4. Initial Use

4.1 Charging The Tool

There are two charging methods available:

Via Charging Cable: Plug one end of the included charging cable into the DC-IN port of the tool, and the other end to the external DC power.

Via Diagnostic Cable: Insert one end of the diagnostic cable into the DB-15 connector of the tool, and the other end to the vehicle's DLC.

Once the charging LED illuminates solid green, it indicates that the battery is fully charged.

4.2 Getting Started

If it is the first time you have used this tool, you need to make some system settings.

1. Press the [Power] button to power it on.
2. The screen displays a welcome page. Tap "Start" to go to next step.
3. Choose the desired system language, and tap "Next".
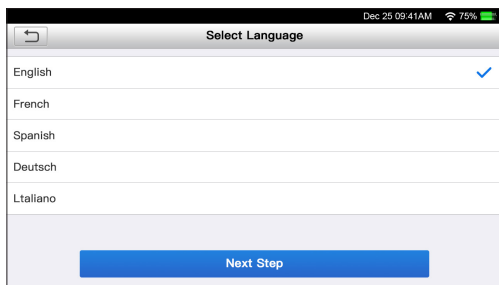

Figure 4-1

4. Choose the desired time zone, and tap "Next" to enter the WLAN setup page.
5. Slide the switch to ON, the system starts searching for all available wireless LANs. Choose the desired WLAN access point / network,

Figure 4-2

- If the network you chose is open, you can connect directly;
- If the selected network is encrypted, you have to enter the right security key (network password).

*Note: If you choose "Ignore" in WLAN setup, it will go into the date setting page. If the tool has been properly connected to the Internet, the system will automatically obtain the correct network date and time and navigate to step 6.

6. After the network connection is done, tap "Next Step" to configure email address. Input the email address, and tap "Next Step" to go to next step.

*Note: You are strongly recommended to fill in the valid email address. Once you configured this option, the system will automatically send the diagnostic report to your email box every time a complete Auto-Detect process is successfully finished.

7. Carefully read all terms and conditions of the user agreement, check the box before the "Agree to all the above terms", and tap "OK" finish the sign-up process and navigate to Job Menu.

4.3 Job Menu

It mainly includes the following function modules.

Diagnose	To configures the tool to operate as a professional diagnostic tool.
I/M	A quick access to the I/M Readiness function of OBD II Diagnosis. I/M refers to Inspection and Maintenance that is legislated by the Government to meet federal clean-air standards. I/M Readiness indicates whether or not the various emissions-related systems on the vehicle are operating properly and are ready for Inspection and Maintenance testing. *Note: This function also can be done by performing "OBD II (Diagnosis)" -> "I/M Readiness". For detailed operation, please refer to Chapter 5.3.
OBD II	This option presents a quick way to check for DTCs, isolate the cause of the illuminated Malfunction Indicator Lamp (MIL), check monitor status prior to emissions certification testing, verify repairs, and perform a number of other services that are emission-related.
Battery Voltage	Measures the current voltage of the vehicle's battery.
Reset*	To perform common repair & maintenance items, including Oil lamp reset, Electronic parking brake reset, Steering angle calibration and Battery maintenance system reset. *Note: This function only applies to the Creader Professional 129i.
Update	To update vehicle diagnostic software and APK. *Note: This function requires a stable network connection.
Data	Includes Diagnostic report, Diagnostic record, Feedback and DTC library etc.
Settings	To make some system settings, including Network setup, Email and Brightness etc.

