Version: V1.00.000

Revised date: 2016-07-19

Copyright Information

Trademark Information

Important Safety Precautions

Important: To avoid personal injury, property damage, or accidental damage to the product, read all of the information in this section before using the product.

- Never collide, throw, or puncture X-431 PADIV, and avoid falling, extruding and bending it.
- Do not insert foreign objects into or place heavy objects on your device. Sensitive components inside might cause damage.
- Do not use X-431 PADIV in exceptionally cold or hot, dusty, damp or dry environments.
- In places using X-431 PADIV may cause interference or generate a potential risk, please turn it off.
- X-431 PADIV is a sealed unit. There are no end-user serviceable parts inside. All internal repairs must be done by an authorized repair facility or qualified technician. If there is any inquiry, please contact the dealer.
- Never place X-431 PADIV into apparatus with strong electromagnetic field.
- Keep X-431 PADIV far away from magnetic devices because its radiations can damage the screen and erase the data stored on X-431 PADIV.
- DANGER: Do not attempt to replace the internal rechargeable lithium battery. Contact the dealer for factory replacement.
- CAUTION: Please use the included battery and charger. Risk of explosion if the battery is replaced with an incorrect type.
- Do not disconnect power abruptly when X-431 PADIV is being formatted or in process of uploading or downloading. Or else it may result in program error.
- Do not delete unknown files or change the name of files or directories that were not created by you, otherwise your X-431 PADIV software might fail to work.
- Be aware that accessing network resources can leave your X-431 PADIV vulnerable to computer viruses, hackers, spyware, and other malicious activities that might damage your device, software or data. It is your responsibility to ensure that you have adequate protection in the forms of firewalls, antivirus software, and anti-spyware software and keep such software up to date.

Precautions on Using X-431 PADIV

Before using this test equipment, please read the following safety information carefully.

- Always perform automotive testing in a safe environment.
- If the diagnostic connector remains unused for a long period of time, it is suggested to unplug the connector from vehicle's DLC to conserve battery power.
- Wear an ANSI-approved eye shield when testing or repairing vehicles.
- The vehicle shall be tested in a well ventilated work area, as engines produce various poisonous compounds (hydrocarbon, carbon monoxide, nitrogen oxides, etc.)
- Do not connect or disconnect any test equipment while the ignition is on or the engine is running.
- Put blocks in front of the drive wheels and never leave the vehicle unattended while testing.
- Keep the test equipment dry, clean, free from oil, water or grease. Use a mild detergent on a clean cloth to clear the outside of the equipment as necessary.
- Do not drive the vehicle and operate the test equipment at the same time. Any distraction may cause an accident.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Before starting the engine, put the gear lever in the Neutral position (for manual transmission) or in the Park (for automatic transmission) position to avoid injury.
- To avoid damaging the test equipment or generating false data, please make sure the vehicle battery is fully charged and the connection to the vehicle DLC (Data Link Connector) is clear and secure.
- Automotive batteries contain sulfuric acid that is harmful to skin. In operation, direct contact with the automotive batteries should be avoided. Keep the ignition sources away from the battery at all times.

Precautions on Operating Vehicle's ECU

- Do not disconnect battery or any wiring cables in the vehicle when the ignition switch is on, as this could avoid damage to the sensors or the ECU.
- Do not place any magnetic objects near the ECU. Disconnect the power supply to the ECU before performing any welding operations on the vehicle.
- Use extreme caution when performing any operations near the ECU or sensors. Ground yourself when you disassemble PROM, otherwise ECU and sensors can be damaged by static electricity.

- When reconnecting the ECU harness connector, be sure it is attached firmly, otherwise electronic elements, such as ICs inside the ECU, can be damaged.

FCC Warning

Note: 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.

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.

FCC Radiation Exposure Statement

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

TABLE OF CONTENTS

1 Introduction

1.1 Product Profile

X-431 PADIV is an evolutionary smart solution for heavy-duty truck diagnosis based on the multitask-capable Android operating system. Using the powerful 8-core 2.0GHz processor and a 12 inch HD capacitive touch screen, combined with the best possible coverage of OEM-level diagnostics, X-431 PADIV delivers diagnostic functionality which helps to diagnose vehicle issues more efficiently.

X-431 PADIV has functions of vehicle diagnosis (including, and remote diagnosis), special functions (maintenance & reset), repair community, and supports all kinds of USB add-on modules, such as oscilloscope, ignition, sensor, multimeter, and battery test etc.

It features wired network, meanwhile it also supports Wi-Fi communication, which enables you to surf the Internet, update online, perform remote diagnosis and access the repair community anytime and anywhere, getting your repair job faster and easier.

1.2 Features

1. Diagnose:
- VINscan quick test and manual diagnosis are available. Diagnosis functions include: Read DTCs, Clear DTCs, Read Data Stream, Special Functions etc.
- Remote diagnosis: This option aims to help repair shops or technicians launch instant messaging and remote diagnosis, making the repair job getting fixed faster.
- Repair community: A professional platform for technicians to publish vehicle issues, share repair skills and technical exchange.
- Special function: all kinds of maintenance and reset functions can be done.
- One-click Update: Lets you update your diagnostic software online.
- Diagnostic feedback: Enables you to submit the vehicle issue to us for analysis and troubleshooting.
- VCI module comes loaded with a LED screen, allowing you to easily identify the working status of the VCI module and X-431 PADIV tablet.
2. Wi-Fi connection and Ethernet connection are supported.
3. HDMI interface is provided for connecting the external projectors or displays.

4. Equipped with USB port for connecting USB devices and other add-on modules such as Scopebox, Sensorbox and Batterybox.
5. Web browser: Users can make online search and visit any website.

1.3 Technical Specifications

A. X-431 PADIV Tablet

Item	Description
Operating system	Android 4.1
CPU	8-core Processor, 2.0GHz
Display	10.1 inch touch screen with 1920 x 1200P resolution
Memory	2GB
Hard disk	64GB (Expandable to 128GB via TF card)
Connectivity	• Ethernet/Wi-Fi (802.11 b/g/n) • USB: 2.0 • Bluetooth 2.0
Camera	2.0MP front-facing camera + 8.0MP rear-facing camera
Sensor	Gravity Accelerometer
Audio Input/Output	• Microphone • Speakers • 3.5mm stereo headset jack
Battery	15000 mAh lithium-polymer battery
Operating Temp.	-10℃ ~ 55℃(14 ~131℉)
Storage Temp.	-20℃ ~ 70℃(-4 ~158℉)

B. VCI Module

Item	Descriptions
LED Screen	4" with a resolution of 320 x 480 pixels
Working Voltage	DC 9V ~ 18V
Power Consumption	< 2W

Communication via	Bluetooth(with an effective distance of 30m), USB cable
Dimension(L*W*H)	204 x 110mm x 45mm
Working Temp.	-10℃ ~ 55℃(14 ~131℉)
Storage Temp.	-20℃ ~ 70℃(-4 ~158℉)
Relative Humidity	20% ~ 90%

2 Knowledge of X-431 PADIV

X-431 PADIV is mainly composed of the X-431 PADIV tablet and a VCI (Vehicle Communication Interface) module.

