Auto Diagnostic System(F9S series)

AND

VCI(FV series)

User manual

Statement

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- This manual is written in accordance with the existing configuration and functions of the product, and is subject to change without notice if the product adds new configurations and functions.

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FCAR Series Host Machine Maintenance and Use Cautions

- Do not allow unauthorized disassembly.
- Avoid strong impacts to the equipment.
- Avoid proximity to any magnetic field.
- Do not keep this machine in a high temperature environment for any length of time.
- Do not forcefully click on the screen or click the screen with sharp tools.
- Do not use water and chemical solvents to clean the machine, please use a soft clean cloth and neutral detergent instead.

Automobile Inspection Notes

- Follow the standard safety rules of the auto repair industry to operate. Be especially careful to avoid impact or damage caused by environmental factors such as the surrounding pH, poison gas or high pressure environment.
- Vehicle battery fluid contains sulfuric acid, which is corrosive to the skin. During the operation, avoid direct contact with the battery fluid, in particular being careful not to splash into the eyes. Keep away from fire.
- The engine exhaust gas contains a variety of toxic compounds, which one should avoid breathing in. During the operation, park the vehicle in a well-ventilated place.
- When the engine is running, the temperature is very high; please avoid contact with the water tank, exhaust pipe and other high temperature components.
- Before starting the engine, apply the handbrake and place the shift lever in Gear Neutral (Manual Transmission) or P (Automatic Transmission) to avoid sudden movements of the vehicle when starting the engine.

- Before repairing the vehicle, apply the parking brake, engage the Neutral or P range, and lower the driver seat's glass doors.
- If the engine can be started, warm-up the vehicle to normal temperature (water temperature is about 80 °C), and turn off the auxiliary electrical appliances (such as air conditioning, lighting, sound, etc.).
- Find the diagnostic socket of this car; check and confirm the diagnostic socket cables are in good condition, connecting the main unit for diagnosis. Otherwise, do not test, to avoid damage to the main unit. If necessary, use a multimeter to measure the voltage of the diagnostic socket.

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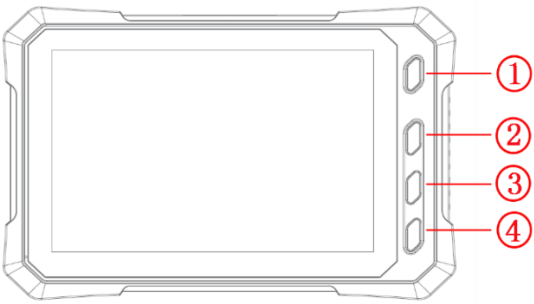
1 PRODUCT INTRODUCTION

1.1 INTRODUCTION

FCAR F9S series product is an integrated automotive computer fault diagnostic instrument aimed at the testing and diagnosis of diesels, and supporting GPS positioning and 4G mobile communication. The product is applicable to large and small service companies, training institutions, automobile manufacturers, repair stations, diesel engine manufacturers, mining machinery, energy and other enterprises.

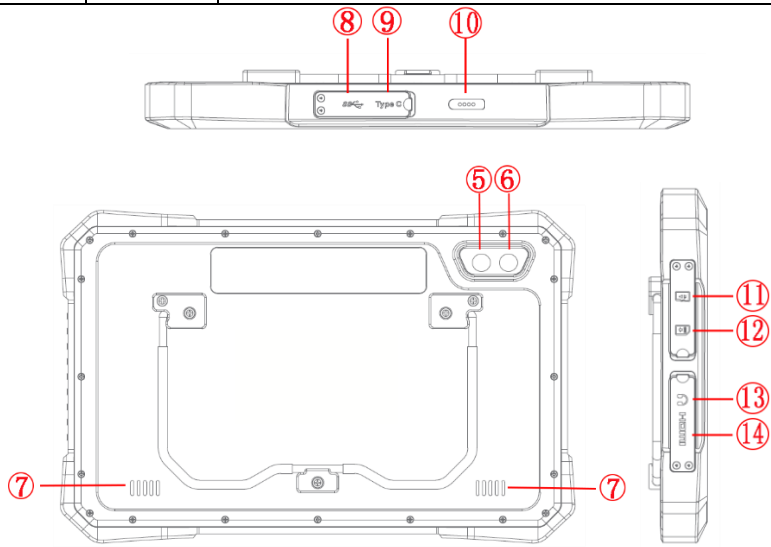
The product software is comprehensively configured, and vehicle data and information in it are authoritative and fully meet the strict requirements of customers' detection breadth and depth. The software covers large amounts of vehicle model data, and provides a powerful help system with maintenance information, enabling users to deal with the problems in practical work easily and quickly, thereby increasing the efficiency and technical level and reflecting the advantage of professional level quality.

1.2 HOST STRUCTURE



Serial number	Name	Description
①	brightness	Adjust to maximum brightness. If you want to adjust the brightness slightly, you can set it through the Android system menu, or slide down twice in the upper right corner of the screen to bring up the brightness bar and directly adjust it.

②	Home	Return to the main interface of the Android system
③	Return	Return to last interface
④	Power switch	Used to switch on or off host, or lock screen



Serial number	Name	Description
⑤	Camera	Used to take a photo or record a video
⑥	Flashing light	Used to provide light when the light is weak
⑦	External speaker port	For external sound playback
⑧	USB Port	Connect host to the VCI or connect to the USB flash drive.
⑨	USB Type C	Charge or transmit data
⑩	Magnetic power port	Charge（DC 12V,2A）

⑪	TF card slot	Storage TF card location（**Optional**）
⑫	SIM card slot	Storage SIM card location
⑬	3.5 headphone jack	headphone jack
⑭	HDMI Port	Standard HDMI interface: used to connect to TV HD output

Host parameter

Name	Specifications
CPU	RK3566 Quad-core1.8GHz processor
System	Android 11
Memory	8GB RAM &128GB ROM, besides supporting 128 GB TF memory card
Screen	10.1” 16:10, 1280*800
TP touch screen	Touch capacitive screen
Camera	800 million pixels, with flashing light
2G/3G/4G	LTE-FDD/LTE-TDD/WCDMA/GSM
Wi-Fi	2.4G+5G
Bluetooth	BT4.2/5.0
GPS	GPS, Bei-Dou satellite navigation system
Sensor	Light Sensor/G sensor
Battery	10000mAh/3.7V
Size	306*197*26mm
Work temperature	-10~50℃
Storage temperature	-20~60℃

Note: 2G/3G/4G mobile communication is not supported for some batches of products. For details please refer to the product you purchased.

1.3 VCI STRUCTURE

The diagnostic instrument is connected to the vehicle through VCI box. The VCI box model is FV300.

Serial No.	Name	Description
①	USB Type-C	Connect with tablet host or upgrade FV300
②	Diagnostic indicator	Light flashes when communicating with the vehicle
③	Power indicator	Light on when the power supplied
④	DC Power Port	Charge by DC power supply
⑤	OBD Diagnostic Port	Connect the vehicle

FV300 Main Parameter

Processor	Cortex-M7
Frequency	300MHZ
Bluetooth	BLE 5.0
WIFI	802.11b/g/n20
Memory	2048KB

2 HOST ON/OFF AND FUNCTION MENU

2.1 HOST CHARGING

Host can be charged in following ways:

- AC/DC power adapter
- built-in battery pack

Plug one end of the AC/DC power adapter to the DC power port of the host and then connect the other end to the wall socket. The power adapter can be used to charge the built-in battery pack.

Note: Voltage of the power supply should be within the scope of the product host. Exceeding the range may cause damage to the product.

2.2 POWER ON

Press and hold the host power switch (about 3 seconds) to power on host, and then system starts to run.

2.2.1 SYSTEM LOGIN

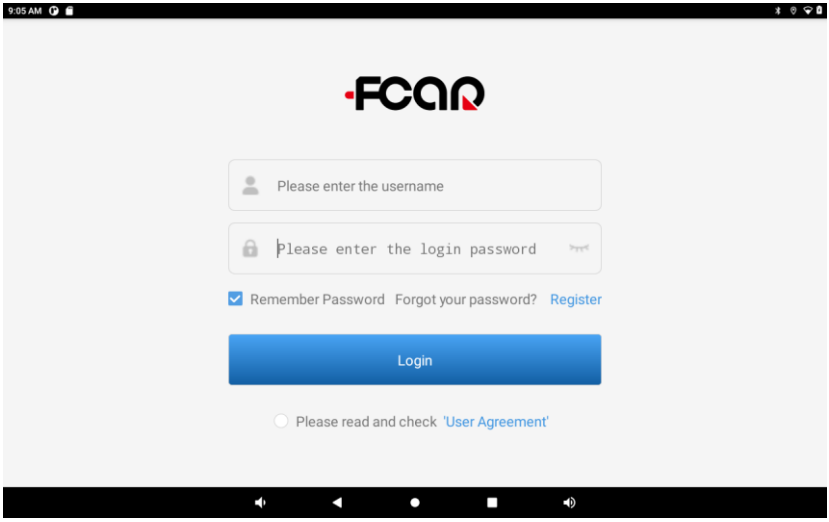
To access the Fcar vehicle diagnosis system, an account login is required, and for the first time, you need to register an account.

The steps are as follows:

1) Enter the username and the password. If you have no an account, please click [**Register**].

You can also enter the email address used during registration to replace the username.