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5. Diagnose

5.1 Connection

1. Turn the ignition off.
2. Locate vehicle's DLC socket: It provides standard 16 pins and is generally located on driver's side, about 12 inches away from the center of dashboard. See Figure 2-2. If DLC is not equipped under dashboard, a label indicating its position will be given. In case no DLC is found, please refer to Automobile Repair Manual.
3. Plug one end of the diagnostic cable into the DB-15 connector of the tool, and tighten the captive screws. Connect the other end to the vehicle's DLC.
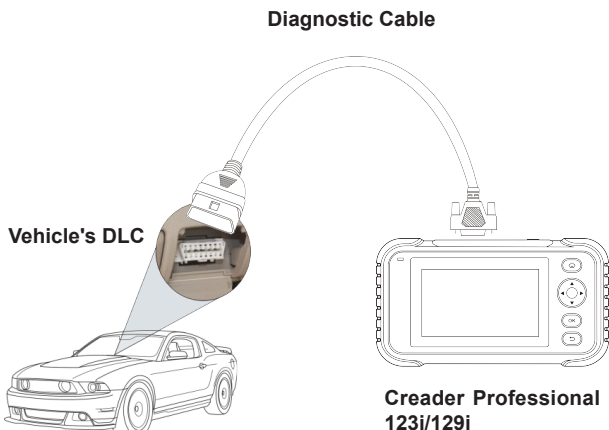
Diagnostic Cable

Vehicle's DLC

Creader Professional 123i/129i

Figure 5-1

5.2 System Diagnosing

This function is specially designed to diagnose electronic control systems of single vehicle model.

5.2.1 Smart Diagnosis (Auto-Detect)

After connection, turn the ignition key on and the system enters auto-detect mode (*Note: Please make sure the "Automatic detection on connect" in "Settings" is set as ON).

*Note: To detect more and accurate VINs, a stable network connection is highly recommended for this function.

*CAUTION: Don't connect or disconnect any test equipment with ignition on or engine running.

A. Once the system successfully obtains the VIN (Vehicle Identification Number) information of the currently identified vehicle, it will continue scanning the vehicle systems. After the scanning is complete, a diagnostic report will be automatically generated and sent to your email box (if bound).

B. If the tool failed to access the VIN information, the screen will display as below:

Fig. 5-2

Input the VIN, and tap "OK", the system will automatically identify the vehicle model. If the vehicle VIN is successfully decoded, it will perform auto-diagnosis until a diagnostic report is automatically output. Otherwise it will enter manual diagnosis mode. For details on manual diagnosis, see Chapter 5.2.2.

*Notes:

• The most recognizable location for this number is in the top left corner on the vehicle's dashboard. Other locations include the driver's door or post, and the firewall under the hood.

• In general, vehicle identification numbers are standardized - all contain 17 characters. VIN characters may be capital letters A through Z and numbers 1 through 0; however, the letters I, O and Q are never used in order to avoid mistakes of misreading. No signs or spaces are allowed in the VIN.
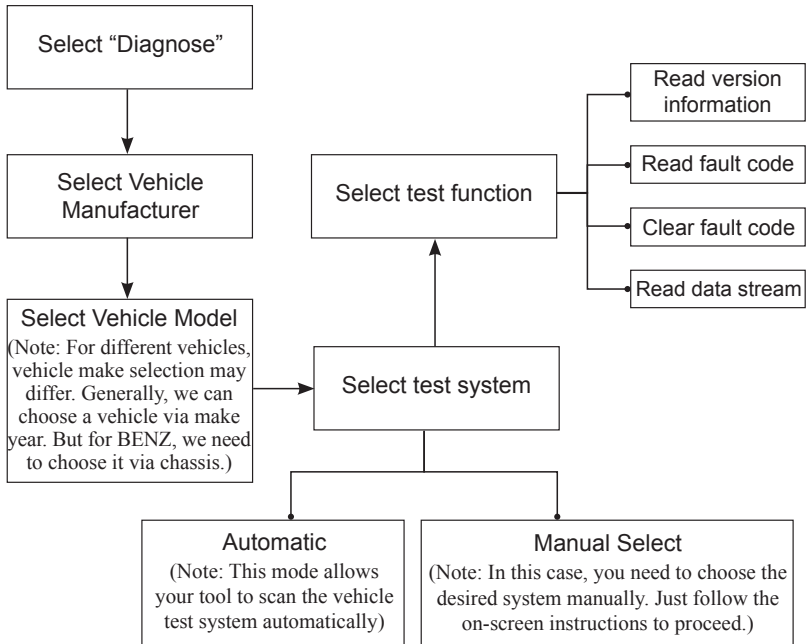
5.2.2 Manual Diagnosis

If the tool can not obtain the VIN information, you can also perform vehicle diagnosis manually. In this mode, you need to execute the menu-driven command and then follow the on-screen instruction to proceed.

