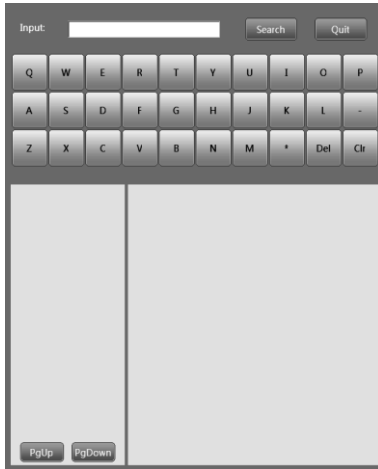
Note: The dictionary supports full-writing and abbreviation.



3.6 Screen Keyboard & Maintenance

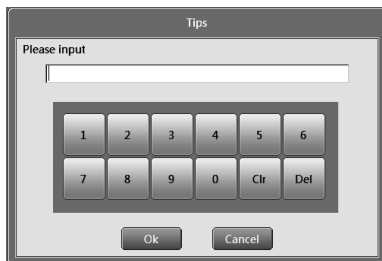
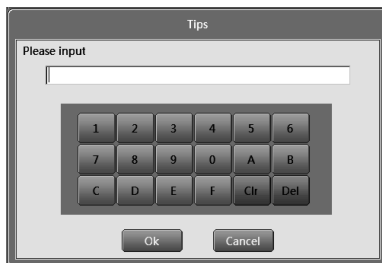
Help System

【 Maintenance Help System 】 and 【 Screen Keyboard 】 display differently in different versions and specific version is subject to real object.



3.6.1 Screen Keyboard

FCAR main unit saves kinds of input methods in different menus: letters input, uppercase letters input & digital input, and digital input.



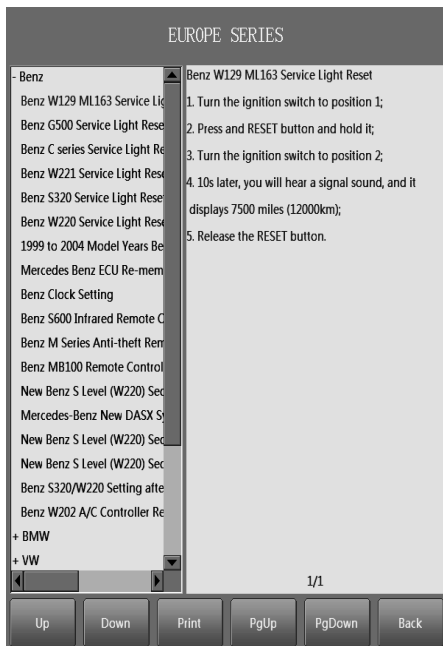


3.6.2 Maintenance Information

Maintenance information is provided by FCAR for customers in relation to vehicle maintenance technologies and is subject to the one displayed on decoder.

Select the needed information. After entering the menu, there will be two sections: title section and content section. Select the title on the left and the respective content will show on the right.

Note: Click the buttons under the menu, including **【Up】**, **【Down】**, **【Back】**, **【Next】** and **【Print】** for other operations.



4. Vehicle Diagnosis



Diagnosis

4.1.1 Equipment Requirements

FCAR main unit and a variety of test connectors are needed. Select the corresponding test connector according to the type of vehicle diagnostic socket.



4.1.2 Vehicle Requirements

1. Ignition switch **【ON】** .
2. Vehicle battery voltage should be 11-14V or 24-27V (subject to vehicles power supply).
3. Accelerator pedal is off or at idle bonding point.
4. Ignition timing and idle speed should be in standard range, transmission temperature and oil temperature reach to a normal operating temperature (water temperature: 90-110 °C , transmission oil temperature: 50-80 °C)
5. Diagnostic circuit is normally connected.

Different models have different diagnostic socket positions.

4.1 Technical Requirements for



4.2 Diagnostic Socket Connection

4.2.1 Connection of OBD-II connector

Choose the proper connectors according to the diagnostic connectors of the to-be-detected vehicles. If the connector of the to-be-detected vehicles is standard OBD-II, users need to separately connect two ends of the main test cable with the main unit and OBD-II connector, fasten them with bolts and put diagnostic connector into the diagnostic sockets on one side of the vehicle.



