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1. PRODUCT OVERVIEW

The HD Code Pro is the latest in CanDo's line of professional grade code scanners for the Commercial Vehicle market. It covers light, medium and heavy duty vehicles, for reading & clearing codes, live data, bi-directional controls and special functions.

This product integrates commercial vehicle OBD standard diagnostic protocols, including SAE J1939, SAE J1708, SAE J1850 PWM, SAE J1850 VPW, ISO 14230-4, ISO 9141-2, ISO 15765-4 and ISO 27145-4. The commercial vehicles are classified according to the vehicle type (remove information), and the operation interface is very clear, which makes it convenient for users to diagnose commercial vehicles.

An optional printer module is also available to print diagnostic data and reports. At the same time, the product supports online upgrade of diagnostic program and diagnostic data.

1.1　PRODUCT STRUCTURE

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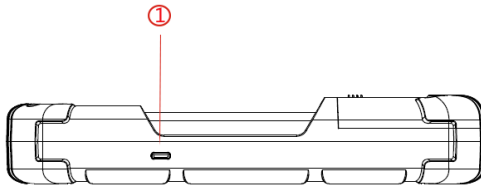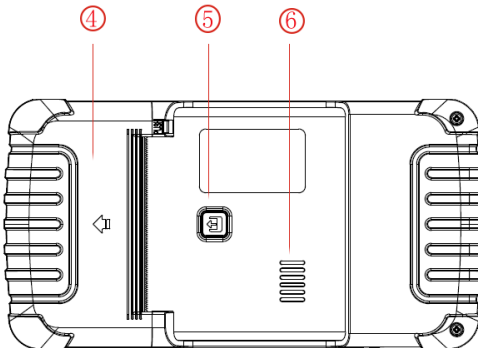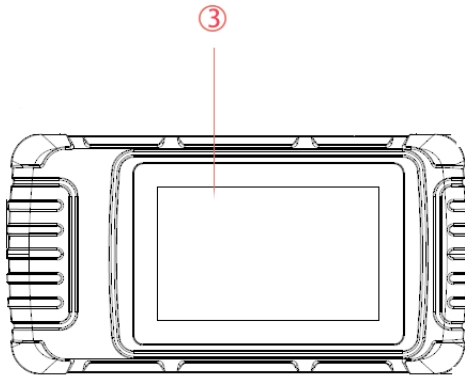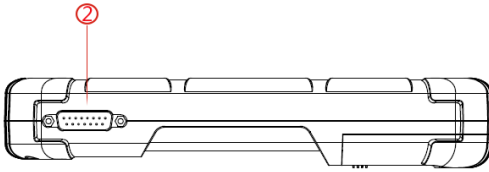
Serial No.	Name	Function Description
①	USB Port	Used to connect to an external

		computer
②	DB-15 Interface	Used to connect to the vehicle or the power adapter
③	Touch Screen	Display content and touch operation area
④	Paper socket	Printer paper socket
⑤	Printing Test key	Printer self-testing
⑥	Speaker	Device sound output

1.2   HOST CONFIGURATION

CPU	Quad-Core ARM Cortex-A7
RAM	1GB
Flash	8GB
Display	5 inches LCD，resolution ratio 800*480
TP touch screen	Capacitive screen
WIFI	802.11b/g/n 2.4GHz
Horn	Support
USB interface	Type C interface
Diagnose interface	DB15 interface
Operating voltage	DC 10V~24V/3A
Operating temperature	-10℃~50℃
Storage temperature	-20℃~60℃

1.3 PRINTER CONFIGURATION (OPTIONAL)

Printer	80mm thermal printer
Print speed	60mm/s
Effective print width	72mm
Print resolution	203dpi 1mm=8dots
Print paper specifications	80mm*30mm

2. POWER ON/OFF

The device is provided with a main diagnostic test line, which has three interfaces: DB-15 interface, OBD interface and DC power interface. The line can transmit data as well as electricity.

2.1 POWER ON

The device can be powered on in the following ways:

● **Powered on by the Vehicle**:

Plug one end of the main diagnostic test line into the DB-15 interface of the device, and the other end into the OBD interface of the vehicle, then the device will turn on automatically. If the device fails to power on, there may be no power supplied to the vehicle's diagnostic port, in which case, the device can be powered by either the cigarette lighter or battery clamp.

● **Powered on by the power adapter**:

Plug one end of the main diagnostic test line into the DB-15

interface of the device, and the other end into the DC power interface of the power adapter, the device should then start up automatically.

Note: the voltage of the power supply should be within the scope of application of the product equipment. If it is beyond the scope, the product may be damaged.

2.2 POWER OFF

Before powering off, please stop all diagnostic procedures and return back to the main interface.

Pull out the diagnostic main test line from the OBD interface of the vehicle. If the device is not equipped with a battery, the device will shut down automatically after disconnecting the main test line from the OBD interface of the vehicle.

3. VEHICLE DIAGNOSTIC PREPARATION

The diagnostic program establishes data connection through the vehicle electronic control system connected with the equipment, which can read the vehicle diagnostic information, view the data flow, and perform actuation tests and other special functions. For details of these functions, please refer to the model which you purchased.

To establish good communication between the diagnostic program and the vehicle, the following operations need to be performed:

    1) Turn off the ignition;

    2) Find the OBD interface of the vehicle: it is usually located on the driver side; If the OBD interface is not found, please refer

to the vehicle maintenance manual.