2) Check in “Remember Password” and “Please read and check ‘User Agreement’”;
3) Click [**Login**] to enter the diagnosis system.



2.2.2 LOGOUT

Click the setting icon “ ⚙ “ in the upper right corner toolbar of the screen to enter [**Setting]** page, and then select the menu [**Log Out**] .

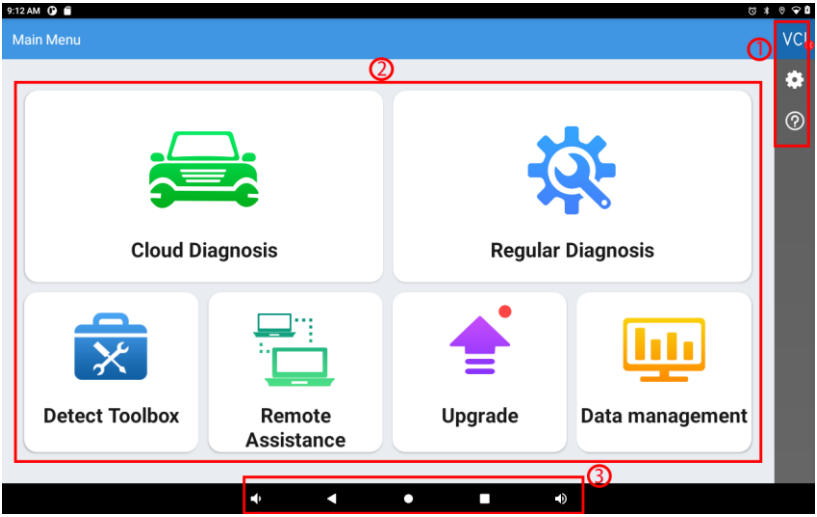
2.3 POWER OFF

All vehicle communication must be terminated before shutting down the diagnostic equipment. Vehicle's electronic control module would go wrong if forced shutdown during communication, please exit all diagnostic applications before shutting down. The shutdown steps are as follows:

1) Short press host power switch (about 2 seconds)
2) Click [**Power off**] in the pop-up prompt to close host.

2.4 INTRODUCTION TO EACH MENU OPTION

After the system is logged on, enter the following main menu:



1) Toolbar (see Table 1 below)

2) Main menu (see Table 2 below)

3) Guide bar (see Table 3 below)

Tip: It is recommended to lock the screen whenever you are not using the device to protect your system information and save battery power. Slightly click the power/lock screen button once, the screen will be automatically locked. Excessive force or long press may cause the button to malfunction or enter the shutdown interface.

Table 1: Toolbar

Icon	Function name	Function description
VCI	VCI Connection	VCI box connection and status display (always available throughout diagnostic operation)
	Screenshot	One click to capture the current visual screen (always available throughout the diagnostic operation)
	Settings	Set up and view system information
	Reference guide	Provide help information such as equipment usage instructions, maintenance assistance, trouble code inquiry, etc

Table 2: Main Menu

Icon	Function name	Function description
Cloud Diagnosis	Cloud Diagnosis	Bind vehicles to perform vehicles diagnosis. The diagnostic results can be saved locally and also uploaded to the cloud sever.
Regular Diagnosis	Regular Diagnosis	The regular vehicle diagnosis
Detect Toolbox	Detect Toolbox	Provide detecting tools
Remote Assistance	Remote Assistance	Run this program to establish remote assistance with FCAR after-sales technical team
Upgrade	Upgrade	Online upgrade of system software, model software, etc
Data management	Data Management	Browse and manage data files stored

Table 3: Guide bar

Icon	Function name	Function description
◀	Back	Return to last interface
●	Homepage	Return to the main interface of the Android system
■	Recently Used Program	Display the list of recently-used program thumbnails list, click on the program thumbnail to open the program, and swipe up the program thumbnail to close the program

3 PREPARATION BEFORE DIAGNOSTIC

Through having established data connection with the vehicle's electronic control system that has been connected to the VCI device, the diagnostic program can read vehicle diagnostic information, check the data stream, and perform actuation test and other functions.

➢ To establish good communication between the diagnostic program and the

vehicle, you need to do as below:

1) Connect the VCI box to the vehicle diagnostics socket and supply the power;
2) Establish communication between VCI and F9S host via Bluetooth pairing or USB data cable;
3) Check VCI connection status in the upper right corner of the host screen (see 3.2.2). The vehicle diagnosis can be performed after the connection.

➢ How to execute Vehicle Diagnosis

1) Establish a good communication between the diagnostic program and the vehicle under test, see 3.2.
2) Select vehicle type.
3) Perform vehicle diagnosis by “Auto Scan” all systems of the vehicle or manually selecting and detecting a designated control unit.

Here we make the detailed instructions.

3.1 PRE-DIAGNOSTIC TECHNICAL REQUIREMENTS

3.1.1 VEHICLE REQUIREMENTS

- Turn ignition switch to gear ON;
- Vehicle battery voltage should be between 11~14V or 24~27V (subject to the vehicle's power supply)
- Accelerator pedal is in OFF state, that is, the idle coupling point;
- Ignition timing and idle speed value should be within the standard range, and the water temperature and transmission oil temperature are in the normal working temperature (water temperature 90~110°C, transmission oil temperature 50~80°C);
- Then, the diagnostic cable is connected properly.

3.1.2 MAINTENANCE TECHNICIAN REQUIREMENTS

- Must have a basic knowledge of automotive electronics;
- Understand the basic operation methods of this product and familiarize with this manual;
- Basically distinguish whether it is a mechanical fault or an electronic control fault from the vehicle fault phenomenon tested;
- Learn about the vehicle's origin, year of production, model, engine model and more.

3.2 VEHICLE CONNECTION

3.2.1 CONNECT VCI BOX TO VEHICLE

Before VCI box connected to vehicle, it is necessary to judge whether the diagnostic socket of the test vehicle is a standard OBD-II port or a non-standard OBD-II port.

- For Vehicles compatible with the OBD-II management system, The VCI can be connected to vehicle diagnostics socket and supplied with power only with the integrated standard OBD-II connector;
- For Vehicles that are not compatible with the OBD-II management system, you need to select the corresponding connector; some other vehicles need to supply power to the VCI box through other power sources of the vehicle.

Here we make the operating instruction regards to these two connection modes.

➢ **Standard OBD-II port connection**

For vehicles with standard OBD-II port, you just need to connect with all-in-one main test cable OBD connector rather than other connectors, as shown in Figure 3.2-1:

Figure 3.2-1 Connection of standard-OBD-II port

Instructions:

1) Determine the location and the port of the diagnostic socket;
2) Connect the integrated OBD-II port of the VCI to the vehicle diagnostic socket;
3) At this time, the VCI box is powered by the vehicle diagnostic socket, and the power indicator light is on.

Note: After test is completed, please rotate the fixing bolts and then gently unplug the main test cable to avoid damage to the diagnostic port.

➢ **NON-OBD-II PORT CONNECTION**

For vehicles connected to non-OBD-II port, you need to connect the main test cable to their corresponding dedicated connectors, as shown in Figure 3.2-2:

Figure 3.2-2 Connection of non-OBD-II port

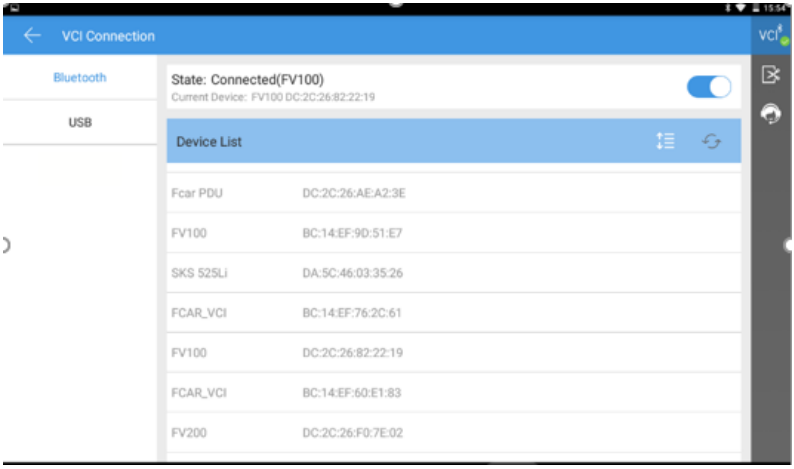
Instructions:

1) Determine the diagnostic socket location and port, and whether need the external power source;
2) Connect the main test cable of the VCI to a dedicated adaptor corresponding to the vehicle;
3) Connect the dedicated connector that is connected to the main test cable to the vehicle diagnostic socket;
4) At this time, VCI box is powered by the vehicle diagnostic socket, and then power indicator light is on (if it is not lit, it may be because the vehicle diagnostic socket is not energized, you can energize the VCI box by the cigarette lighter or the battery clip).

3.2.2 HOST AND VCI BOX CONNECTION

After VCI box is connected to the vehicle, the connection between the host and the VCI box needs to be matched, and then vehicle diagnosis can be started after matching is completed; the VCI box supports two ways of communicating with the host: Bluetooth pairing and USB cable.

- **Paired through Bluetooth**



1) Turn on the host power supply and enter the Fcar auto diagnostic system;
2) Click the VCI icon “ VCI ” in the upper right corner of the screen and then select [Bluetooth] in the connection mode;
3) Click the Scan icon “ ” on the right side of the device to automatically scan

Bluetooth devices nearby.