4.2.2 Connection of Non-OBD-II

Connector

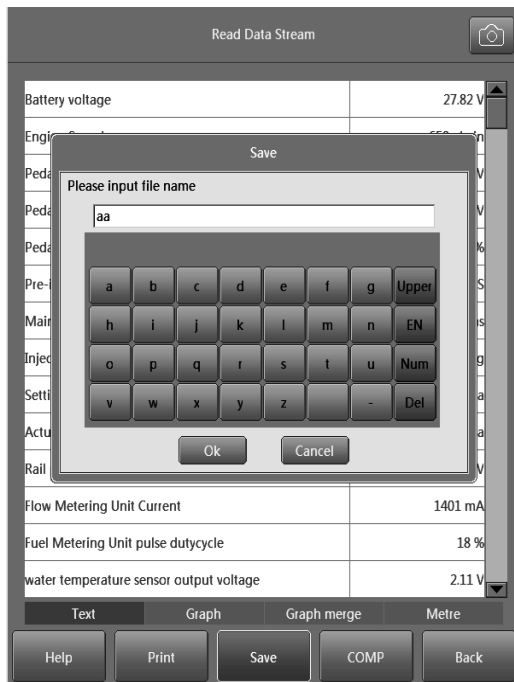
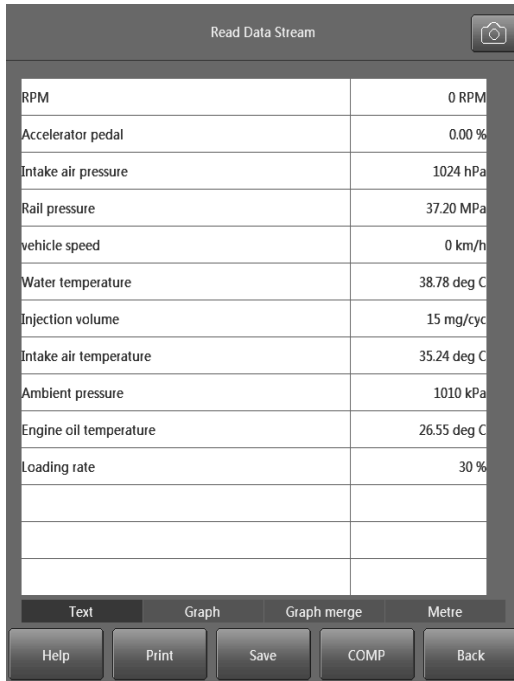
At first, users should confirm whether the connector of to-be-detected vehicle has the F3 decoder. When connecting, users should first connect the connector that is exclusive to F3 decoder to standard OBD-II connector, and then connect standard OBD-II connector with the main testing cable and the main unit of the decoder.

5. F3SN Program Usage

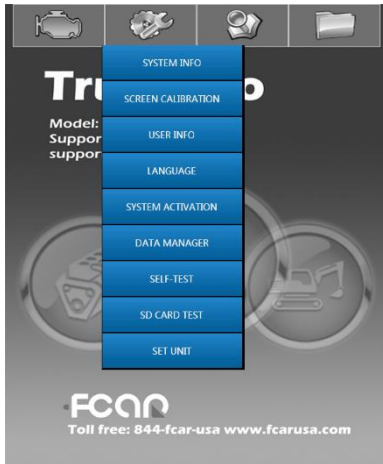
Introduction

5.1 Screenshot Function

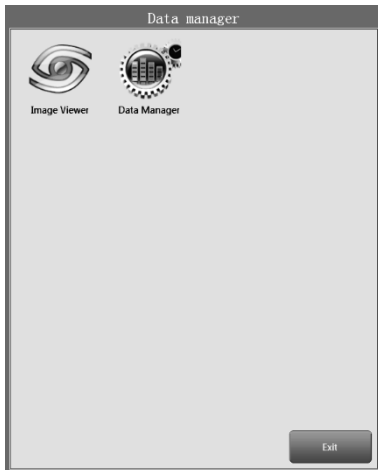
After entering the main menu, there is a small button like a camera on the top right of the screen. Click the button to do screenshot.



Click the camera button, the screen will pop out a box, enter the file name and the screenshot picture will be saved.



The saved pictures can be checked through the scanner second icon. Please enter **【Data Manager】**.



Choose **【Image View】** to check the pictures saved by screenshot.

Users can also connect the SD card with PC computer and choose the file folder named **【PICTURE】** to check the screenshot pictures.



5.2 Steps of Vehicle Diagnosis

1. Find the location of vehicle diagnostic socket.
2. Select the connector according to the vehicle diagnostic socket model.
3. Connect the main unit to the wire or connector of the to-be-detected vehicle.
4. Connect the testing connector to the vehicle diagnostic socket.