• X-431 PADIV tablet – the central processor and monitor for the system (See Chapter "2.1").

Fig. 2-1 X-431 PADIV tablet

• VCI module – the device for accessing vehicle data (See Chapter "2.2").

Fig. 2-2 VCI module

2.1 X-431 PADIV Tablet

2.1.1 Front & Rear Views

Fig. 2-3

1	**LCD Touch Screen**	
2	**Front Camera**	
3	**Rear Camera**	
4	**Air Intake Vent**	
5	**Camera Flash**	
6	**Adjustable kickstand**	Flip out it to any angle and work comfortable at your desk, or hang it on automotive part.

2.1.2 Top View

Fig. 2-4

1	**USB1 Port**	Only reserved for Micro USB cable.
2	**USB2 Port**	To connect USB add-on modules. While extending X-431 PADIV function, it is to be connected to Scopebox, Sensorbox or Batterybox.
3	**DC IN Port**	To connect the included power adaptor.
4	**Reset Switch**	
5	**VOLUME +/- Key**	To adjust the volume.
6	**Ethernet port**	To connect Ethernet cable for wired network.
7	**SIM Card Slot**	(Only reserved for dedicated SIM card.)
8	**Earphone Jack**	
9	**POWER/Screen lock Key**	In Off mode, press it to turn on X-431 PADIV; In On mode: • Press it to activate the LCD if the LCD is off. • Press it to turn off the LCD if the LCD lights up.
10	**TF Card Slot**	To insert a TF card for memory extension.
11	**HDMI Port**	To connect an external projector or monitor with

HDMI interface.

2.2 VCI Module

Fig. 2-5 VCI module

1	**DC-IN power jack**	For connecting the power adaptor or cigarette lighter/battery clamps cable to obtain power.
2	**LED screen**	Indicates the working status of the VCI module and X-431 PADIV tablet. There are total 5 lines on the screen. It is defined as follows: Line 1(Vehicle connection): If the module is not properly connected to the vehicle's DLC, "✓" will change into "×". Line 2: the serial number of the VCI module. Line 3: displays the version number. Line 4(Bluetooth status): If the module is connected to the X-431 PADIV via USB cable, "✓" will change into "×".

		Line 5(USB connection): If the VCI module is in Bluetooth mode, "✓" will change into "×".
3	**USB port**	For connecting it to the X-431 PADIV tablet to perform vehicle diagnosis.
4	**Diagnostic socket**	For connecting the diagnostic cable.

2.3 Package List

Common accessories for each X-431 PAD IV are same, but for different destinations, the accessories of X-431 PAD IV may vary. Please consult from the local agency or check the packing list supplied with X-431 PAD IV together.

➤ X-431 PADIV tablet ……………………………………..………………….x 1

➤ VCI module…………………………………………………………….……….x 1

➤ Diagnostic cable……………………….……………………………...……….x 1

➤ Cigarette lighter cable…………………………………………...……….x 1

➤ Battery clamps cable……………………………………………...……….x 1

➤ Power adaptor (for X-431 PADIV tablet)………………………..……….x 1

➤ Power adaptor (for VCI module) ………………………….…...……….x 1

➤ USB cable……………………………………………………...……….x 1

➤ Password envelope…………………………………………...……….x 1

3 Preparations

3.1 Charging X-431 PADIV

Choose the included power adaptor to charge the X-431 PADIV tablet: Connect one end of the power adaptor to DC IN port of the tablet, and the other end to the AC outlet. If ![icon] appears on the screen, it indicates it is being charged. If the logo changes into ![icon], it indicates that the battery is fully charged. Disconnect the power adaptor from the AC outlet.

3.2 Using Battery

- If the battery remains unused for a long period of time or the battery is completely discharged, it is normal that the tool will not power on while being charged. Please charge it for a period of 5 minutes and then turn it on.
- <u>Please use the included power adaptor to charge your tool. No responsibility can be assumed for any damage or loss caused as a result of using power adaptors other than the one supplied.</u>
- While X-431 PADIV has low battery, a beep will sound. If it is very low, X-431 PADIV will be switched off automatically.

3.3 Power On/Off

3.3.1 Power on

Press [POWER] to turn the tool on.

Note: If it is the first time you have used this tool or the tool remains idle for a long period of time, the tool could fail to turn on. Please charge the tool for a minimum of 5 minutes and attempt to turn on again.

3.3.2 Power off

Press [POWER] for 3 seconds, an option menu will pop up on the screen. Tap "Power off" to turn the tool off.

To perform a forced shutdown, press [POWER] for more than 8 seconds until the screen goes dark.

3.4 Tips On Finger Operations

	Single-tap: To select a item or launch a program.
	Double-tap: To zoom in so that the text on a webpage appears in a column that fits your device's screen.
	Long press: Tap and hold on the current interface or area until a contextual menu pops up on the screen, and then release it.
	Slide: To jump to different pages.
	Drag: Tap the desktop icon and drop it to other location.
	Spread apart/pinch together: To zoom in manually, place two fingers on the screen and then spread them apart. To zoom out, place two fingers apart on the screen and then pinch them together.

3.5 Lock & Unlock Screen

Many screen lock modes are available on X-431 PADIV.

Note: You are recommended to set screen lock as "None" since X-431 PADIV is a frequently used diagnostic tool.

3.5.1 Lock the screen

- When it is ON, press [POWER] once to lock the screen;
- The system will lock the screen automatically after X-431 PADIV remains idle over the preset standby time.

3.5.2 Unlock the screen

Press [POWER] to activate the screen and drag the lock to "Unlock" position.

Note: If you define as unlock using the pattern, you have to draw the right target pattern to unlock it.

3.6 Screen Layout

On-screen keys and status bar are as follows:

1	Tap ▨ to visit the official website.
2	Tap ▨ to capture the current screen and all captured screenshots are stored in the Screenshots folder.
3	▨ shows whether the diagnostic connector is connected properly or not.
4	Tap ▨ to jump to the Android System's home screen.
5	Tap ▨ to display a list of applications that are currently running or recently used. To open an application, tap it. To remove an application, swipe it upwards.
6	Tap ▨ to jump to the Android System's home screen.
7	Tap ▨ to return to the previous screen or exit the application.