4) Select target Bluetooth to match;

5) When matching is completed, state of VCI icon in the upper right corner of the screen changes from " " to " ", indicating that the Bluetooth pairing is successful and the vehicle diagnosis can be started.

Note: If the signal strength of the transmitter is too weak, Bluetooth device can't be searched. In this case, please move it as close as possible to the VCI Bluetooth device.

- **Paired through USB cable connection**

USB connection is the fastest communication method between the host and the VCI device. Please use dedicated USB cable configured by our factory to connect. After the connection is completed, state of VCI icon in the upper right corner of the screen changes from "VCI" to "VCI" , indicating that the USB connection is successful, and then the vehicle diagnosis can be started.

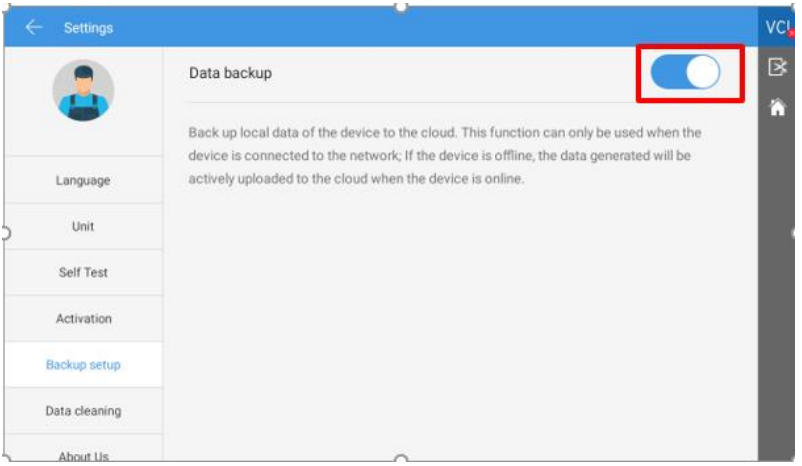
Note: These two connection methods can't be used at the same time!

4 CLOUD DIAGNOSIS

The function is used to bind vehicles to perform vehicles diagnosis. The vehicle diagnostic data can be saved locally and also uploaded to the cloud sever.

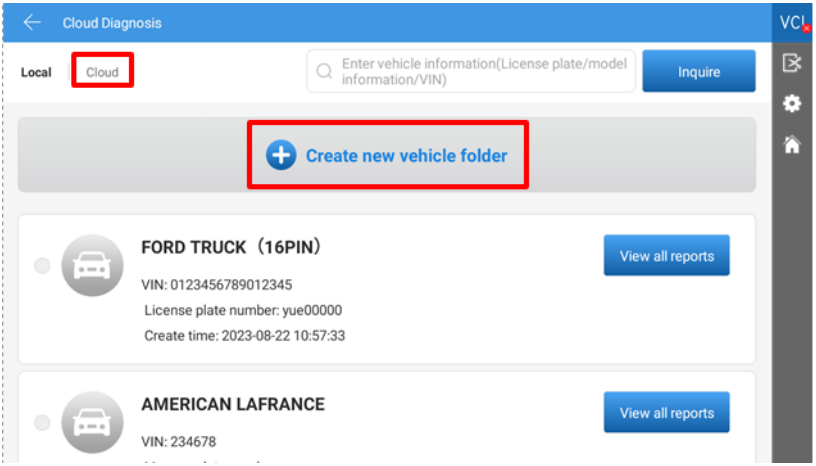
Note:

1) The diagnostic data can be uploaded to the cloud server only when [**Data backup**] in the Setting page is set to On.



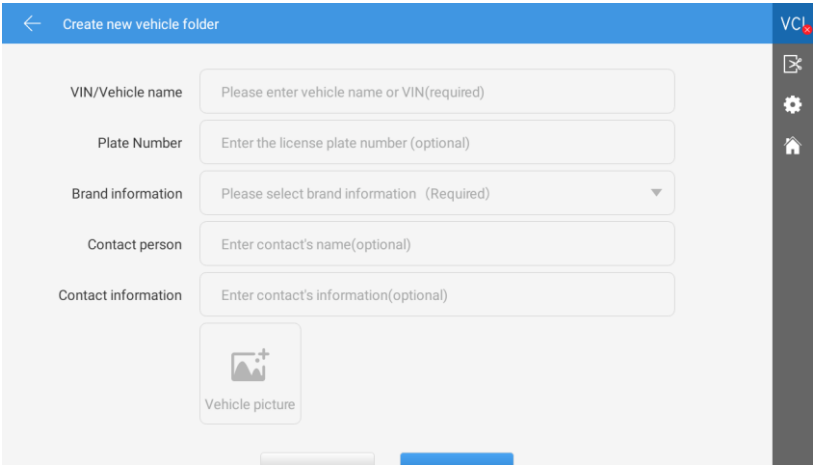
2) If you perform the diagnosis through the [**Regular Diagnosis**] menu, the diagnostic results can only be saved locally, not uploaded to the cloud server.

After enter the Cloud Diagnosis, the system displays the local diagnostic reports by default. You can perform the following operations.



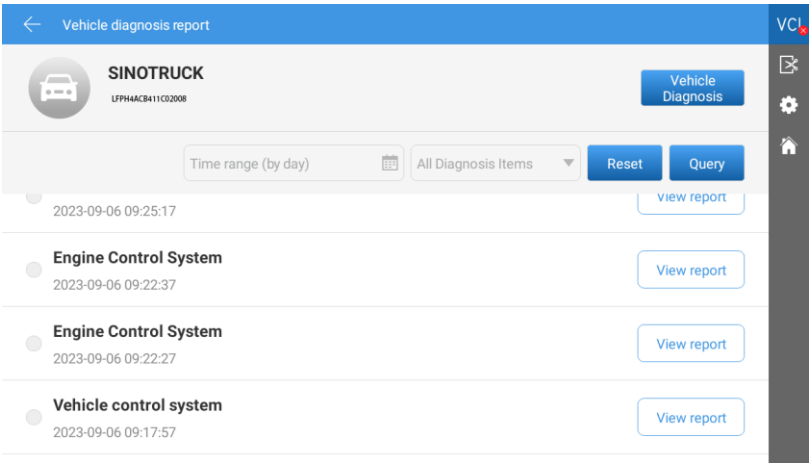
1) Click [**Cloud**] in the upper left corner of the page to view the repots in the cloud server;

2) Click [**Create new vehicle folder**] to bind a new vehicle;

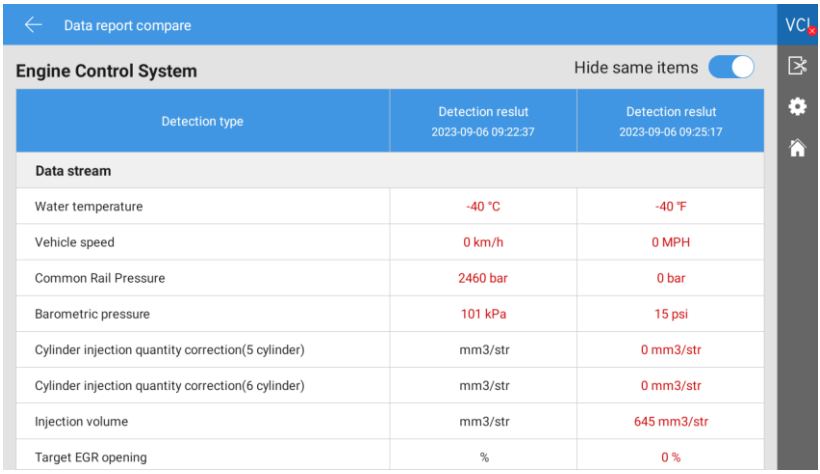


3) Click [**View all reports**] to view all diagnostic reports of the vehicle or perform

vehicle diagnostic operations.



- Click [**Vehicle Diagnosis**] to enter the diagnostic operation.
- Support screening the diagnostic reports based on the time and test items.
- Check the icon " " to delete the diagnostic report or check two reports to compare.



Detection type	Detection reslut 2023-09-06 09:22:37	Detection reslut 2023-09-06 09:25:17
Data stream		
Water temperature	-40 °C	-40 °F
Vehicle speed	0 km/h	0 MPH
Common Rail Pressure	2460 bar	0 bar
Barometric pressure	101 kPa	15 psi
Cylinder injection quantity correction(5 cylinder)	mm3/str	0 mm3/str
Cylinder injection quantity correction(6 cylinder)	mm3/str	0 mm3/str
Injection volume	mm3/str	645 mm3/str
Target EGR opening	%	0 %

5 RUGULAR DIAGNOSIS

FCAR commercial vehicle diagnosis is classified according to the purpose and electrical control system. The model selection is menu guided mode. The

maintenance technician can make a series of choices according to the actual configuration of the vehicle to be tested and the screen prompts until the vehicle to be tested is accurately identified. The specific choices will vary according to the different models to be tested.

① Toolbar (see Table 1 below)

② Model manufacturer

③ Model and related function selection menu (see the following section for specific function operation)

Table 1：

Icon	Function name	Function description
	Diagnostic packet	View current packet version and historical version
	Homepage	Return to function main menu

5.1 MODEL SELECTION

The diagnostic program needs to select the vehicle model before entering the system module diagnostic function. The vehicle can be identified in the following ways：

- By manual selection
- By automatic identification
- By OBD Ⅱ access mode

5.1.1 MANUAL SELECTION

This way is the menu guidance mode. You only need to make a series of choices according to the screen prompts. The specific options will vary according to the measured vehicle types. You can also quickly find the model brand through the search function of the toolbar, and then select it according to the screen prompt.