Note: If the power supply of diagnostic socket of diagnostic vehicle is insufficient or power supply pin is damaged. Users can make the decoder obtain power supply by the following ways:

- Cigarette lighter cord: insert one end of cigarette lighter cord to automobile cigarette lighter hole, the other end of main testing line connect to power plug.
- Double-clamp power cord: connect power clamp of double-clamp power cord to the battery positive and negative, insert the other end into main testing line power plug.

5. Turn on the ignition switch or start the engine.
6. Click **【POWER】** and turn on F3SN main unit.
7. Select the area of the vehicle that is in current diagnosis in diagnostic program.
8. Different decoder type suggests different vehicle model.

There are five function menus: **【Up】**, **【PgUp】**, **【PgDown】**, **【Down】** and **【Quit】**. **【Up】** and **【Down】** make a row of the vehicle types scroll upward or downward, and **【PgUp】**, **【PgDown】** are to turn a page of vehicle types upward or downward.

Note: For limited displaying of auto makers on per page, so users need to find the software of the vehicle to be detected through the **【PgUp】, **【PgDown】** and the scroll bar on the right side.**



5.3 Diagnosis Function Option

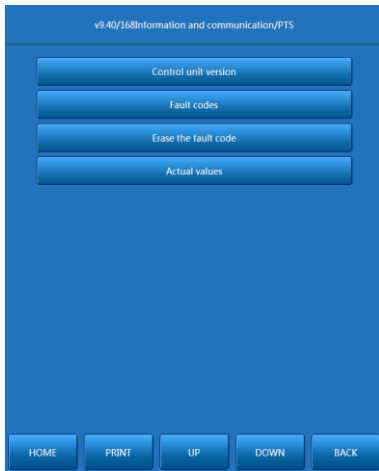
5.3.1 Read Version Information

Take MERCEDES BENZ as an example.

In the menu, select **【 DEMO 】** . Here is the demo entering path: All model series / A(168) / Gasoline engine / Left-hand steering / 168.031 A 140 / Control unit.

Click **【 Information and communication 】** , choose **【 PTS 】** , then function menu shows:

【 Control module version 】, **【 Fault codes 】**, **【 Erase the fault code 】** , **【 Actual values 】** .



5.3.2 Read Trouble Code

Some vehicle manufacturers have different settings on readout data stream, so they are divided into current trouble code and history trouble code.

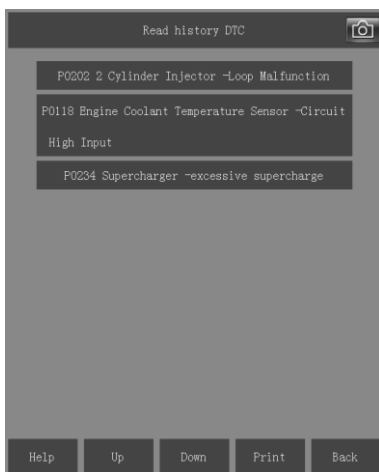
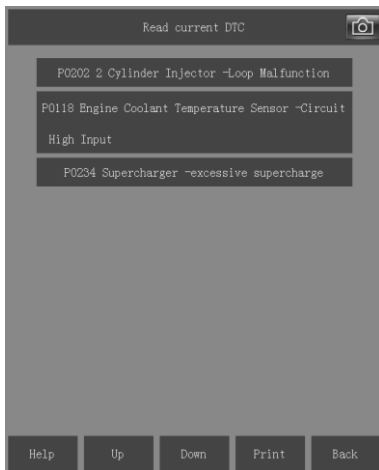
Choose **【 Read current DTC 】** in the menu for reading the trouble code recorded by auto ECU self-diagnosis, and make explanation about the trouble content.

Five function keys under the operation menu are for relevant operation.

Note: Obtaining the trouble code digital information from vehicle from random access memory RAM of auto computer control unit (ECU) through auto fault diagnostic computer.

Choose **【 Read History DTC 】** in the menu for reading the historical trouble code recorded by auto ECU self-diagnosis, and make explanation about the fault content.

Note: Five function keys under the operation menu allow users to do functional operation.