3.7 Notification Panel

The notification bar is used to display some activities, such as new message, to do list and running tasks. You can also open the notification bar to view the reminder or activity notification.

3.8 Adjust Brightness

🍀 Tips: Reducing the brightness of the screen is helpful to save the power of X-431 PADIV.

1. On HOME screen, tap Settings > Display > Brightness level.
2. Drag the slider to adjust it.

3.9 Set Standby Time

If no activities are made within the defined standby period, the screen will be locked automatically and the system enters sleep mode to save power.

1. On HOME screen, tap Settings > Display > Sleep.
2. Choose the desired sleep time.

3.10 Set Screen lock

This function is designed to lock the screen and buttons to avoid accidental operations while X-431 PADIV keeps unused.

1. On HOME screen, tap Settings > Security > Screen lock.
2. Choose the desired screen lock mode and follow the on-screen instructions to finish your setting.

Note: You are recommended to set screen lock as "None" since X-431 PADIV is a frequently used diagnostic tool.

3.11 Network Setting

There are 2 kinds of network connection available on X-431 PADIV.

3.11.1 Wired Connection

1. Connect the Ethernet cable to X-431 PADIV directly.
2. On the home screen, tap "Settings" --> "More" --> "Ethernet" and then check the box "Use the Ethernet".

3.11.2 Connect to a Wi-Fi network

X-431 PADIV has built-in Wi-Fi that can be used to get online. Once you're online, you can register your X-431 PADIV, browse the Internet, get apps and send email on your network.

Note: Once WLAN is set as ON, X-431 PADIV will consume more power. While WLAN keeps unused, please turn it off to conserve battery power.

1. On home screen, tap Settings > WLAN.
2. Tap or slide the Wi-Fi switch to ON, X-431 PADIV starts searching all available wireless LANs.
3. Choose the desired Wi-Fi access point / network,
   • 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).

When this tool is in range, it will connect to the previously linked network automatically.

4 Initial Use

4.1 Getting Started

For new users, please follow the operation chart shown in Fig. 4-1 to start using X-431 PADIV.
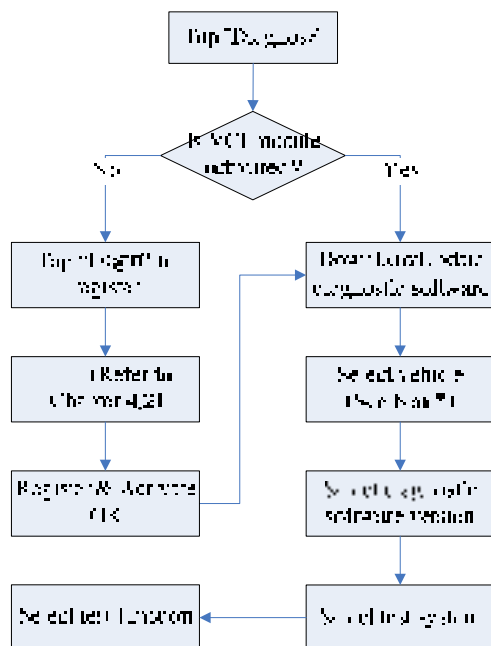
Fig. 4-1

Note*: If "VIN Scan" function is performed, this step shall not apply.

4.2 Register & Download Diagnostic Software

4.2.1 User registration

On the home screen, tap the application icon to launch it, and then tap "Login" to enter the login interface of diagnosis software.

Fig. 4-2

1. If you are a new user, tap "New Registration" to enter registration page. See Fig. 4-3.

Fig. 4-3

In Fig. 4-3, fill in the information in each field.

Note: To obtain better service and more functions, please enter the real information.

After inputting, tap "Register", a screen similar to the following will appear:

Fig. 4-4

Tap "Shop Logo" to upload a picture from the local storage or launch the camera to take a photo. After inputting, tap "Save". All the information about your workshop will be appended to the diagnostic report once a diagnostic session is generated.

In Fig. 4-4, input the Serial Number and Activation Code, which can be found in the password envelope.
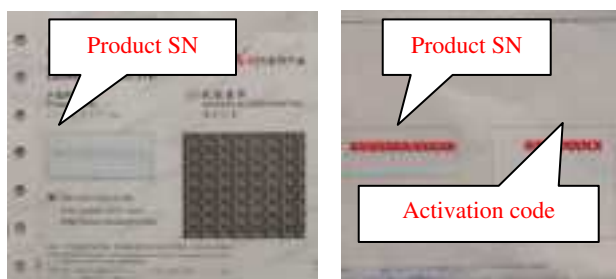
Fig. 4-5

Note: To exit and activate it later, tap "Skip". In this case, you can activate your connector by tapping "Activate Connector" in "Profile". For details, please refer to Chapter 4.8.2 Activate Connector.

Tap "Activate" to finish your registration. See Fig. 4-6.

Fig. 4-6

To download the diagnostic software, tap "Yes" to enter the download page. Tap "No" to download and install it later.

On download page, tap "Update" to start downloading. To pause downloading, tap "Stop". To resume it, tap "Continue". Once download is complete, the system will install the software package automatically.

Notes:

- In process of download, please make sure the tablet has a strong Wi-Fi signal. It may take several minutes to finish it, please be patient to wait.
- To use the VINScan function, you have to download the corresponding diagnostic software and AutoSearch file.

2. If you have registered to be a member, input your name and password, and then tap the "Login" button to enter the main menu screen directly.

Note: The X-431 PADIV has an auto-save function. Once the username and password are correctly entered, the system will automatically store it. Next time you login the system, you will not be asked to input the account manually.

3. If you forgot the password, tap "Retrieve password" to retrieve it: Input the product S/N and tap "Get verification code by email". Enter the validation code that the system has sent to your Email and tap "Retrieve Password" to reset your new password.

4.2.2 Function menu

Swipe the screen from the right to display the function menu. It mainly includes the following items:

Fig. 4-7

Name	Description
HD_OBD	Provides a quick way to check for DTCs, isolate the cause of the illuminated Malfunction Indicator Lamp (MIL), check monitor status, verify repairs and perform a lot of emission-related services.
Diagnose	Configures X-431 PADIV to operate as a diagnostic tool.
Software Upgrade	To update the diagnostic software and App.
Special Functions	To perform some repair and maintenance items, including electronic throttle position reset, ABS bleeding, oil lamp reset etc.
Vehicle Scan	This module enables you to quickly access to the test system through scanning the vehicle identification number (VIN), without necessity of manually selecting the vehicle model.
Settings	Allows you to manage personal information and configure system settings.