5.1.2 SELF-IDENTIFICATION SELECTION

The latest "self-identification" function can skip the manual selection step, directly obtain the specific vehicle information from the vehicle ECU, and quickly enter the diagnostic interface after confirmation. At present, this function supports some models, and the details are subject to the function menu display, taking Bosch as an example：

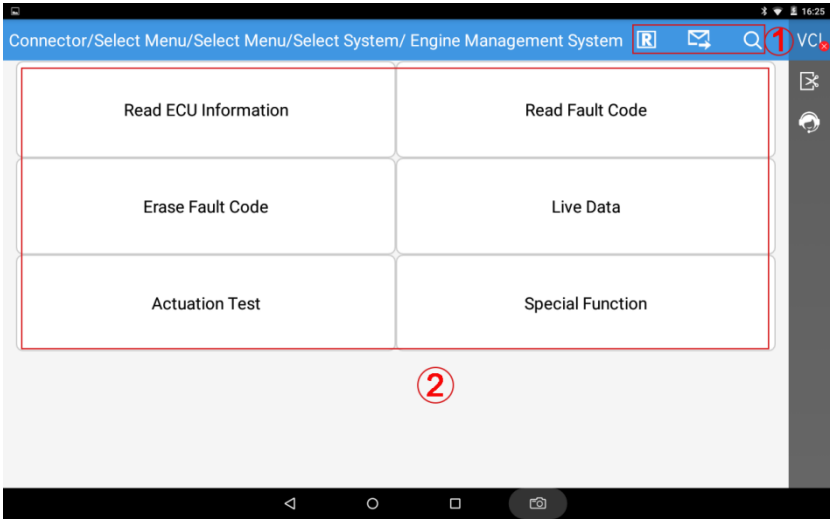
1) Select [**Electronic System**] in the commercial vehicle diagnosis selection interface;
2) Click [**Bosch - Bosch (China 4,5,6) self-identification**] on the electronic control system interface to automatically identify the vehicle information.

5.1.3 GENERAL OBD ACCESS MODE

In some cases, because the database does not support or the vehicle has other functional characteristics, the diagnostic instrument cannot identify the vehicle and establish communication through normal channels. At this time, the general OBD II or EOBD test can be carried out through OBD direct access function.

5.2 DIAGNOSIS AND OTHER HIGH-LEVEL FUNCTION

Vehicle diagnosis can be carried out after vehicle type selection. The main diagnosis interface is shown in the figure below：



1) Toolbar and status bar (see Table 1 for details)

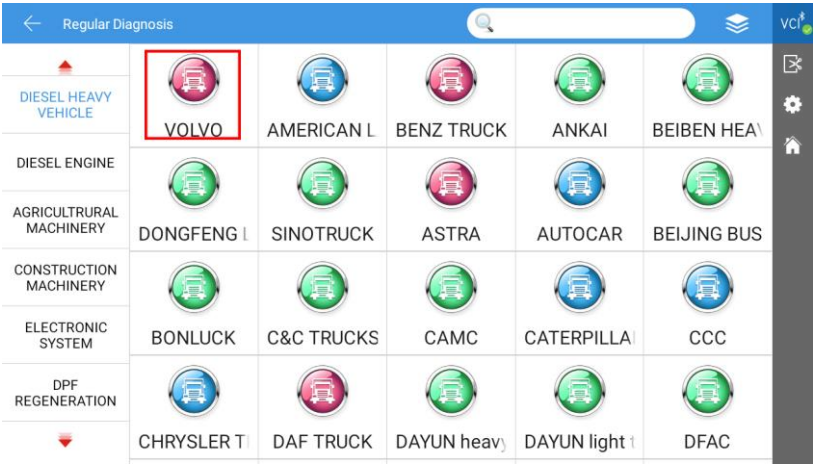
2) Main interface of diagnosis function

Table 1:

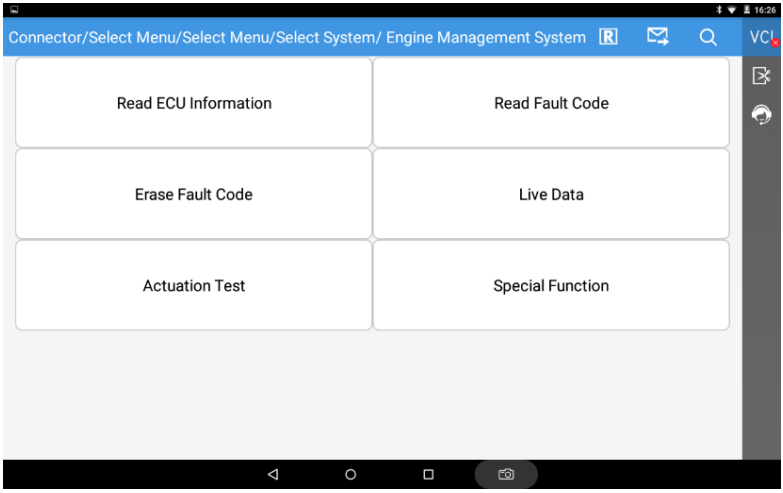
Icon	Function Description
	Create a test report. You can view, print and send test reports in "Data Management"
	One click feedback to feed back the problems in the process of vehicle diagnosis to the after-sales technical team of FCAR
	One click search for models of major brands

Here we take Volvo as a sample to give the detailed steps. Different vehicles models have some differences, please operate according to the screen prompts.

1) Select [**DIASEL HEAVY VEHICLE –VOLVO**].



2) Select a connector, click [**Start Test**], and select a control unit, then enter the diagnosis interface.



Diagnosis main interface usually includes the following options：

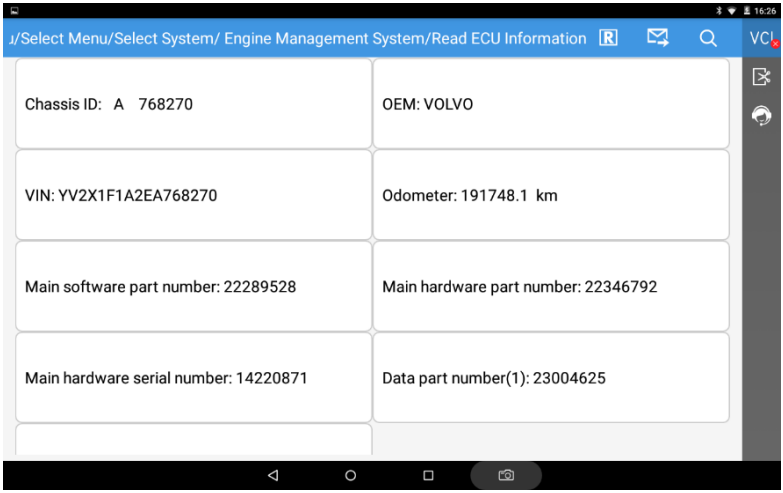
- **ECU information**: read and display the control system module information detected from ECU
- **Read fault code**: read and display the fault code information retrieved from the vehicle system module.
- **Clear fault code**: clear the fault code and freeze frame data retrieved from

the vehicle system module.

- **Read data stream**: read and display the real-time operation parameters of the current system module
- **Action test**: test the actuator of each system of the vehicle, and the test options will vary depending on the manufacturer and model.
- **Special functions**: perform component adaptation or variable coding functions, conduct user-defined configuration operations, and adapt some components after maintenance or replacement. The selected models have different special functions, and the displayed function names are slightly different.
- **Calibration function**: in order to facilitate maintenance and change of engine power, ECU opens the calibration function and fine adjustment function.

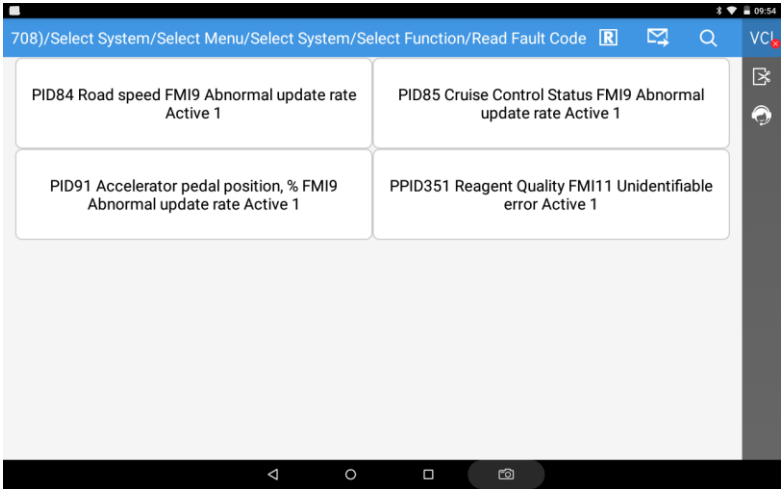
5.2.1 VERSION INFORMATION

Read and display the ECU version information (hardware and software) retrieved from the tested vehicle.



5.2.2 READ FAULT CODE

Read and display the fault code retrieved from the system module of the tested vehicle and explain the fault content.