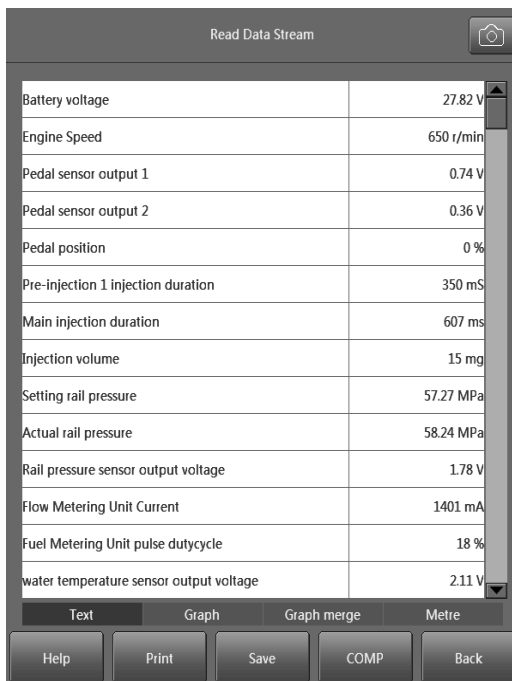




5.3.3 Clear Trouble Code

For the clearance of trouble code that recorded by automotive electronic control system self-diagnosis. After troubleshooting, use automobile fault diagnostic computer to clear fault information in random access memory ROM of vehicle computer.

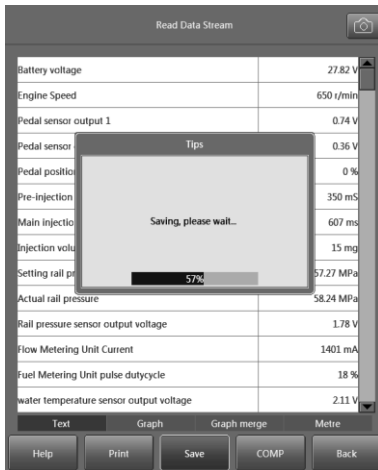
Note: During fault diagnosis, first record or print out the trouble codes for the reference of maintenance and then clear. Trouble code that cannot be cleared is the existing actual fault, users should find vehicle fault and repair it at first, then re-clear the trouble code.



5.3.4 Read Data Stream

Select **【Read Data Stream】** in the menu to check the controller, sensor and executor of vehicle control system and data that meet the operation requirements of the engine.

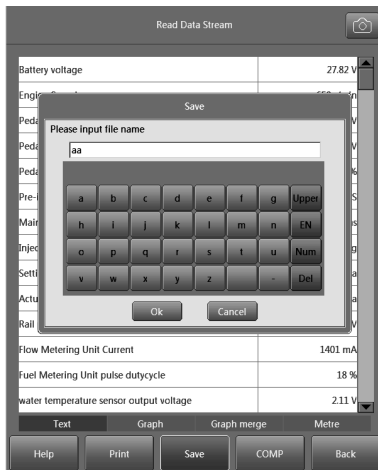
Users can browse the next item or data on the next page by dragging the upward and downward progress bar on the right of the menu. Users also can prioritize the data that need to check. For instance, click the item **【Vehicle RPM】** with the touch pen, and **【Vehicle RPM】** will become green and move to the first row and the data of this item will stay on the first row all the time. Users need to click it again until the green color has gone if it is wanted to be canceled.



5.3.5 Data Stream Save

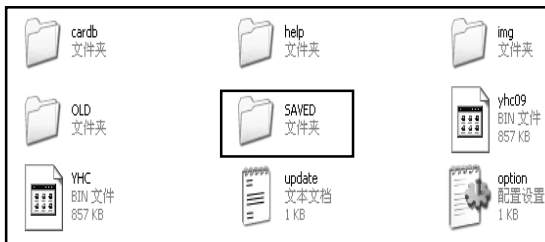
Select **【Save】** below in the menu and the system will automatically save the current data stream.

Select **【OK】** in the menu to save it.



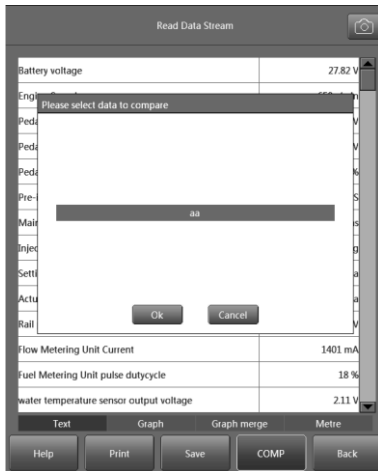
Type the name of the file to be saved in the popup window according to users' personal work habits.

Note: The name of the file can consist of numbers, letters or characteristics. It is better to name it after current diagnostic vehicle's model or year for the convenience of reference.