*Notes:

• Before diagnosing, please make sure the diagnostic program corresponding to certain vehicle model has been installed on your tool.

• For vehicles manufactured by different vendors, it is possible that it has different diagnostic menus. For details, please follow the instructions on the screen to proceed.

Refer to the flowchart illustrated as below to diagnose a vehicle manually:

```
Select "Diagnose"
        |
        v
Select Vehicle            Select test function  --->  Read version
Manufacturer                                           information
        |                                        --->  Read fault code
        v                                        --->  Clear fault code
Select Vehicle Model                             --->  Read data stream
(Note: For different vehicles,
vehicle make selection may       ^
differ. Generally, we can        |
choose a vehicle via make  --->  Select test system
year. But for BENZ, we need
to choose it via chassis.)
                           /            \
                          v              v
              Automatic              Manual Select
     (Note: This mode allows   (Note: In this case, you need to choose the
     your tool to scan the vehicle   desired system manually. Just follow the
     test system automatically)      on-screen instructions to proceed.)
```

Take Demo as an example to demonstrate how to diagnose a vehicle.

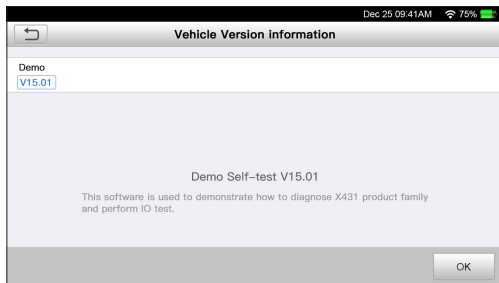1). Select diagnostic software version: Tap the "DEMO" to go to Step 2.

Fig. 5-3

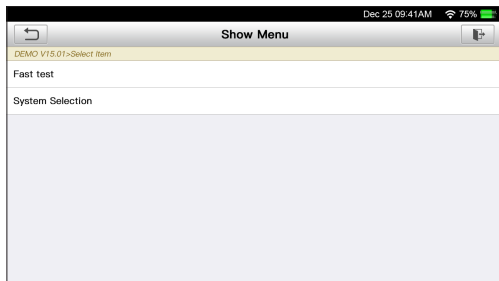2). <u>Select test item</u>: Select the desired test item to proceed.

Fig. 5-4

5.2.2.1 Health Report (Quick Test)

This function varies from vehicle to vehicle. It enables you to quickly access all the electronic control units of the vehicle and generate a detailed report about vehicle health.

Tap "Health Report", the system starts scanning the ECUs. Once the scanning is complete, a screen similar to the following appears:
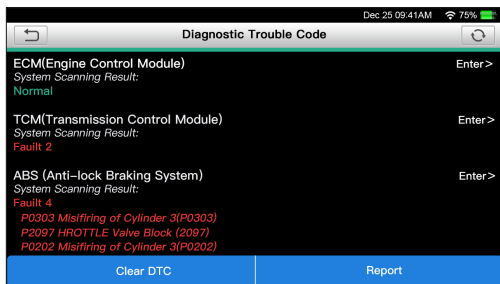
Fig. 5-5

In above figure, the tested system with fault code appears in red and the system with OK displays in black (normally).

On-screen Buttons:

▼: Tap to display the details of DTCs existing in the current system. Tap ▲ to hide it.

Enter: Tap to select other test functions. For detailed operations, refer to Chapter 5.2.2.2 "System Selection".

Report: Tap to save the diagnostic result as a report.

Clear DTC: Tap to clear the existing diagnostic trouble codes.

5.2.2.2 System Selection

This option allows you manually select the test system and function step by step.

In Fig. 5-5, tap "System Selection", and tap the desired system (take "ECM" for example) to jump to the test function page.
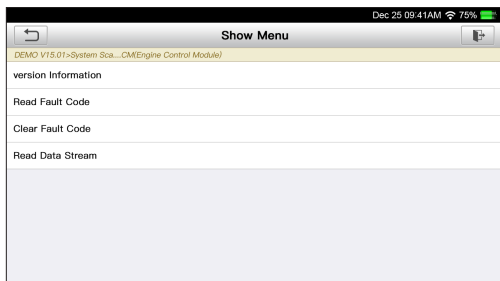

Fig. 5-6

---

*Note: Different vehicle has different diagnostic menus.