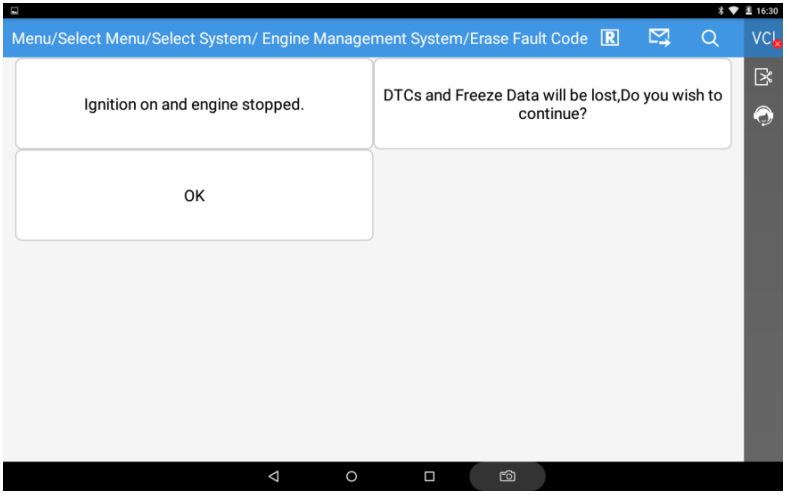
5.2.3 ERASE FAULT CODE

Before clearing the fault code, please record and save the read fault code for later viewing and comparison.

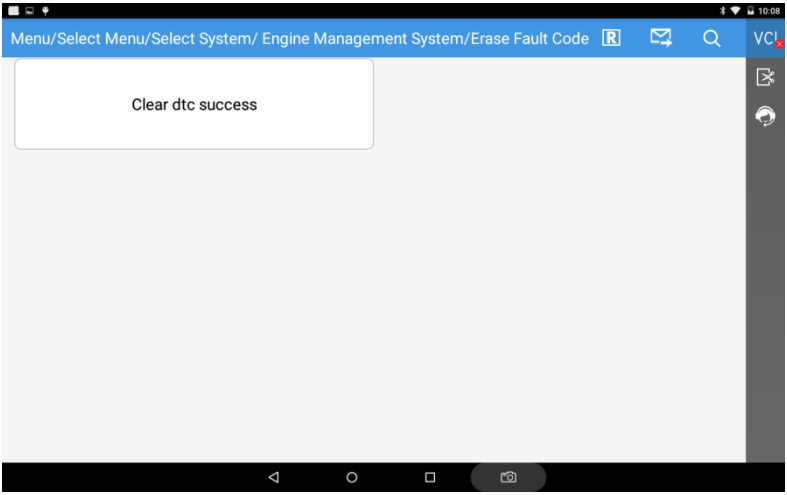
➢ **How to erase fault code**

1) Select [Erase Fault Code] on the diagnosis interface;
2) The prompt information shown in the figure below will pop up. Click [OK] to erase fault codes.

Note: This step requires you to strictly operate the vehicle in accordance with the menu prompts.



3) When another prompt message pops up, select [**Return**] key and re-execute the read fault code function to verify whether the fault code has been cleared.



➢ **Fault code analysis steps**

1) Read and record all fault codes;
2) Erase all fault codes;
3) Simulate the conditions generated by the fault and start a road test;
4) Then read and record the fault code at this time;
5) Distinguish between incidental fault codes (independent fault codes or historical fault codes) and persistent fault codes (current fault codes or associated fault codes);
6) Distinguish between the major fault code and the minor fault code associated with the fault symptom;
7) Distinguish the major fault codes in many fault codes or related fault codes (it may be the cause of other fault codes);
8) According to the above analysis, you can further detect the sensor represented by fault code, related circuit state of the actuator or control computer, as well as accurate position of the fault occurred.

5.2.4 READ LIVE DATA

Select this function, the real-time operating parameters of the selected system module will be displayed on the screen, and the data parameters displayed by

different models or different control modules will be different, as shown in the figure below:

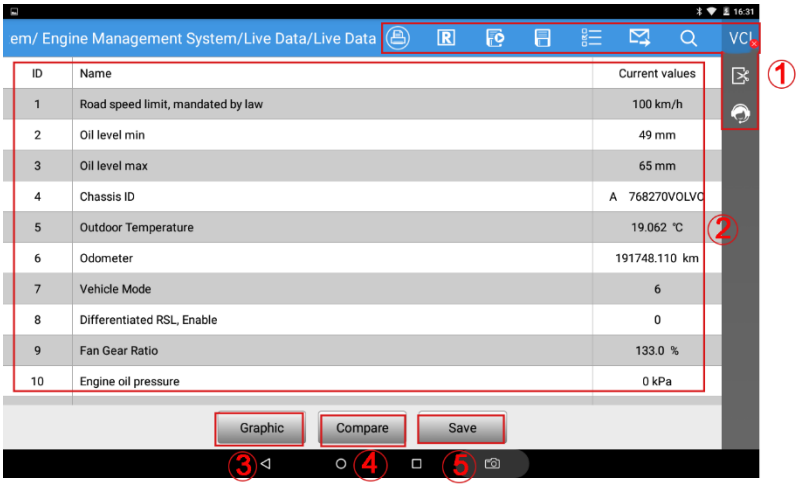


Figure 5.2.4-1 Live data

1) Toolbar, see Table 1
2) Live data display area
3) Data flow waveform diagram
4) Data flow comparison
5) Save the current data stream (for subsequent data stream comparison)

Table 1：

Icon	Function description
	Save and export the vehicle data stream information as a PDF document
	Create test report, you can view, print, send test report and other operations in [Data Management]
	The recorded data stream can be viewed in [Data Review] in [Data Management]
	The current data stream can be saved as an excel document and can be viewed in the [Data Set] in [Data Management]
	Select menu

	One-click feedback of problems encountered in the vehicle diagnosis process to the FCAR after-sales technical team

➢ **Data flow waveform**

In the data stream display interface, select [Graphic] to view the real-time operating parameters of the unit in the data stream waveform graph mode, as shown in figure 5.2.4-2, select [List] to return to the numerical display state.

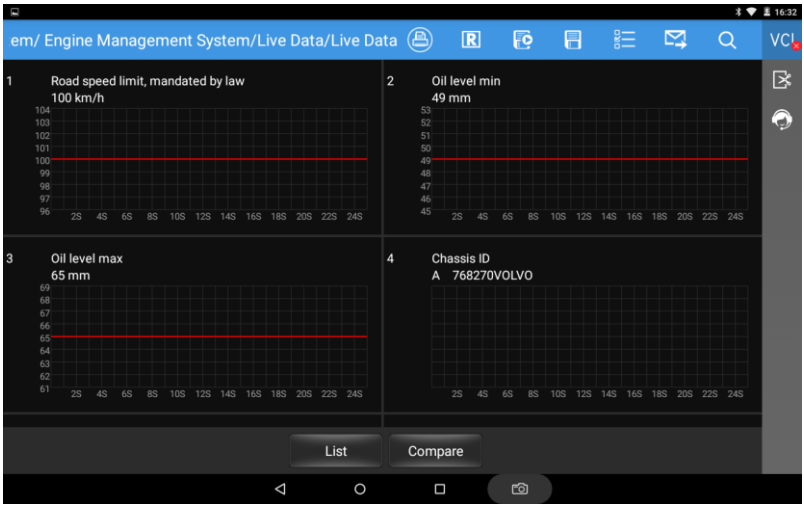


Figure 5.2.4-2 Data flow waveform

Data stream recording and comparison function

The system supports the recording and saving of data streams, and can be viewed unlimited times in [**Data Management**] / [**Data Review**]; it also supports the comparison function of data streams. When the vehicle is in good condition, collect and save the data stream, so that the next time you test or encounter a vehicle of the same model, you can provide data reference through the data stream comparison function.

➢ **How to record data stream**

1) Click the function icon "" in the upper right corner, check the parameter items that need to be recorded in the pop-up window, and select [OK] to return;

2) Select the function icon "", enter the saved file name in the pop-up

window (the file name is preferably named with the vehicle information for easy reference), and select [**OK**] to return;

3) The system starts recording, and click the "" button in the lower left corner to stop recording and automatically save the data stream

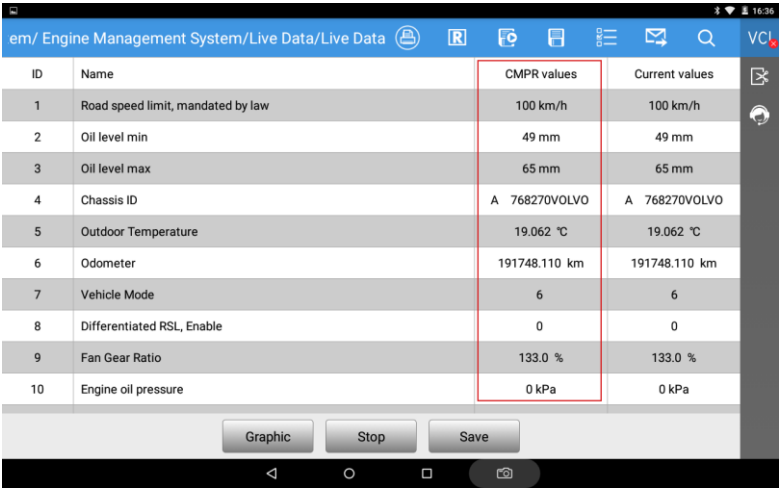
4) After the data stream is recorded, the system automatically saves it (**Note**: the data stream can be recorded for up to 2 minutes), and you can select [**Data Review**] in the [**Data Management**] to view the saved data stream.