5.3.6 Data Stream File Save

User self-study data stream will automatically save in **【SAVED】** of SD card. As shown in Figure 5.4.6. Before formatting, please save this folder to the physical HD of PC to avoid data stream missing. After finishing the upgrade, put back the folder to SD card to recover normal data stream. If no need to save the data stream, users can format SD card directly.



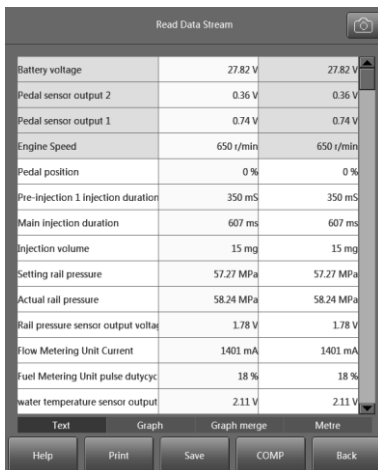
5.3.7 Stream Comparison

Data stream study function can realize the automatic learn for the data parameters during the normal operation of vehicles, save and compare to other vehicles whether their relevant data is abnormal. It helps the users to have a scientific management and accurate judgment for these operating parameters of various vehicle models, so that it can improve the user's vehicle repair and maintenance skills effectively and quickly.



All data of the engine will vary under different conditions. In order to ensure the logicity of the variations, users can compare the data saved before with the current data so as to find where the fault is in a fast and vivid way.

Choose the button **【Comparison】** below the menu, then the file to be compared will be displayed on the menu. If it has been saved for once, there will be a comparable file and if several data have been saved, there will be several files for comparison.



Note: If users do not choose the file to be compared in the popped-up dialog box, the operation becomes invalid. If the file was chosen, the name of file turns grey, which suggests that the operation succeeds.

After choosing the compared file, click **【OK】**, and there will be a current data and a saved data on the menu. Users can compare the two kinds of data and give an analysis.

5.3.8 Data Frame Freeze

When the trouble code related to automobile engine exhaust emissions appears, ECU control system not only set one trouble code, as shown in Figure 5.4.8A, but also record the relevant system operating parameters while the trouble code appears. The series data are called freeze frame data.

If users choose trouble code 【0080 Barometric pressure sensor voltage exceeds the upper limit threshold value】 to enter a submenu, the following content will be displayed in the menu.

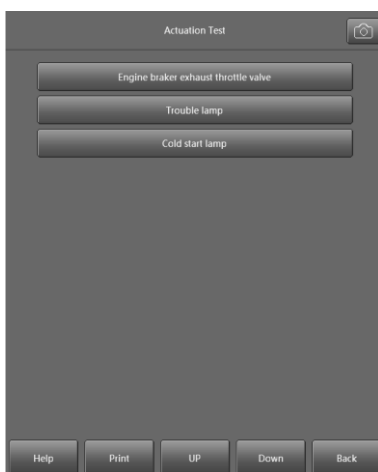
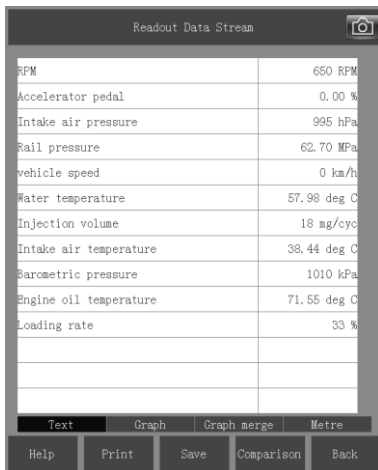
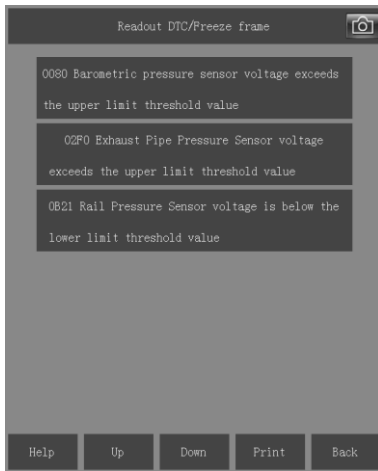
【RPM】 , 【Accelerator pedal】 , 【Intake air pressure】 , 【 Rail pressure】 , 【 Vehicle speed】 , 【 Water temperature】 , 【Injection volume】 , 【 Intake air temperature】 , 【Barometric pressure】 , 【Engine oil temperature】 and 【 Loading rate】 are displayed separately.