A. Version Information

This function is used to read the version information of system mode, vehicle VIN, software and ECU.

B. Read Fault Code

This function displays the detailed information of DTC records retrieved from the vehicle's control system.

In Fig. 5-6, tap "Read DTC", the screen will display the diagnostic result.

---

*Note: Retrieving and using DTCs for troubleshooting vehicle operation is only one part of an overall diagnostic strategy. Never replace a part based only on the DTC definition. Each DTC has a set of testing procedures, instructions and flow charts that must be followed to confirm the location of the problem. This information can be found in the vehicle's service manual.

On-screen Buttons:

Freeze Frame: When an emission-related fault occurs, certain vehicle conditions are recorded by the on-board computer. This information is referred to as freeze frame data. Freeze frame data includes a snapshot of critical parameter values at the time the DTC is set.

Help: Tap to view the help information.

Code Search: Tap it to search for more information about the current DTC online.

Report: To save the current data in text format. All diagnostic reports can be accessed from "Data" -> "Diagnostic Report".

C. Clear Fault Memory

After reading the retrieved codes from the vehicle and certain repairs have been carried out, you can use this function to erase the codes from the vehicle. Before performing this function, please be sure the vehicle's ignition key is in the ON position with the engine off.

*Notes:

1. If you plan to take the vehicle to a Service Center for repair, DO NOT erase the codes from the vehicle's computer. If data is erased, valuable information that might help the technician troubleshoot the problem will also be erased.

2. Clearing DTCs does not fix the problem(s) that caused the code(s) to be set. If proper repairs to correct the problem that caused the code(s) to be set are not made, the code(s) will appear again and the check engine light will illuminate as soon as the problem that cause the DTC to set manifests itself.

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D. Read Data Stream

This option retrieves and displays live data and parameters from the vehicle's ECU.

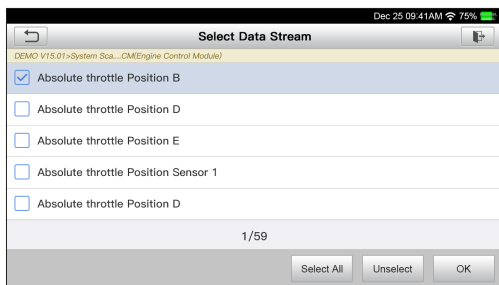In Fig. 5-6, tap "Read Data Stream", the system will display data stream items.

Fig. 5-7

On-screen Buttons:

Select All: Tap it to select all items of the current page. To select certain data stream item, just check the box before the item name.

Unselect: Tap it to deselect all data stream items.

OK: Tap it to confirm and jump to the next step.

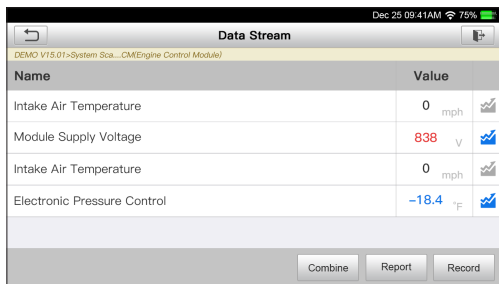After selecting the desired items, tap "OK" to enter the data stream reading page.

Fig. 5-8

---

*Notes:

1. If the value of the data stream item is out of the range of the standard (reference) value, the whole line will display in red. If it complies with the reference value, it displays in blue (normal mode).

2. The indicator 1/X shown on the bottom of the screen stands for the current page/total page number. Swipe the screen from the right/left to advance/return to the next/previous page.

There are 3 types of display modes available for data viewing, allowing you to view various types of parameters in the most suitable way.

• Value – this is the default mode which displays the parameters in texts and shows in list format.

• Graph – displays the parameters in waveform graphs.

• Combine – this option is mostly used in graph merge status for data comparison. In this case, different items are marked in different colors.