➢ **How to compare data streams**

1) Click the function icon " " in the upper right corner, check the parameter items that need to be compared in the pop-up window, and select [OK] to return;

2) Click [Compare], select a saved data file of the same vehicle type in the pop-up dialog box, and then press [OK] to return;

3) At this time, there is an additional column "comparison value" in the data stream interface, as shown in Figure 5.2.4-3. The maintenance technician can quickly find and eliminate vehicle faults through the comparison of system parameters.



ID	Name	CMPR values	Current values
1	Road speed limit, mandated by law	100 km/h	100 km/h
2	Oil level min	49 mm	49 mm
3	Oil level max	65 mm	65 mm
4	Chassis ID	A 768270VOLVO	A 768270VOLVO
5	Outdoor Temperature	19.062 ℃	19.062 ℃
6	Odometer	191748.110 km	191748.110 km
7	Vehicle Mode	6	6
8	Differentiated RSL, Enable	0	0
9	Fan Gear Ratio	133.0 %	133.0 %
10	Engine oil pressure	0 kPa	0 kPa

Figure 5.2.4-3 Data flow comparison

5.2.5 ACTUATION TEST

By executing this function, you can access the specific subsystems of the vehicle

and perform component tests. When the action test is performed, the diagnostic instrument inputs instructions to the ECU to drive the actuators, and judges whether the actuators of the vehicle's electronic control system and their circuits are normal. Different control systems of different models have different executable test options, please refer to the screen display.

➢ How to perform an action test

1) Select [**Actuation Test**] in the diagnosis interface;
2) Select a test item;
3) Operate strictly in according to the prompt on the screen;
4) Click Back button to exit the test.

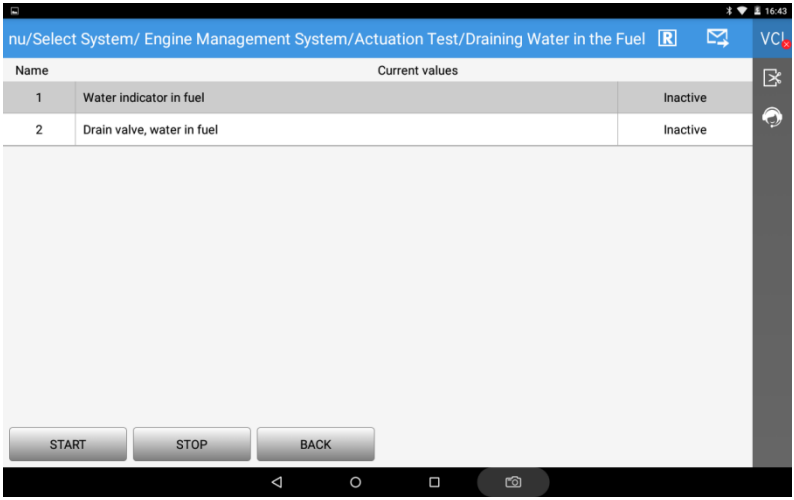


Figure 5.2.5-1 Actuation Test

Note: Depending on the selected test item, the control buttons will be different, such as "Start", "On" and so on.

5.2.6 SPECAIL FUNTION

The special function can perform adaptive operation of each component, which is mainly used to re-calibrate or configure the components after repairing or replacing the components, so that the components of the electronic control system can adapt to each other, otherwise the system will not operate normally.

The main interface of the adaptive operation is in the menu guided mode. Please read the on-screen prompts carefully and operate according to the prompts. The specific selection procedure will vary depending on the model being tested.

The following are the general steps of the adaptive operation:

1) Select the model and related configuration;
2) Wait for the program to establish normal communication with the vehicle ECU, select the functional operations that need to be performed, and some functional operations need to meet specific conditions before they can be performed;
3) Carefully read the information on the screen and check the corresponding vehicle status, strictly follow the menu prompts;
4) After the adaptive operation is completed, the screen will display prompt messages such as "Operation success" and "Matching completed".

5.2.7 CALIBRATION

The diagnosis system supports the calibration function for some model vehicles. The operation method is similar to that of the Special Function.

6 DETECT TOOLBOX

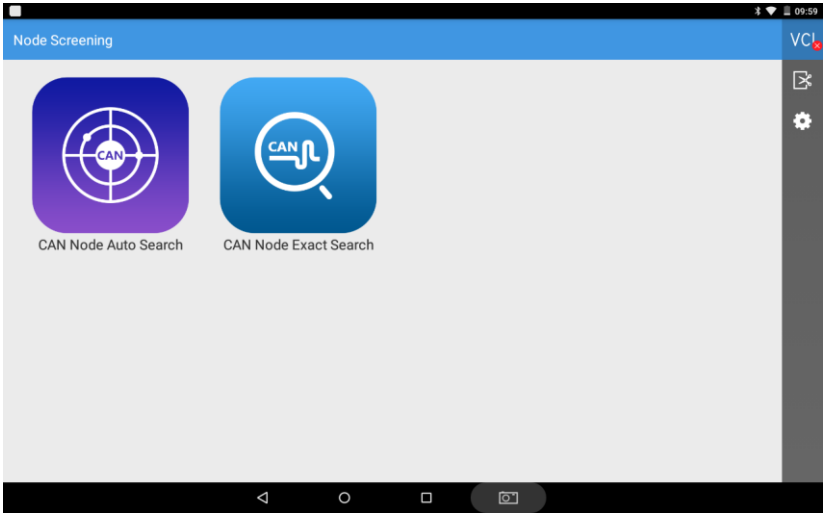
"**Detect Toolbox**" function provides four detecting tools: Node Screening and Pin Detecting.

6.1 CAN NODE SCREENING

This function is used to screen all nodes which can normally communicate with ECU through CAN.

Note: This function is only provided to part of models of vehicles, you can contact FCAR for details.

"**Node Screening**" provides two searching ways：

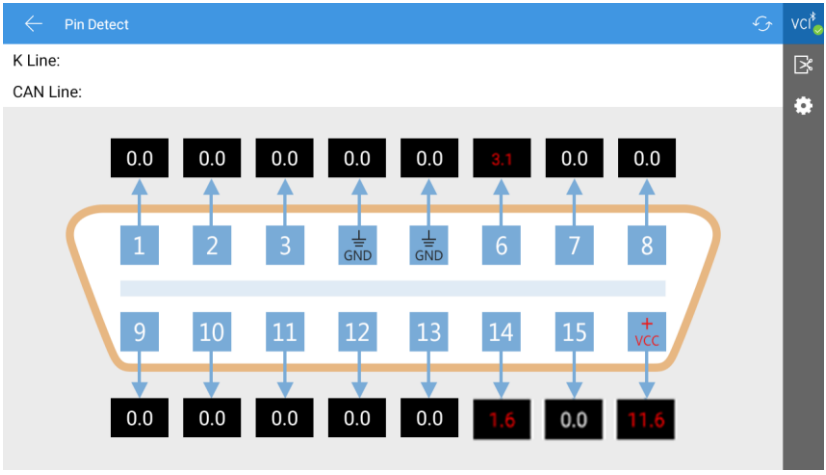


- **CAN Node Auto Search**: the program will automatically search and list all CAN nodes which can normally communicate with ECU
- **CAN Node Exact Search**: the program will search and list some CAN nodes with normal communication according to the system or module that you select.

6.2 PIN DETECTING

This function is used to measure the voltage of the 16 pins of the OBD interface and judge the pin position of the K line and the CAN line.

The interface is as shown below.



7 REMOTE DIAGNOSIS

This function allows you to receive remote service and support from FCAR's after-sales technicians to assist you with vehicle diagnosis.

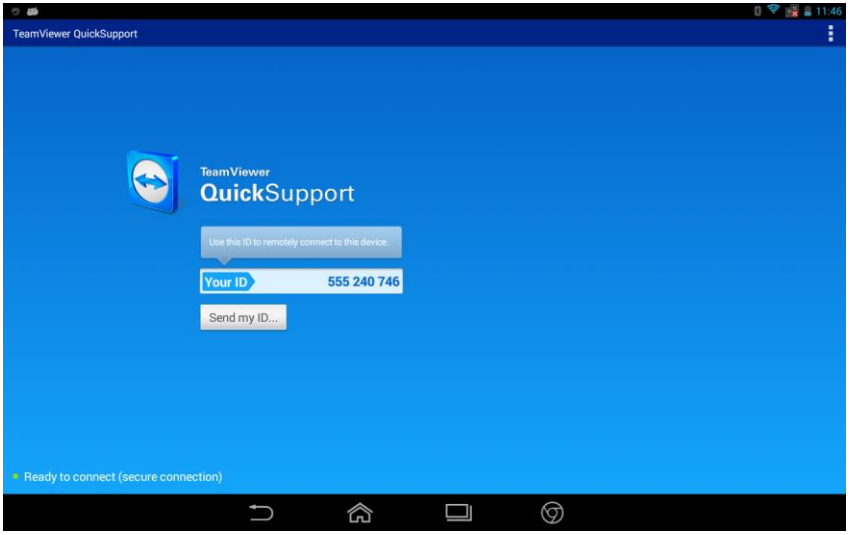
➢ How to receive technical support from FCAR

1) Select [**Remote Assistance**] from Main Menu to enter Team Viewer interface, and then the system automatically generates and displays the device ID.