Remote Diagnosis	This option aims to help repair shops or technicians to get the repair job fixed faster.
Community	A repair platform specially designed for technicians to publish vehicle issues and exchange the repair skills.
Diagnostic Feedback	To feed back the recent 10 diagnostic logs to us for issue analysis.
Toolbox	Includes browser, oscilloscope, sensor, multimeter, battery, etc.
My Report	To view and manage all diagnostic reports.

4.3 Diagnosis Methods

X-431 PADIV tablet supports 2 communication methods with the VCI module: wireless Bluetooth and USB cable. You may choose any one of the methods to diagnose a vehicle.
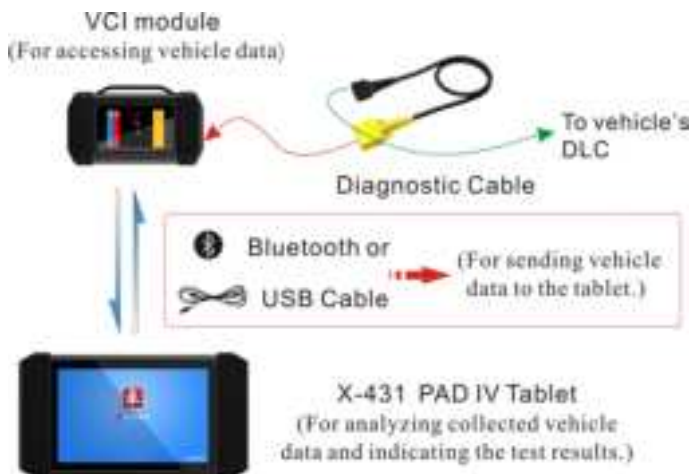
Fig. 4-8

Notes:

• While using the diagnosis via Bluetooth, the VCI module should be paired with the

X-431 PADIV tablet. If no Bluetooth setting is done before diagnostic software is launched, you can also configure it while using the software.

- To obtain stable communication, you are strongly recommended to perform the vehicle diagnosis via USB cable. In this case, the USB cable is required to connect the VCI module and the X-431 PADIV tablet.

4.4 Connections

4.4.1 Preparation

Normal testing conditions

- Turn on the vehicle power supply.
- The vehicle battery voltage range should be 11V~14V or 18V~30V.
- Throttle should be in a closed position.

4.4.2 DLC location

The DLC (Data Link Connector) is typically a connector where diagnostic code readers interface with the vehicle's on-board computer. It is generally located in the driver's cab. If the DLC cannot be found, refer to the automotive service manual for the location.

4.4.3 Vehicle connection

A. Follow the steps mentioned below to connect OBD II vehicle: Locate vehicle's DLC socket. Plug the diagnostic cable into the vehicle's DLC socket.

B. For non-OBDII vehicle, proceed as follows:

1. Locate vehicle's DLC and select the corresponding non-16pin connector.
2. Plug the non-16pin end of the connector into the DLC socket, and the other end to the diagnostic cable.
3. Connect the other end of the diagnostic cable to the diagnostic socket of the VCI module, and then tighten the captive screws.
4. To supply power to the VCI module, choose any one of the following:

   A. Power adaptor: Connect one end of the power adaptor to the DC-IN port of the VCI module, and the other end to the AC outlet.

Fig. 4-9

B. Cigarette Lighter Cable: Connect one end of the cigarette lighter cable to vehicle's cigarette lighter receptacle, and the other end to the DC-IN port of the VCI module.
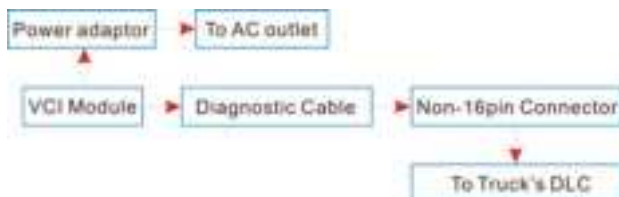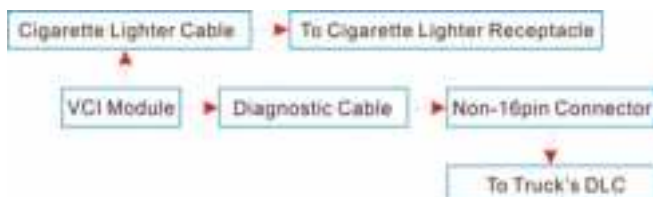

Fig. 4-10

C. Battery Clamps Cable: Connect one end of the battery clamps cable to vehicle's battery, and the other end to DC-IN port of the VCI module.
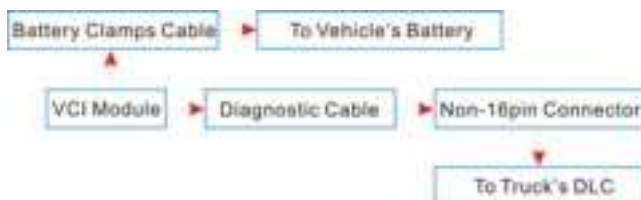
Fig. 4-11

5 Diagnosis & Reset

5.1 Start Diagnostics

2 approaches are provided for you to access the vehicle diagnostic software. Choose any one of the following ways:

5.1.1 Quick VINScan

VINSCAN enables the technician to quickly detect vehicles, scan all the diagnosable ECUs on every vehicle and run diagnostics on the tested system.

Tap "Vehicle Scan" on the function menu to enter the desired VIN scan mode.

Auto VIN scan (OBD VIN) and manual input (INPUT VIN) are available.

Fig. 5-1

OBD VIN: In this mode, the VCI module should be properly connected to the vehicle's DLC firstly, and then a Bluetooth communication should be established between X-431 PADIV and the vehicle.

Tap "OBD VIN" to scan the vehicle identification number of the vehicle. Once scanning is complete and successful, X-431 PADIV will enter the diagnostic software of the vehicle.

Note: Before using this function, the corresponding diagnostic software and Auto search file need to be downloaded on your tool first while downloading the diagnostic software.

INPUT VIN: In this mode, you need to input the VIN manually. 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.

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.

Tap "INPUT VIN" and a screen similar to Fig. 4-12 will appear:

Fig. 5-2

Input the VIN, and tap "Confirm" to directly enter the diagnostic software of the vehicle.

5.1.2 Manual diagnosis

In this mode, you need to make a series of selection manually, such as vehicle model, software version, test system and test function etc.

For new users, you are suggested to use DEMO to get familiar with the diagnosis procedures of the vehicle. Since the operation is menu-driven and different vehicles have different diagnostic menus, here we take Demo as an example to demonstrate how to diagnose a vehicle.