These data shows relevant data changes detected by ECU when the trouble code 0080 appears and it is convenient for users to make analysis and comparison according to the current conditions so as to know about the fundamental causes of the system fault and solve the fault quickly.

Note: Not all systems have the function of data frame freeze. When checking the system with this function, data stream item detected vary according to different trouble codes.

5.3.9 Action Test

This is used to check whether the executive components of electric system and wires work normally or not. Actuator items are set according to ECU. The components of the current electric system can be executed.

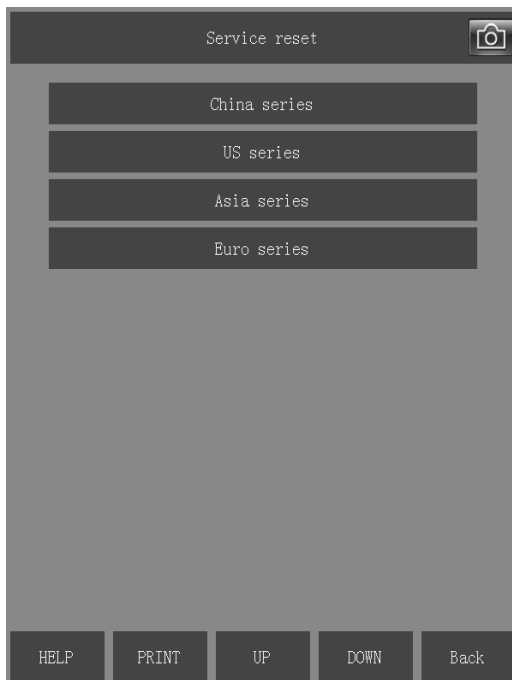




5.3.10 Special Function

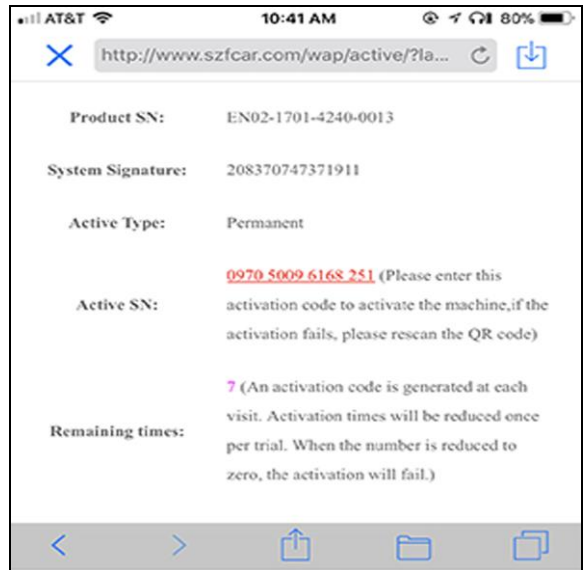
FCAR developed 15 special functions for gasoline vehicles. Clients can better use the scanner by one-key operation based on different need. (There are different types of machines with different functions. Please check the configured software based on purchased machine type.)

- ABS EXHAUST
- CKP LEARNING
- DPF
- ECU RESET
- EPB
- LAMP ADAPTION
- ODOMETER
- SAS
- SERVICE RESET
- SMART KEY PROGRAM
- SRS RESET
- THROTTLE RESET
- TPMS
- WINDOW



Take **【Service Reset】** for example. After entering the **【Service Reset】** menu, there are vehicle types for choice. One-key operation can do the service reset and other specific function operations are same.

6. Scanner Activation, Restrations and Download and software update



6.1 Unit Activation

Purpose for activation

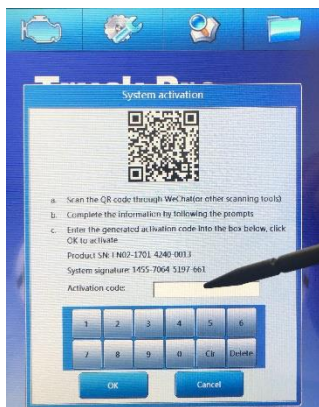
1. Timer will be removed;
2. Initial subscription will start;
3. Trial expired;
4. Hardware warranty will start

Method 1 (QR code scan via any smart phone QR code scanner APP)