On-screen Buttons:

: Tap it to view the waveform graph of the current data stream item.

Combine: Tap it, a pull-down list of the data stream items appears on the screen. Select the necessary items and the screen will display the waveforms corresponding to these items immediately.

Report: Tap to save the current data as a diagnostic report. All diagnostic reports can be accessed from "Data" -> "Diagnostic Report". The tool logs the Date of Report (the date and time at which the report was created) and assigns a unique Report #.

Record: Tap to record and save Live Data. Recorded Live Data can serve as valuable information to help you in troubleshooting and diagnosing vehicle problems. The saved file follows the naming rule: It begins with vehicle type, and

then the record starting time and ends with .x431 (To differentiate between files, please configure the accurate system time). All diagnostic records can be viewed by tapping "Data" -> "Diagnostic Record".

5.3 OBDII Diagnosis

This option presents a quick way to check for DTCs, isolate the cause of the illuminated Malfunction Indicator Lamp (MIL), check monitor status prior to emissions certification testing, verify repairs, and perform a number of other services that are emission-related.

On the Job menu, press [OBD II] to enter system, the screen will automatically navigate to the Monitor status screen.

Tap [OK], the following function list appears.

1. Read Codes

This option is used to identify which section of the emission control system has malfunctioned.

2. Erase Codes

After reading the retrieved codes from the vehicle and certain repairs have been carried out, you can use this function to erase the codes from the vehicle. Before performing this function, please be sure the vehicle's ignition key is in the ON position with the engine off.

---

*Notes:
• Before performing this function, make sure to retrieve and record the trouble codes.
• After clearing, you should retrieve trouble codes once more or turn ignition on and retrieve codes again. If there are still some trouble codes in the system, please troubleshoot the code using a factory diagnosis guide, then clear the code and recheck.

---

3. I/M Readiness

An important part of a vehicle's OBD II system is the Readiness Monitors, which are indicators used to find out if all of the emissions components have been evaluated by the OBD II system. They are running periodic tests on specific systems and components to ensure that they are performing within allowable limits.
Currently, there are eleven OBD II Readiness Monitors (or I/M Monitors) defined by the U.S. Environmental Protection Agency (EPA). Not all monitors are supported in every vehicles and the exact number of monitors in any vehicle depends on the motor vehicle manufacturer's emissions control strategy.

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Continuous Monitors -- Some of the vehicle components or systems are continuously tested by the vehicle's OBD II system, while others are tested only under specific vehicle operating conditions. The continuously monitored components listed below are always ready:

1. Misfire

2. Fuel System

3. Comprehensive Components (CCM)

Once the vehicle is running, the OBD II system is continuously checking the above components, monitoring key engine sensors, watching for engine misfire, and monitoring fuel demands.

Non-Continuous Monitors -- Unlike the continuous monitors, many emissions and engine system components require the vehicle to be operated under specific conditions before the monitor is ready. These monitors are termed non-continuous monitors and are listed below:

1) EGR System

2) O2 Sensors

3) Catalyst

4) Evaporative System

5) O2 Sensor Heater

6) Secondary air Injection

7) Heated Catalyst

8) A/C system

I/M refers to Inspection and Maintenance that is legislated by the Government to meet federal clean-air standards. I/M Readiness indicates whether or not the various emissions-related systems on the vehicle are operating properly and are ready for Inspection and Maintenance testing.

The purpose of the I/M Readiness Monitor Status is to indicate which of the vehicle's Monitors have run and completed their diagnosis and testing, and which ones have not yet run and completed testing and diagnosis of their designated sections of the vehicle's emissions system.

The I/M Readiness Monitor Status function also can be used (after repair of a fault has been performed) to confirm that the repair has been performed correctly, and/or to check for Monitor Run Status.

This function can also be done by tapping [I/M Readiness] directly on the Job Menu.

4. Data Stream

This option retrieves and displays live data and parameters from the vehicle's ECU.

5. View Freeze Frame

When an emission-related fault occurs, certain vehicle conditions are recorded by the on-board computer. This information is referred to as freeze frame data. Freeze Data is a snapshot of the operating conditions at the time of an emission-related fault.