2) Send your device ID number to FCAR after-sales team and wait for them to send the remote control request to you;

3) After receiving the request, you can select [**YES**] to accept, or [**NO**] to reject in the pop-up window.

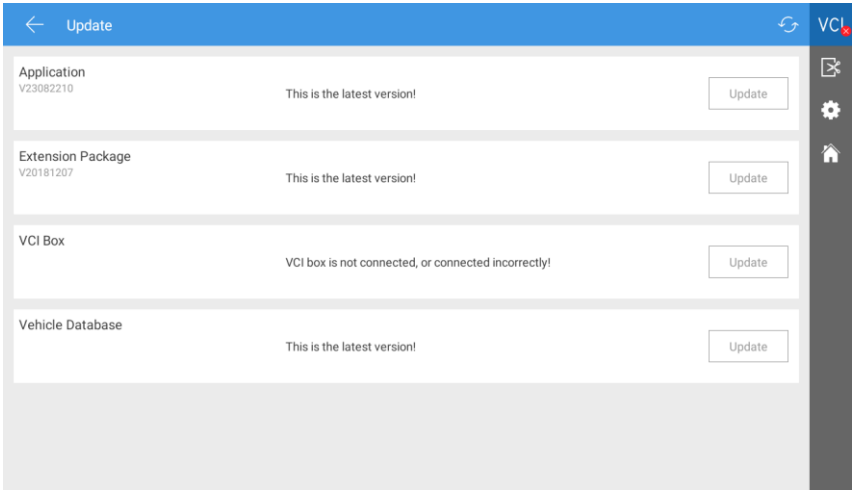
Note: Make sure the device is connected to the internet before receiving remote assistance.



8 Upgrade

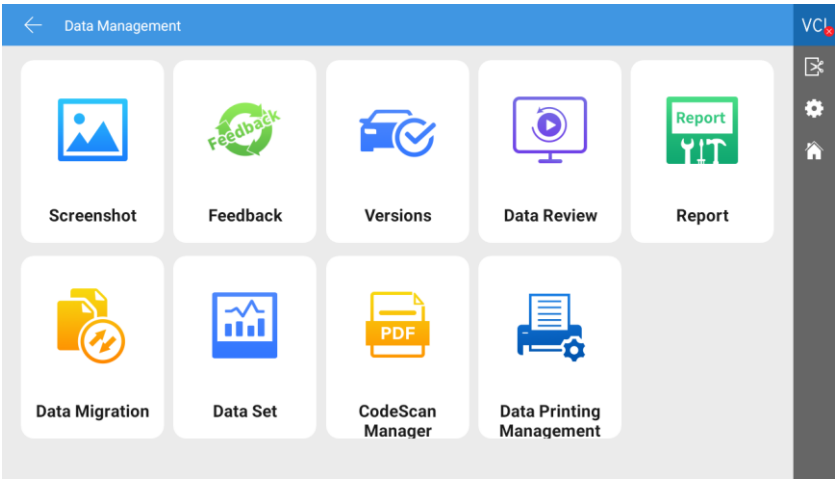
Connect the device to the Internet to upgrade the diagnostic software and vehicle types to improve product functionality in a timely manner. Enter [**Upgrade**] in main menu page, then the system will automatically search for the latest update

program, as shown below, click **[Update]** to update vehicle types and other applications to the latest version.



9 DATA MANAGEMENT

“"**Data Management**" application is used to save, view, or print saved files. Most of the files are generated by the toolbar operation of the vehicle diagnostics interface.

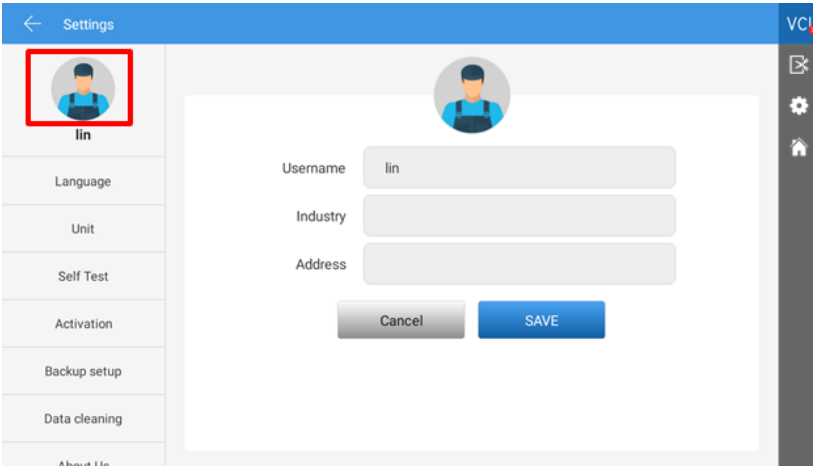


10 SETTINGS

Click the icon "⚙" in the upper right corner toolbar of the screen. On this interface, you can adjust following system settings:

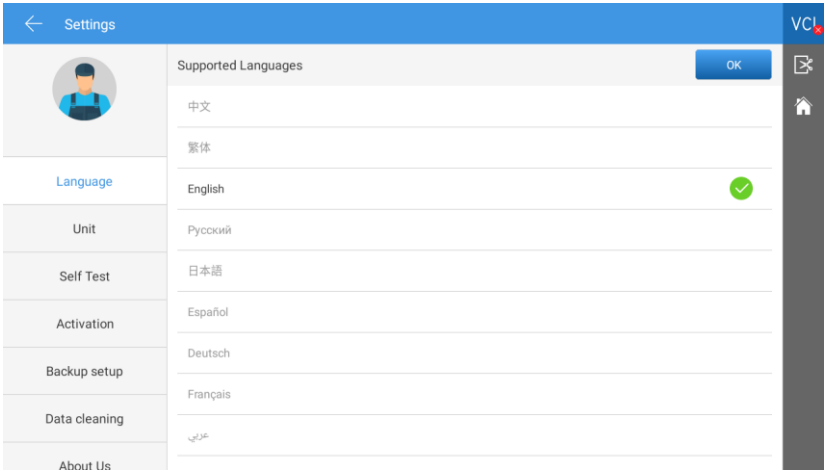
10.1 USER INFO

Set your personal information.



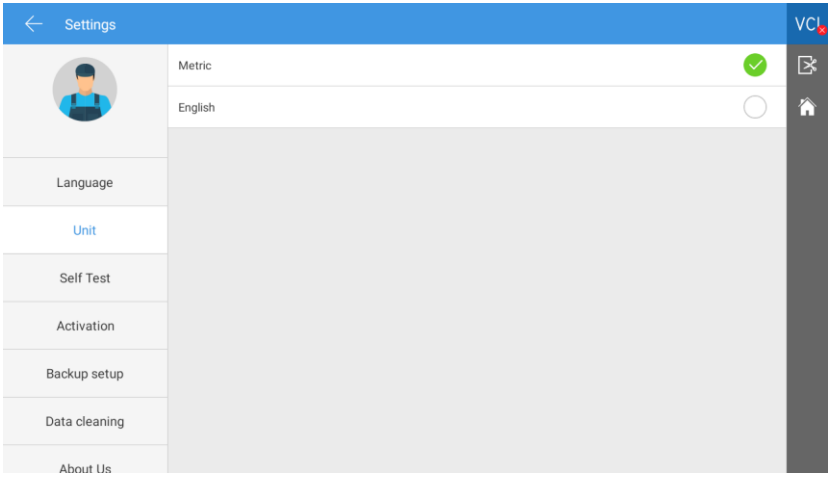
10.2 LANGUAGE

The diagnostic system supports multiple languages setting, please set according to the language supported by the model you purchased.



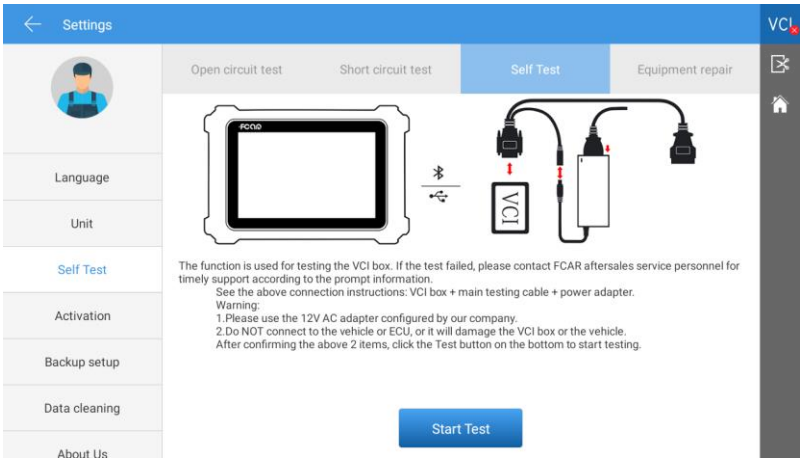
10.3 UNIT

This option allows you to set the live data unit in the diagnostic software, please select Metric or English.