1. Tap "Diagnose" to enter the vehicle selection page.

Fig. 5-3

2. Tap "DEMO" to advance to the diagnostic version selection page.

Fig. 5-4

3. Tap "DEMO" to jump to the DEMO system selection screen. (Note: No Bluetooth connection is required for DEMO program.)

Fig. 5-5

4. Tap "Engine", the system will jump to the function menu.

Fig. 5-6

A. Read DTC

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

Tap "Read DTC" in function menu, the screen will display the diagnostic result.
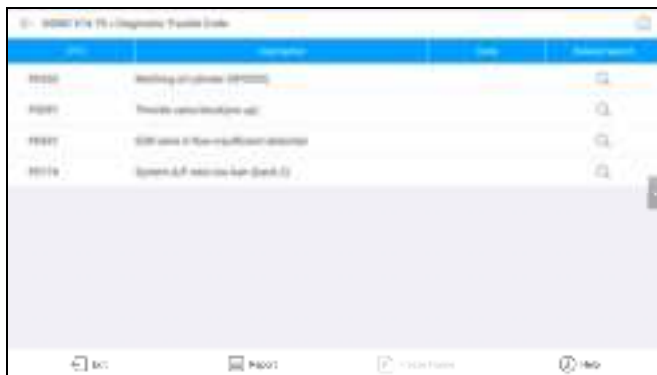
Fig. 5-7

On-screen Buttons:

Exit: Tap it to exit the current diagnostic software.

Search: Highlight a certain DTC item, and then tap it to search the definition of the selected DTC online.

Report: To save the current data in text format. All reports are saved under the tab "Diagnostic Report" in "My Report". For details, please refer to Chapter 10.

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 it to view the help information.

B. 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.

Tap "Clear Trouble Code" in function menu, the system will automatically delete the currently existing trouble code.

🔷 **Note:** The trouble code will not disappear until the trouble was completely cleared.

C. Read data stream

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

Tap "Read Data Stream" in function menu, the system will display data stream items.

Fig. 5-8

On-screen Buttons:

Select Page: Tap it to select all items of the current page.

Unselect: Tap it to deselect all data stream items.

Exit: Tap it to exit the current diagnostic software.

Print: Tap it to print the current screen. To perform printing, you need to purchase a Wi-Fi printer manufactured by LAUNCH separately.

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

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

Fig. 5-9

On-screen Buttons:

Exit: Tap it to exit the current diagnostic software.

Graph: After selecting, tap it to view the waveform. There are 3 types of display modes available for data viewing, allowing you to view various types of parameters in the most suitable way.

✓ Graph – displays the parameters in waveform graphs. Refer to Fig. 5-10.
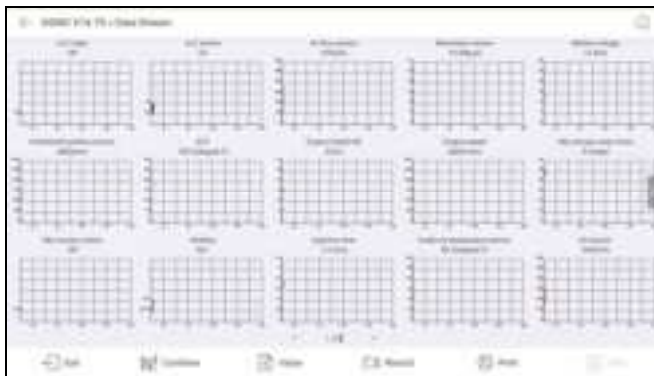
Fig. 5-10

✓ <u>Value</u> – this is the default mode which displays the parameters in texts and shows in list format.

✓ <u>Combine</u> – this option is mostly used in graph merge status for data comparison. In this case, different items are marked in different colors. See Fig. 5-11.
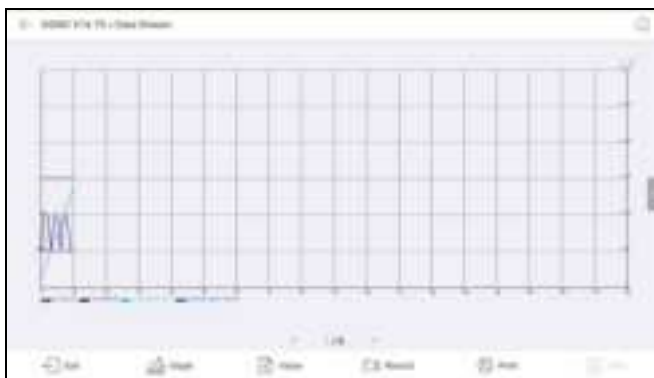
Fig. 5-11

Record: Tap to start recording diagnostic data for future playback and analysis. 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). The file is stored in "My Report". For details

on playback operations, please refer to Chapter 10.

To stop reading the data stream, tap ⬚ before the recording progress bar.

Print: Tap to print the content of current screen. An additional Wi-Fi printer is required.

Help: Tap to view the help information.

If more than one page of data stream items is displayed, an icon similar to 1/4 appears. Swipe the screen from right to left to switch to the next page.

D. Special function

This option allows you to detect whether the system parameters are normal or not. It mainly includes: Injector test, fuel pump test, purge control solenoid and so on.

5.1.3 How to view diagnostic history?

Generally once a vehicle diagnosis is performed, X-431 PADIV will record the every details of diagnostic process. The History function provides a quick access to the tested vehicles and users can resume from the last operation, without the necessity of starting from scratch.

1. Tap "History" tab on the diagnose main menu screen, all diagnostic records will be listed on the screen in date sequence.

Fig. 5-12

Where the box with light blue background indicates that no DTCs are found on this vehicle and the light yellow box indicates that the vehicle has DTCs.

2. Tap a certain box to enter the history records.

3. Tap "Restore" to directly jump to the system selection screen.
4. Tap the desired system to enter and follow the instructions on the screen to proceed.

5.2 Special (Reset) Function

In addition to amazing & powerful diagnostic function, X-431 PADIV also features various service functions. The most commonly performed service functions contain:

• Oil Reset Service
• Steering Angle Calibration
• Electronic Parking Brake Reset
• Battery Register / Battery Maintenance
• ABS Bleeding
• Electronic Throttle Position Reset / Learn
• Diesel Particulate Filter (DPF) Regeneration
• Tire Pressure Monitor System Reset

<u>Oil Reset Service</u>

This function can be performed in the following cases:

1. If the service lamp is on, you must provide service for the car. After service, you need to reset the driving mileage or driving time so that the service lamp turns off and the system enables the new service cycle.
2. After changing engine oil or electric appliances that monitor oil life, you need to reset the service lamp.