*Note: If DTCs were erased, Freeze Data may not be stored in vehicle memory depending on vehicle.

6. O2 sensor test

The results of O2 sensor test are not live values but instead the results of the ECU's last O2 sensor test. For live O2 sensor readings, refer to any of the live sensor screens such as Graph Screen.

Not all test values are applicable to all vehicles. Therefore, the list generated will vary depending on vehicle. In addition, not all vehicles support the Oxygen Sensors screen.

7. On-board monitor test

This function can be utilized to read the results of on-board diagnostic monitoring tests for specific components/systems.

8. EVAP System Test

The EVAP test function lets you initiate a leak test for the vehicle's EVAP system. The tool does not perform the leak test, but signals to vehicle's on-board computer to initiate the test. Before using the system test function, refer to the vehicle's service repair manual to determine the procedures necessary to stop the test.

9. Vehicle Info

This option displays the vehicle information, such as VIN (Vehicle Identification Number), CID (Calibration ID) and CVN (Calibration Verification Number).

5.4 History

Generally once a vehicle diagnosis is performed, the tool will record the every details of diagnostic session. The History function provides direct access to the previously tested vehicles and users can resume from the last operation, without the necessity of starting from scratch.

Tap "History" on the Manual Diagnosis main menu screen, all diagnostic records

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will be listed on the screen in date sequence.

- Tap certain vehicle model to view the details of the last diagnostic report.
- To delete certain diagnostic history, select it and then tap "Delete". To delete all historical records, tap "Select All" and then tap "Delete".
- Tap "Quick access" to directly navigate to the function selection page of last diagnostic operation. Choose the desired option to proceed.

5.5 Resetting (Only applies to Creader Professional 129i)

In addition to amazing & powerful diagnostic function, Creader Professional 129i also features Oil lamp reset, Electronic parking brake reset, Steering angle calibration and Battery maintenance system reset.

There are two methods to reset service lamp: Manual reset or Auto reset. Auto reset follows the principle of sending command from the tool to vehicle's ECU to do resetting. While using manual reset, users just follow the on-screen instructions to select appropriate execution options, enter correct data or values, and perform necessary actions, the system will guide you through the complete performance for various service operations.

Follow the flowchart shown as below to perform resetting.

```
┌─────────────────────────┐
│     Select "Reset"      │
└─────────────────────────┘
              ┆
              ▼
┌─────────────────────────┐
│ Choose the desired      │
│ service function (e.g.  │
│ oil lamp reset etc.)    │
└─────────────────────────┘
              ┆
              ▼
┌─────────────────────────┐
│ Select the desired car  │
│ brand                   │
└─────────────────────────┘
              ┆
              ▼
┌─────────────────────────┐
│ Select the reset mode   │
│ (The available mode     │
│ varies from vehicle to  │
│ vehicle)                │
└─────────────────────────┘
              ┆
              ▼
┌─────────────────────────┐
│ Follow the on-screen    │
│ instructions to proceed │
└─────────────────────────┘
```
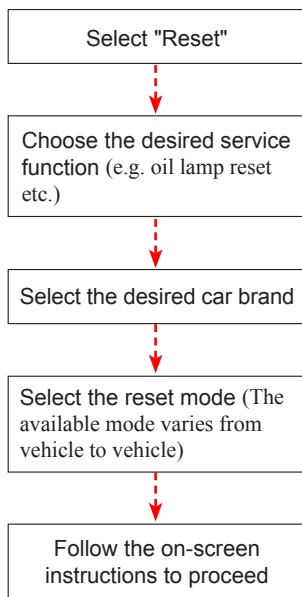
6. Update

If some new software or APK can be updated, a numeric indicator will display on the "Upgrade" module on the Job menu. In this case, you may use this option to keep it synchronized with the latest version.

---

*Notes:

• To enjoy more functions and better service, you are strongly suggested to update it on regular basis.

• This function requires a stable network connection.

Tap "Upgrade" on the Job menu to enter the update center.

By default, all diagnostic software is selected.

To deselect certain software, tap "Unselect", and then check the box next to vehicle model.