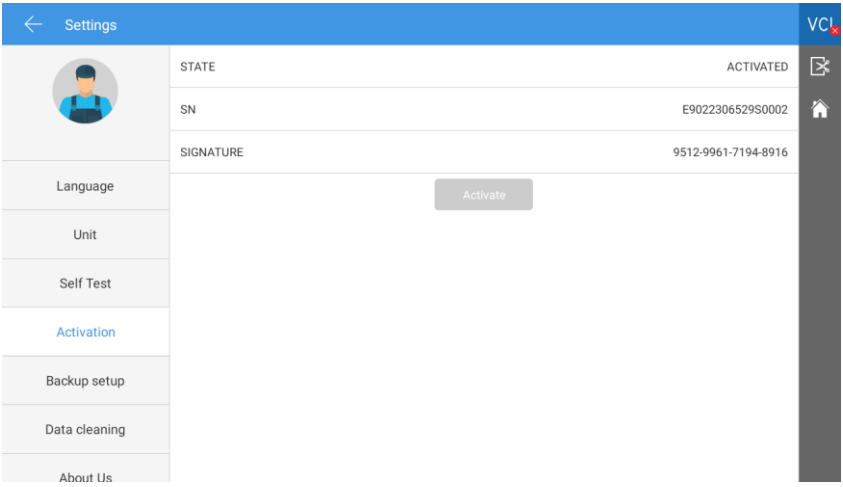
10.4 SELF TEST

Connect the device according to the screen icon, and click [**Start Test**] to check the open circuit and short circuit of the main test cable and OBD-II connector to judge whether it is good or bad.



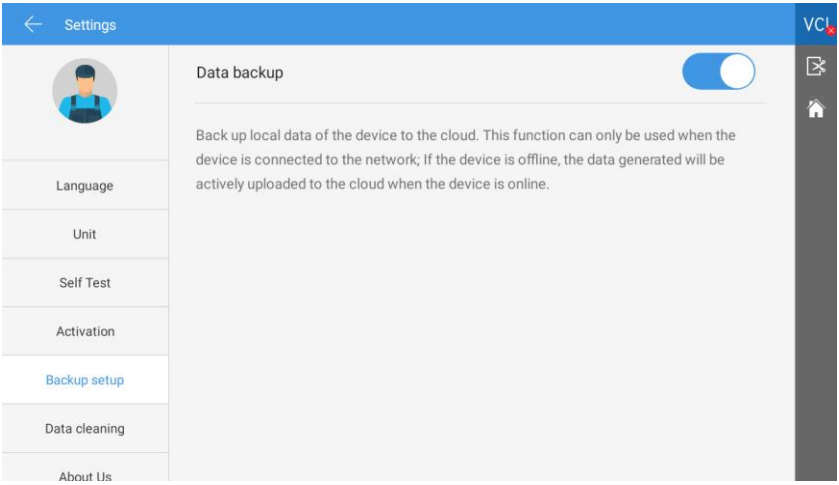
10.5 ACTIVATION

The product is shipped with a time-limited usage restriction. When you power on the machine, it will prompt: "You are using the trial version, there is ** chances left to use", connect Internet and click [**Activation**] to activate the machine.



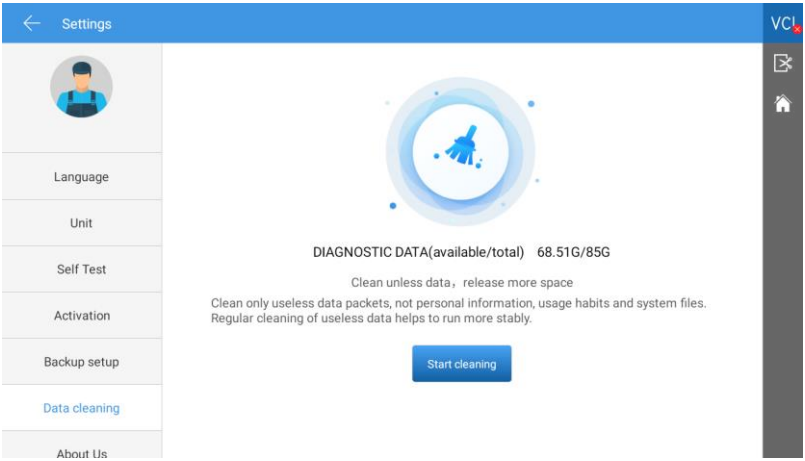
10.6 BACKUP SETUP

Open this function, the diagnosis data can be uploaded to the cloud sever when you diagnose a vehicle through the menu [**Cloud Diagnosis**].



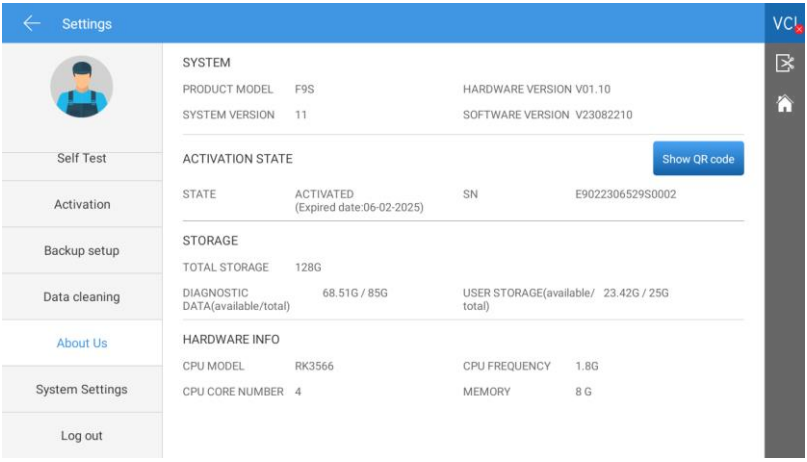
10.7 DATA CLEANING

This function is used to clean the useless data packets, and release more storage space.



10.8 ABOUT US

This interface shows system information, activation state, storage, etc.



10.9 SYSTEM SETTINGS

You can set the Android system basic information.

10.10 LOGOUT

This menu is used to exit the system login.

WARRANTY CLAUSES

Thank you for choosing FCAR F9S. In order to make the best use of the product, we recommend that you follow all recommendations for maintenance, storage, and operation in accordance with the user manual's instructions at all times. These requirements have been formulated to maximize the useful life of the product.

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

2. Your product must be purchased from a product dealer that has been authorized by FCAR. If products are purchased from anyone other than a FCAR authorized product dealer, buyers will be solely responsible for the cost of product maintenance services.

3. The following items are not included under the warranty: Items that are readily subject to wear and tear such as product instructions, inner and outer package box, promotional giveaways, SD card, card reader, touch pen, printing supplies, etc.

4. Beginning on the date of purchase (subject to valid purchase proof and effective warranty card of the product), if the product suffers performance failure within one month which is not caused by deviation from the recommended operation or by uncontrollable environmental events, you can choose to repair it or replace with a new one via our maintenance service or replacement of the product with the same model. After that, there is one-year warranty service for the main unit, connectors and power adapter.

5. You will not be entitled to free warranty service under any of the following situations:

1.) Failures, defects or flaws not directly related to the quality of the FCAR products, including but not limited to failing to use the product according to the user manual’s instructions, crash, fall, disassembly by anyone other than a FCAR approved service person, connecting improper accessories, damage owing to impact because of improper transport or storage of the product, erosion and/or corrosion caused by infiltration of liquid or food, etc.

2) Natural wear and tear of the product: including but not limited to the outer casing, buttons, touch screen, accessories, etc.;

3) The product serial number do not match the warranty card product serial number, the product quality inspection label or barcode is removed, altered or damaged;

4) Disassembly and repair and modification without the approval of FCAR Technology.

6. If the product has quality problems or malfunctions during the warranty period, you can take the following measures:

1) You can do self-test on the product according to the product help information. If there is no hardware quality problem, you can try to update the product.

2) You can call FCAR Technology Customer Service Hotline (0086-755-82904730) to get the correct service information.

3) After obtaining the company's authorization, the product must be sent to the designated address for repair and maintenance. Otherwise, your product can not receive timely repair and maintenance. Losses caused by customer negligence or failure to follow company instructions are at your peril.

7. During the product warranty repair process, you will bear the costs associated with delivering the product to the repair place designated by FCAR: Including product packaging, transportation, insurance and other expenses.

8. Within the product warranty period and under this warranty clause, you can obtain free warranty service for losses due to product defects. FCAR shall not be liable for your direct or indirect loss.

9. All product warranty information, product functions and specification changes will be posted on FCAR latest promotional materials and the official website. Changes may be made to the website or promotional materials without further notice.

AUTO DIAGNOSTIC SYSTEM COMPLIANCE INFORMATION

FCC COMPLIANCE FCC ID: 2AJDD-IDIAGSF9S1

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Specific Absorption Rate (SAR) information:

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health.

FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: Smart phone (FCC ID: 2AJDD-IDIAGSF9S1) has also been tested against this SAR limit. This device was tested for typical body-worn operations with the back of the device kept 0mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain a 10mm separation distance between the user's body and the back of the phone. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

VCI COMPLIANCE INFORMATION

FCC COMPLIANCE FCC ID: 2AJDD-MAXIBT300

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Certification

This product has been strictly inspected as qualified products and met the company standards.

Product name	Automotive Diagnostic System
Product serial number	
Date of production	
Inspector	

Warranty card

Product name	Automotive Diagnostic System
Product serial number	
Purchase date	

Company name: _____

User address: _____

Contact person: _____

Contact number: _____