<u>Steering Angle Calibration</u>

1. To reset the steering angle, first find the relative zero point position for the car to drive in straight line. Taking this position as reference, the ECU can calculate the accurate angle for left and right steering.
2. After replacing the steering angle position sensor, replacing steering mechanical parts (such as steering gearbox, steering column, end tie rod, steering knuckle), performing four-wheel alignment, or recovering car body, you must reset the steering angle.

<u>Electronic Parking Brake Reset</u>

1. If the brake pad wears the brake pad sense line, the brake pad sense line sends a signal sense line to the on-board computer to replace the brake pad.

After replacing the brake pad, you must reset the brake pad. Otherwise, the car alarms.

2. Reset must be performed in the following cases:

   a) The brake pad and brake pad wear sensor are replaced.
   b) The brake pad indicator lamp is on.
   c) The brake pad sensor circuit is short, which is recovered.
   d) The servo motor is replaced.

Electronic Throttle Position Reset/Learn

This function enables you to initialize the throttle actuators so that the "learned" values stored on ECU are returned to the default state. Doing so can accurately regulate throttle (or idle engine) operations to control the amount of air intake.

Throttle matching must be performed in the following cases:

a) The ECU is replaced and the ECU does not yet store throttle working features.

b) The ECU is disconnected from power and the ECU memory is lost.

c) The throttle assembly is replaced.

d) The intake pipe is replaced or removed, which affects idle speed control by ECU and throttle body.

e) The throttle is cleaned. Although the idle throttle potentiometer features remain unchanged, with the same throttle opening, the air inflow has changed and idle speed control features have changed.

Battery Register/Battery Maintenance

This function enables you to perform a resetting operation on the monitoring unit of vehicle battery, in which the original low battery fault information will be cleared and battery matching will be done.

Battery matching must be performed in the following cases:

a) Main battery is replaced. Battery matching must be performed to clear original low battery information and prevent the related control module from detecting false information. If the related control module detects false information, it will invalidate some electric auxiliary functions, such as automatic start & stop function, sunroof without one-key trigger function, power window without automatic function.

b) Battery monitoring sensor. Battery matching is performed to re-match the control module and motoring sensor to detect battery power usage more accurately, which can avoid an error message displaying on the instrument panel.

ABS Bleeding

This function allows you to perform various bi-directional tests to check the operating conditions of Anti-lock Braking System (ABS).

1. When the ABS contains air, the ABS bleeding function must be performed to bleed the brake system to restore ABS brake sensitivity.
2. If the ABS computer, ABS pump, brake master cylinder, brake cylinder, brake line, or brake fluid is replaced, the ABS bleeding function must be performed to bleed the ABS.

Tire Pressure Monitor System Reset

1. After the tire pressure MIL turns on and maintenance is performed, the tire pressure resetting function must be performed to reset tire pressure and turn off the tire pressure MIL.
2. Tire pressure resetting must be performed after maintenance is performed in the following cases: tire pressure is too low, tire leaks, tire pressure monitoring device is replaced or installed, tire is replaced, tire pressure sensor is damaged, and tire is replaced for the car with tire pressure monitoring function.

Diesel Particulate Filter (DPF) Regeneration

DPF regeneration is used to clear PM (Particulate Matter) from the DPF filter through continuous combustion oxidation mode (such as high temperature heating combustion, fuel additive or catalyst reduce PM ignition combustion) to stabilize the filter performance.

DPF regeneration may be performed in the following cases:

a) The exhaust back pressure sensor is replaced.

b) The PM trap is removed or replaced.

c) The fuel additive nozzle is removed or replaced.

d) The catalytic oxidizer is removed or replaced.

e) The DPF regeneration MIL is on and maintenance is performed.

f) The DPF regeneration control module is replaced.

6 Software Update

If you did not download the software in process of product registration or a pop-up message prompting you that some new software can be updated, you may use this option to download it or keep it synchronized with the latest version.

Tap "Software Upgrade" on the function menu to enter the update center.

Fig. 6-1

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 Remote Diagnosis

This option aims to help repair shops or technicians launch instant messaging and remote diagnosis, making the repair job getting fixed faster.

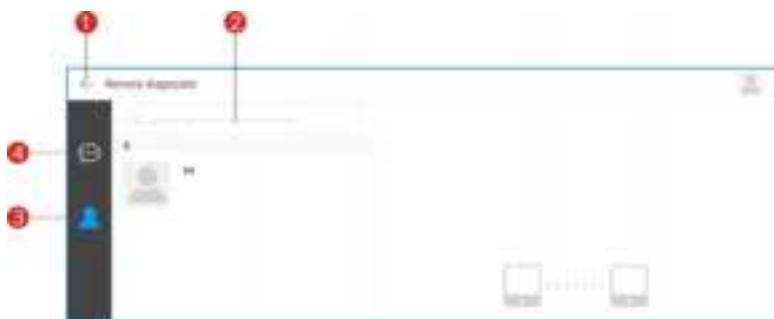Tap "Remote Diagnosis" to enter, the screen appears blank by default.

7.1 Interface Layout

Fig. 7-1

1	Exit button	Tap it to navigate to the previous screen.
2	Search bar	Directly input the username of the X-431 PADIV to start searching, and then tap the desired one to add it into your friend list.
3	Contact tab	Tap to enter the friend list.
4	Message tab	Once an incoming message reaches, a red dot will appear on the upper right corner of the tab.

7.2 Add Friends

In the search bar, input the partner's username and tap "Search" button next to the search bar to starts searching from Launch's golo business database.

The partner must be the users who have registered their Launch's diagnostic tools. They may be the following:

- Workshop
- Technician
- Golo users

Once the result matches the keyword, a screen similar to the following will appear:
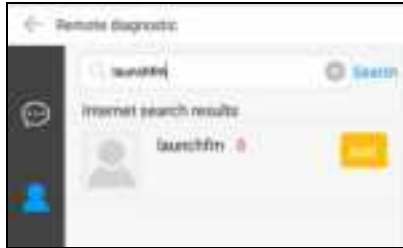

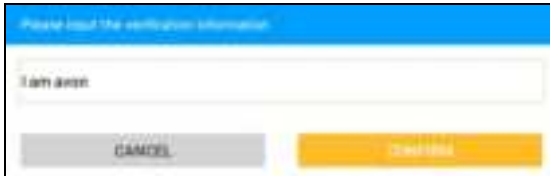Fig. 7-2

Tap "Add", a dialog box pops up:

Fig. 7-3

Tap "CONFIRM" to send your request.

Once the partner receives the request, a beep will sound. Tap the "Message" tab, the screen displays:

Fig. 7-4

Tap "Agree" to confirm and his/her name will appear in the friend list.