Tap "Update" to start downloading. It may take several minutes to finish it, please be patient to wait. To pause downloading, tap "Stop". To resume it, tap "Continue". If network connection failure occurs, tap "Retry" to try again.

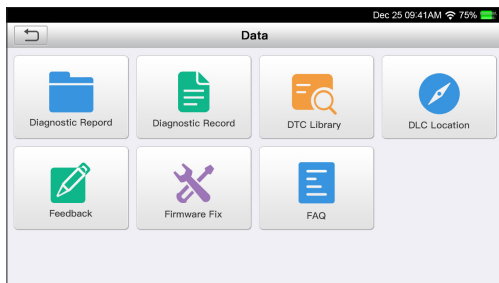Once download is finished, the software packages will be installed automatically.

7. Data

Fig. 7-1

7.1 Diagnostic Report

This module stores all diagnostic reports generated in process of vehicle diagnosis.

All the diagnostic reports are sorted by Date and Make. If there are too many reports stored, tap 🔍(Search) to filter and quickly locate it.

• To select certain report, just check the box at the right lower corner of the report. To select all reports, tap "Select All". To deselect all, tap "Unselect".

• Tap it to view its details.

• Select the desired report and then tap "Delete" to delete it.

7.2 Diagnostic Record

If user records the running parameters or waveform graphs while reading data stream, it will be saved as diagnostic records and appear under this tab.

Tap "Diagnostic Record" to enter and select the desired data stream items and tap "OK" to jump to the playback page.

On-screen Buttons:

Graph – displays the parameters in waveform graphs.

Combine – this option is mostly used in graph merge status for data comparison. In this case, different items are marked in different colors.

Value – this is the default mode which displays the parameters in texts and shows in list format.

Frame Playback – plays back the recorded data stream items frame by frame. Once it is in frame playback mode, this button changes into "Auto Playback".

7.3 DTC Library

This option helps you to find the location of the vehicle's DLC.

Fig. 7-2

Swipe the screen upwards/downwards to alter the value, then press [OK] button, the screen will display definition of the DTC.

7.4 DLC(Data Link Connector) Location

This option helps you to find the location of the vehicle's DLC.

7.5 Feedback

This item allows you to feedback your diagnostic problems to us for analysis and troubleshooting.

Tap "Feedback", the following 3 options will be displayed on the left column of the screen.

A. Feedback

Tap a tested vehicle model to enter the feedback screen.

1) Tap "Choose File" to open the target folder and choose the desired diagnostic logs.

2) Choose the failure type and fill in the detailed failure description in the blank text box and telephone or email address. After inputting, tap "Submit Result" to send it to us.

B. History

Tap it to view all diagnostic feedback records. Different process states are marked with different colors.

C. Offline list

Tap it to display all diagnostic feedback logs which have not been submitted successfully due to network failure. Once the handset gets a stable network signal, it will be uploaded to the remote server automatically.

7.6 Firmware Fix

Use this item to upgrade and fix diagnostic firmware. During fixing, please do not cut power or switch to other interfaces.

7.7 User Manual

Provides a detailed description on how to operate the tool. Before operating this tool, please carefully read it.

8. Settings

8.1 Units of measurement

It is designed to set the measurement unit. Metric System and English System are available.

8.2 Automatic detection on connect

This option enables you to determine whether to start an automatic VIN detection once the tool is properly connected to the vehicle's DLC.

8.3 Display & Brightness

This item allows you to set the standby time and screen brightness.

*Tips: Reducing the brightness of the screen is helpful to conserve the power of the handset.

8.4 Sound

This option lets you adjust the volume and other sound settings.

8.5 Network

*Note: Once WLAN is set as ON, the tool will consume more power. While it keeps unused, please set it off to save power. While WLAN keeps unused, please turn it off to conserve battery power.

The tool has built-in WLAN module that can be used to get online. Once you're online, you can register your tool, update diagnostic software & APK, send email on your network.

Slide the switch to ON, the system starts searching for all available wireless LANs. Choose the desired WLAN access point / network to connect.

8.6 Date/Time

This option allows you to set the system date & time.

*Note: Since all diagnostic reports are sorted by Make and Date. To differentiate between files, please configure the accurate system time.