- 1) On your scanner, select Settings/System Activation (keep scanner on this page until you finish following steps)
- 2) Using any smart phone QR scanner APP, to scan QR code on your scanner Activation page to get Activation Code. (If you don't have QR code scanner or reader on your phone, you might download Quick Scan - QR Code Reader)
- 3) Manually type in Activation code into your scanner Activation code field.
- 4) Click OK, it will show "Activated sucessfully". If failed, please repeat from step 2



Method 2 (via www.fcar.com):



- 1) Create login username and password from our website at <http://www.fcar.com>
- 2) Click on Member tab and Activation on the left
- 3) Get Signature from your scanner on Activation page and put into webpage on Signature code field
- 4) On webpage, click on Activate Now. It will generate an ACT code on webpage
- 5) Put ACT code from webpage and put into scanner activation page ACT code field
- 6) Click OK to activate, it will show "Activated successfully". If failed, please repeat from step 2



6.2 Update utility download and installation

- 1) Find a Windows based PC to download the utility from the link:

<https://fcarusa.com/Download/Utility>

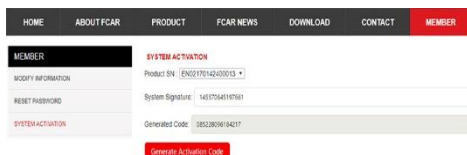
- 2) Install the FCAR Update utility on your windows based pc.

6.3 SD Card Connection

- 1) Remove SD card from the main unit.
- 2) Get the SD card reader from retail package.
Insert SD card into the SD card reader

Note: The wrong direction can lead to SD card and reader damage.

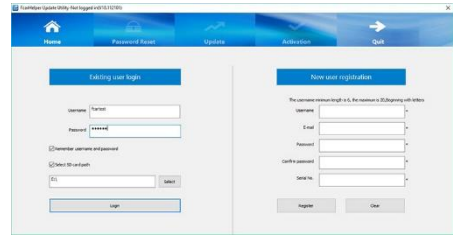
- 3) Then insert the SD card reader with SD card attached into USB port of PC.
- 4) Select **【My computer】** in the desktop of Windows and double-click.
- 5) After opening **【My computer】**, it will show a removable disk.



Precaution on operation of the SD card

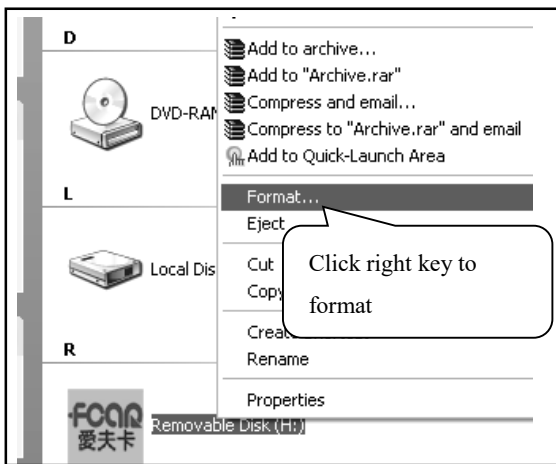
1) Do not pull out SD card when SD reader/writer card is being used. 2) Do not insert or pull out SD card when FCAR main unit is turned on to avoid SD card damage or SD card data loss. 3) Do not format SD card frequently to avoid the damage of SD card data storage chip. 4) Do not put SD card in a strong magnetic field to avoid SD card data loss. 5) Do not touch any mordant chemical product to avoid the damage of SD card meta pin.

6.4 User registration and create username and password



For first time user, you can go Right panel to register to your user info and login credential.

And then login left panel.



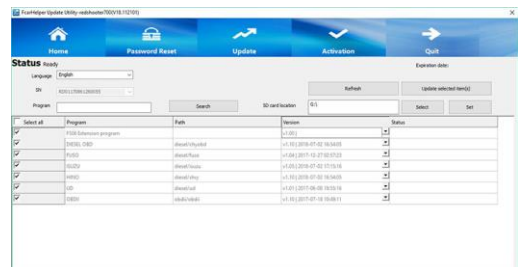
6.5 Software Upgrade

Insert SD card into the computer and one removable disk of SD card shows, click right key of mouse, and select **【Format】**.

Note: Please format the disk before upgrade the software.

Select **【Quick Format】**, then click **【Start】**, it will pop up a warning window, click **【OK】** to format the SD card.

After finished format, click **【OK】**.



Select and run FCAR update utility program

It will take 25 minutes, please be patient.

Click **【OK】** to finish all upgrade steps.