7.3 Start Instant Messaging

Note: The I/M(Instant Messaging) function is open to all users who had Launch's diagnostic tool equipped with this module. But for remote diagnosis, it only can be launched between two diagnostic tools that have the same product configurations.

After adding your friend, tap the profile logo to enter a screen similar to the following:

Fig. 7-5

Tap "Send Message" or tap the desired username directly from the friend list to enter the instant messaging interface.
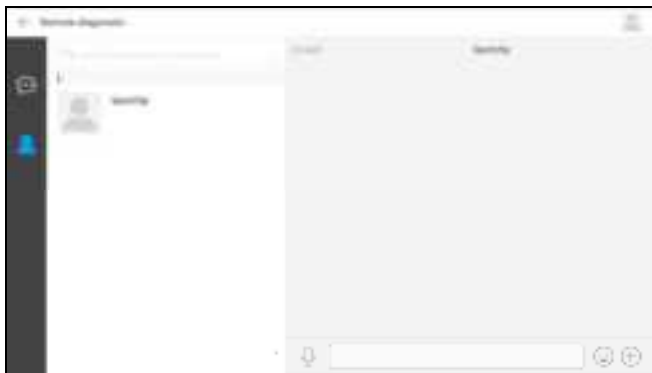

Fig. 7-6

Tap the input field and use the on-screen keyboard to enter the text message,

and then tap "Send" to send it; tap ![icon] to send the voice message; tap ![icon] to choose to send files, pictures etc.

7.4 Launch Remote Diagnosis

Note: Before performing this operation, please make sure the following no matter which side sends the remote request:

• Turn on the vehicle power supply.
• Throttle should be in a closed position.
• The VCI module should be properly connected to the vehicle's DLC and a successful communication is required.
• The same diagnostic software is installed on both sides.

Tap ![icon] to display more options:

Fig. 7-7

Tap "Remote Diangostic", a pull-down menu including the following options appear:

Actions	Results
Send remote diagnostic reservation	Tap it and input the reservation title of the remote diagnosis, and then tap "Confirm" to send.
Invite remote diagnostic assistant	If you need support, just use this option to invite a technician to perform a remote control on your tool.

	Dual-axis confirm request to be-tested car ↓ Upload my vehicle diagnostic software ↓ Wait for partner's confirmation ↓ Start connecting after request confirmed ↓ Start Diagnosis ↓ Generate diagnostic report
Request control remote device	Request to control the partner's device remotely to help him diagnose the vehicle. Tap "Request control remote device" ↓ Wait for partner's confirmation ↓ Start connecting after request confirmed ↓ Start Diagnosis ↓ Generate diagnostic report
Cancel	To cancel this operation.

8 Community

This function is defined as a professional technician platform for technicians to publish vehicle issues, share repair skills and technical exchange.

8.1 Diagnostic Card

This option is used to view all diagnostic cards on this repair community.
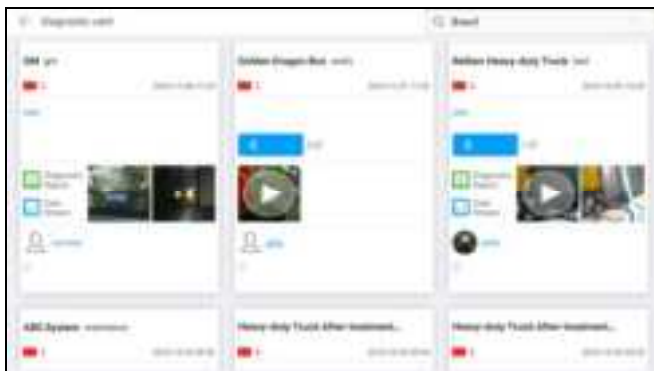
Fig. 8-1

The following operations can be done:

Tap and input the vehicle model name to search for all available diagnostic cards related to this model.

Tap to view all comments or post your comment.

Tap to listen to the recording.

Tap to open the diagnostic report.

Tap to review the recorded data stream.

Tap the PALY button to play back the video file.

Tap a picture to browse it.

Tap to view the detailed information about the technician.

8.2 My Diagnostic Card

This option allows you to manage all diagnostic cards that you posted or replied on this repair community.

8.3 Publish Diagnostic Card

This item lets you start a new vehicle issue post to seek for a solution or share repair skills/operations with other technicians.

Fig. 8-2

Tap "Experience" or "Question" tab to open it. Input the subject in the Theme field and tap ">" to choose the desired vehicle brand.

Add the detailed description in the blank column. To add attachment, tap the desired attachment file type and then follow the screen prompts to upload.

Tap and hold the [icon] button to record the voice message and release the button to upload it.

Tap the "Preview" button to preview the post.

Tap the "Publish" button to post the topic on the community forum.

9 Settings

This function allows users to manage personal information and VCI module.

9.1 Profile

Use this item to view and configure personal information.

9.2 Connector Setting

Use this item to view and configure personal information.

9.2.1 My connector

This option is used to manage all your activated VCI modules.

If several diagnostic VCI modules are activated on this tool, a list of VCI modules will be displayed on the screen. Once you choose the module that belongs to other account, you have to log out, and then input the right account to continue.

9.2.2 Activate connector

It is used to activate your diagnostic connector.

Input the Serial Number and Activation Code, and then tap "Activate" to activate the connector.

For details on how to obtain Serial Number and Activation Code, tap the link below to get help.

9.2.3 Firmware fix

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

9.3 Settings

It enables you to make some application settings and view software version information etc.

9.3.1 Units of measurement

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

9.3.2 Print information

This option lets you define your print information. It mainly includes Workshop, Address, Telephone, Fax and License Plate. After inputting, tap "Save".

9.3.3 Launch wireless printer connection

This option is designed to establish a wireless connection between X-431 PADIV and the Wi-Fi printer (sold separately) while performing printing operations.

Follow the steps below to connect the printer.

1. Tap "Launch Wireless Printer Connection";

Fig. 9-1

A. If it is the first time you have operated this printer, please proceed the following:

2. For initial use, you are suggested to reset the printer: Press and hold [MODE] & [FEED] for 8 seconds, the following resetting command will be printed out:

   at + default = 1

   ok

   at + reboot = 1

   rebooting...

3. Tap "Reset" to configure Wi-Fi printer.

   Step 1: Connect the printer:

   Tap "Scan" to select the desired printer hotspot named with X-431PRINTER-XXXX (XXXX stands for 4 characters), and then tap

"Connect" to enter Step 2.

Fig. 9-2

Step 2: Join the Wi-Fi printer into LAN:

Tap "Scan" to select the desired local Wi-Fi network from the list, and type in the security password (If it is an open network, password is not required), and then tap "Confirm".