8.7 Language

The tool supports multiple languages. You can use this option to change the target language.

8.8 Email Setup

This option is used to set up the default email address for automatically receiving the diagnostic reports.

8.9 Recovery

Use this item to reset this tool to the default factory setting.

*Warning: Resetting may cause data loss. Before doing so, please be careful to perform this operation.

8.10 Clean Up

This option allows user to clear some cache files and free up some storage space.

8.11 About

This option displays the hardware configuration information of the tool and license agreement.

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9. FAQ

Here we list some frequently asked questions and answers related to this tool.

① System halts when reading data stream. What is the reason?

It may be caused by a slackened connector. Please turn this tool off, firmly connect the connector, and switch it on again.

② Screen of main unit flashes at engine ignition start.

Caused by electromagnetic disturbing, and this is normal phenomenon.

③ There is no response when communicating with on-board computer.

Please confirm the proper voltage of power supply and check if the throttle has been closed, the transmission is in the neutral position, and the water is in proper temperature.

④ What to do if the system fails to start auto VIN detection?

Please check the following possible reasons:

• Whether the tool is properly connected to the vehicle's DLC.
• Whether the "Automatic detection on Connect" switch is OFF. If yes, slide it to ON.

⑤ Why are there so many fault codes?

Usually, it's caused by poor connection or fault circuit grounding.

⑥ How to upgrade the system software?

1. Switch the tool on and ensure a stable internet connection.
2. Tap "Setting" on the Job Menu, select "About" -> "Version", and tap "Detect the System Version" to enter the system upgrading page.
3. Follow the on-screen instructions step by step to finish the process. It may take several minutes depending on the internet speed, please be patient. After upgrade is successfully finished, the tool will automatically restart and enters the Job menu.

⑦ What if the tool cannot be switched on even after a period of recharging?

Please recharge it for at least 3 hours until the power LED lights up, then it can be switched on.

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Warranty

THIS WARRANTY IS EXPRESSLY LIMITED TO PERSONS WHO PURCHASE LAUNCH PRODUCTS FOR PURPOSES OF RESALE OR USE IN THE ORDINARY COURSE OF THE BUYER'S BUSINESS.

LAUNCH electronic product is warranted against defects in materials and workmanship for one year (12 months) from date of delivery to the user.

This warranty does not cover any part that has been abused, altered, used for a purpose other than for which it was intended, or used in a manner inconsistent with instructions regarding use. The exclusive remedy for any automotive meter found to be defective is repair or replacement, and LAUNCH shall not be liable for any consequential or incidental damages.

Final determination of defects shall be made by LAUNCH in accordance with procedures established by LAUNCH. No agent, employee, or representative of LAUNCH has any authority to bind LAUNCH to any affirmation, representation, or warranty concerning LAUNCH automotive meters, except as stated herein.

Order Information

Replaceable and optional parts can be ordered directly from your LAUNCH authorized tool supplier. Your order should include the following information:

1. Quantity
2. Part number
3. Item description

Customer Service

If you have any questions on the operation of the unit, please contact local dealer, or contact **LAUNCH TECH. CO., LTD.**:

<div align="center">

Website: www.x431.com

www.cnlaunch.com

Phone: +86 755 8455 7891

Email: overseas.service@cnlaunch.com

</div>

Statement: LAUNCH reserves the rights to make any change to this manual without notice. We have tried our best to make the descriptions and illustrations in the manual as accurate as possible, and defects are inevitable, if you have any question, please contact local dealer or LAUNCH TECH. CO., LTD., LAUNCH does not bear any responsibility arising from misunderstandings.

LAUNCH

www.x431.com
www.cnlaunch.com

FCC Warning:

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.

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

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.

The device has been evaluated to meet general RF exposure requirement. The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types Professlonal Diagnostic Tool with model Creader Professional 123i, Creader Professional 129i, Millennium Master (FCC ID: XUJCRP12X) has also been tested against this SAR limit. The highest reported SAR values for body-worn is 0.94W/kg. This device was tested for typical body-worn operations with the back of the handset kept 0mm from the body. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.