6.6 Exit Step of SD Card

After software upgrade to the SD card successfully, SD card needs to be exited from the computer and specific operation methods are as follows:

1. In the activity icon bar of the button right corner of computer screen, select removable hardware icon.
2. Click the right key of the mouse, select the **【Safely Remove Hardware】** in the pop-up dialog box.



3. In the pop-up dialog box, click **【Stop】** button to stop the computer attaching removable storage device (FCAR SD card).

4. In the upper left side of the pop-up dialog box, select the USB device currently needed to stop, click on **【OK】**. The computer system will conduct data separation on the USB device that wanted to stop.



5. After computer finished data separation on removable devices (FCAR SD card), activity icon bar in the lower right corner of the computer display screen will pop up **【Safely Remove Hardware】** dialog box.

6. Unplug the FCAR reader that inserted with SD card from the computer USB interface to remove the SD card from the reader.

7. Insert upgraded SD card to FCAR F3SN main unit, the upgrade has finished.

Note: If users do not follow this operation method, it will cause loss of SD card data. When the upgraded SD card is installed to FCAR main unit, system may unable to work.

Operation method in this chapter, please directly click the link below to check.

<http://www.fcar.com/res/en/Register-Activate-Download-Upgrade-Manual.pdf>



After update finished, it will pop up 【System bit machine Update Ok!】. Click 【OK】 and restart the machine.

6.7 Main Unit Hardware Upgrade

After restarting the scanner, it will pop up a dialog box 【Find update bios. Update it now?】. Please use the same method to choose update.



After updating, the scanner will show 【Bios Update Ok!】 and click 【OK】.

Note: Please restart the scanner again before diagnosing vehicles, or else it will lead to ECU connection interruption.

7. Warranty Clause

Dear FCAR users, welcome to choose F CAR F3SN. In order to better use the product, we recommend that you should take care of your product well, and operate in accordance with user manual's instructions whenever you use it. If your use meets this requirement, your product will be able to provide you longer-term services.

1. In line with the following terms and conditions and under the premise that you have bought our products and registered in the website of Shenzhen FCAR Technology Co., Ltd. (hereinafter referred to as "FCAR Technology"), FCAR Technology will provide free product warranty services by our distributor, if there are defects in materials or workmanship of hardware.

2. Confirm that you have carefully read the product warranty clause. Otherwise as FCAR Technology registered your mailed warranty card stub, you will be considered as agreeing to and accepting the terms of this warranty clause.

3. Your product must be purchased from product dealer that authorized by FCAR Technology. If purchase products through the illegal channels, buyers have to bear the cost of product maintenance services and cannot get the warranty by FCAR Technology.

4. The following items of products: Items that are easy to wear and tear, such as product instructions, inner and outer package box, attached power supply, promotional presents, SD card, card reader, touch pen and printing supplies are not under warranty range.

5. Products from the date of purchase (subject to valid purchase proof and effective warranty card of the product), if the products suffer performance failure caused by non-human factors, you can choose our maintenance services or replace the product with the same model within a month. You can enjoy one year warranty service for main unit, excluding human damage and incorrect operation.

6. You will not be able to enjoy free warranty service if the products are in any of the following case:

1) Failure, defect or flaw that do not belong to the quality of FCAR Technology products: including your use of the product not according to the product instruction, improper operation of the product, crash, fall, disassembly by yourself, connection of improper accessories, damage owing to crash because of improper transport or storage of the product, the erosion and corrosion, etc. that caused by infiltration of liquid or food.

2) The natural wear and tear of product: including but not limited to cover, keypad, LCD touch screens, accessories, etc.

3) Product main unit serial number and warranty card product serial number do not match, and product quality inspection tag or bar code is removed, altered or damaged.

4) Maintenance and modification without the approval of FCAR Technology or FCAR distributor.

7. The product quality problem or failure occurring within the warranty period, you can take the following measures:

- 1) You can inspect product by yourself based on products help information. If there are no hardware quality problems, try to upgrade the product program.
- 2) You can dial FCAR Technology local distributor to obtain the correct service information.

8. In the process of product warranty, you can contact with local FCAR Technology designated distributor and take responsibility of delivering or shipping to the location.

9. If you enjoy your free warranty service under this warrant clause is the only measure for the losses due to product defect within the product warranty period. FCAR technology shall not be liable for your direct or indirect loss.

10. All product warranty information, product features and specification changes will be posted on FCAR Technology latest promotional materials and website without further notice.

Service and support:

FCAR Tech USA

Tel: 443-380-0088

www.fcarusa.com

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