Fig. 9-3

4. Once the Wi-Fi network of the printer is connected and the printer is found, tap "Printing test" to test the printing.

Fig. 9-4

Now you can use the Wi-Fi printer to print!

If the printer is not found, please reset the printer to default factory settings (refer to Step 2 for details) and check whether the current device and the printer are on the same LAN.

B. If you have configured the Wi-Fi printer to the LAN:

2. Tap "Connect to Printer":

a). If the local network remains as it is, tap "Test Print" directly to test the printing.

b). If the local network changes, you have to reset the Wi-Fi printer.

9.3.4 Change password

This item allows you to modify your login password.

9.3.5 About

The software version information and disclaimer are included.

9.3.6 Exit from current account

This option allows you to logout the system. To logout the current user ID, tap "Exit from current account".

10 My Report

This option is used to view the diagnostic report generated in process of vehicle diagnosis. Additionally, delete, share operations are also supported.

Tap "**My Report**" on the function menu, there are total 3 options available.

In case the DTC result is saved <u>on Read Trouble Code page</u>, the files will be listed under **Diagnostic Report** tab.

Fig. 10-1

If user records the running parameters <u>while reading data stream</u>, it will be saved as .x431 file and appear under **Diagnostic Record** tab.

Fig. 10-2

Tap the desired one to enter, a screen similar to the following displays:

Fig. 10-3

Select the desired data stream items and tap "Submit" to jump to the playback page:

Fig. 10-4

On-screen Buttons:

Graph – displays the parameters in waveform graphs.

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

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

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".

Remote Diagnostic Report lists all diagnostic reports generated in process of remote diagnosis.

10 Others

10.1 Email

The function allows you to send and receive email.

10.1.1 Configure an email account

⚙ Note: Before sending or receiving email, you have to set up an email account. In addition, this function required a stable network connection.

1. On the home screen, tap **Email**.
2. Choose the desired email account type.
3. Input email address and password, tap "Next".

⚙ Note: If "Manual setup" is selected, please consult your email service provider for detailed parameter setting.

4. Follow the on-screen instructions to proceed until the system prompts you that the account setup has been finished.

10.1.2 Add an email account

1. Tap **Settings** --> **Accounts**.
2. Tap **Add account**.
3. Choose the desired account type.

10.2 Browser

10.2.1 Open browser

On the home screen, tap **Browser** to launch the browser. You can choose the desired homepage or input the website address to browse.

Fig. 10-1

1	Return to the previous page.
2	Advance to the recently visited page.
3	Refresh the current page.
4	Close the current page.
5	Create a new tab.
6	Input a web address.
7	Add the current page as bookmark.
8	Open search bar.
9	Open bookmark list.
10	View more options.

10.2.2 Download files

Files, pictures, and applications can be downloaded from the website in browser.

For example:

Tap and hold a picture, then choose "Save image" from pop-up menu to download it.

To download a link, tap and hold it, and then choose "Save link".

To protect your X-431 PADIV and personal data, please download applications from trusted sources. To configure it, tap **Settings** > **Security**, and then slide the Unknown sources switch to off.

10.3 Synchronization

You can transfer media files and APK between the PC and X-431 PADIV.

10.3.1 Connect to PC

1. Use the USB cable to connect the X-431 PADIV to your PC.
2. Swipe from the top, a message "Connected as a media device" appears.

10.3.2 Run on PC

Perform the following steps:

*   Locate the new disc.
*   Copy the files.

10.3.3 Install an application

Do the following steps:

1. Tap **Settings** > **Security**, and set the "Unknown sources" to ON, which allows you to install apps from unknown sources.
2. A dialog box appears on the screen, tap "OK" to confirm.
3. Set the tool as "Connected as a media device", and copy the APK file from the PC to the tool.

10.4 Clear Cache

Doing so clears all browsing records and accounts and enables X-431 PADIV to run smoothly and quickly.

1. Tap **Settings** > **Apps**.
2. Tap ▌ and select "Sort by size" to arrange all applications in size order.
3. Tap certain application, then tap "Clear Cache" to release the space these cache files are occupied.

11 FAQ

1. How to save power?

➢ Please turn off the screen while X-431 PADIV keeps idle.
➢ Set a shorter standby time.
➢ Decrease the brightness of the screen.
➢ If WLAN connection is not required, please turn it off.
➢ Disable GPS function if GPS service is not in use.

2. What should I do in case I forgot the screen lock?

You can set screen lock as pattern or password. If you forgot the password, please consult your device provider or reset your device.

 Warning: Resetting may cause data loss. Before use, please make sure important data has been backed up.

3. How to do if the system runs slow?

In this case, please do the followings:

> Check all running applications and stop the unnecessary applications (Steps: Settings > Apps > Running > Tap the desired application and then tap "Stop").

> Check all installed applications, remove the unnecessary applications (Steps: Settings > Apps > Downloaded > Tap the desired application and then tap "Uninstall").

If all steps mentioned above are finished and the system still works slowly. Please try to close the system and reboot your X-431 PADIV.

4. How to reset X-431 PADIV?

 Resetting may cause data loss. Before doing so, please make sure important data and information has been backed up.

Do the following to reset X-431 PADIV:

1. Tap "Settings"-->"Back & Reset".
2. Tap "Factory data reset".
3. Tap "Reset tablet".

4. Tap "Clear all data" to start resetting until the tool automatically reboots.

6. Why some videos on the website can be not played?

It possibly results from:

1. The current browser does not support Flash playing;

2. Flash player does not support this video.

Try to use other browsers to watch it or install other Flash player.

7. The data and time of X-431 PADIV can not be set.

It is because Automatic date & time is set on your X-431 PADIV. Tap Settings > Date & time, deselect "Automatic date & time" and then set the date and time manually.

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 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.

Disclaimer

The above warranty is in lieu of any other warranty, expressed or implied, including any warranty of merchantability or fitness for a particular purpose.

Purchase Order

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

Order quantity
Part number
Part name

Customer Service

Any question during the operation, please call 86-755-84528722.
If your unit requires repair service, return it to the manufacturer with a copy of the sales receipt and a note describing the problem. If the unit is determined to be in warranty, it will be repaired or replaced at no charge. If the unit is determined to be out of warranty, it will be repaired for a nominal service charge plus return freight. Send the unit pre-paid to:

Attn: Customer Service Department
LAUNCH TECH. CO., LTD.
Launch Industrial Park,

North of Wuhe Avenue,
Banxuegang, Bantian,
Longgang, Shenzhen, Guangdong
P.R.China, 518129
Launch website: http://www. cnlaunch.com
http://www.x431.com

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