3) Insert one end of the diagnostic main test line into the device DB-15 connector and tighten the retaining screws. The other end is connected to the vehicle's OBD interface.

Note: Before the equipment is connected to the vehicle, it is necessary to judge whether the diagnostic port of the vehicle is a standard OBD-II interface or a non-standard OBD-II interface.

- A vehicle compatible with OBD-II management system only needs to use the integrated main test line OBD connector to connect with the vehicle diagnostic port and provide power;

- For vehicles that are not compatible with the OBD-II management system, the corresponding connector should be selected; Some vehicles need to be powered by other (remove vehicle) power sources.

The following is an operation description of these two connection modes.

1) Connection of standard OBD-II interface

A vehicle connected with standard OBD-II interface only needs to use the integrated main test line OBD connector, and no other connectors are needed, as shown in the figure:
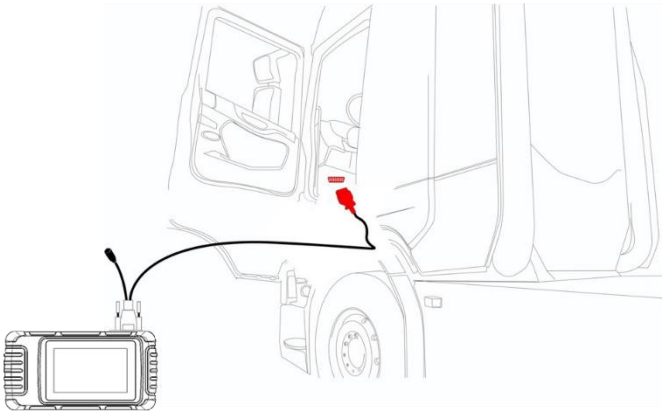
2) Connection of non OBD-II interface

Vehicles with non OBD-II interface need to connect the main test line with the corresponding special connector, as shown in the figure:
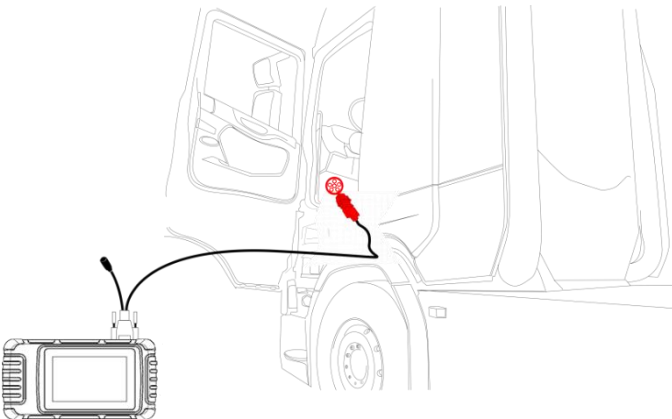
Note: at this time, the equipment is powered by the vehicle diagnostic port, and the device starts up automatically. If

not, it may be that the vehicle diagnostic port has no power supply, in which case the equipment should be powered by the cigarette lighter or battery clip.

4. INTRODUCTION OF EACH FUNCTION MENU

After the system is started, the main menu of function will be entered. The main menu of each version of model will be slightly different. Please refer to the display of the model you purchased.

1) Toolbar (see Table 1)

2) Function sub menu (see Table 2)

3) Function main menu (see Table 3)

Table 1: Toolbar

Icon	Function name	Function description
	Refresh	Refresh upgrade menu
	Home	Return to the main interface of the system
	Screenshot	Capture current screen picture
	Test report	Used to save test data during diagnosis (can be viewed in data management menu)

	Feedback	Used to report the problem to the company's service system (need to connect to the network) when the system cannot be accessed during the diagnosis process
	Print	Used to print test results or test reports. The printer is optional
	Edit	Used to edit files, lock, unlock or delete files
	Added	Used to add feedback information
	Exit edit mode	Exit the edit mode of files
	Select All button	Select all files on the current page
	Lock	Lock files to avoid files being deleted automatically by the system
	Unlock	Unlock files
	Delete	Delete files

Table 2: Function sub menu

Icon	Function name	Function description
	Pin detecting	Measures the voltage of 16 PIN of OBD diagnostic interface, and judges the pin position of K- line and CAN line.
	Report	Browse and manage the test report files
	Screenshot	Browse and manage the Screenshot files
	Feedback	Create or manage the feedback files
	WIFI	Set the WIFI network
	Brightness	Used to adjust the brightness of the device screen
	Volume	Used to adjust the volume of the device
	User info	Used to view device status and user information
	Storage	Used to manage the storage, such as removing useless data from the device
	General	Used to set device language, unit and time, view device information and restore factory settings

Table 3: Function main menu

Icon	Function name	Function description
	Diesel OBD	Diagnostic procedure: Diesel OBD
	OBD-II	Diagnostic procedure: OBD-II
	Caterpillar	Diagnostic procedure: for the vehicle models of the Caterpillar, such as Heavy Duty or Construction Machinery
	DPF	DPF regeneration and maintenance
	SCR	SCR system maintenance
	Soot level reset	Reset the soot level
	Service reset	Reset the service.
	Tools	(Pin Detect)For the measurement of pin voltage of diagnostic interface
	Data management	For browsing and managing saved data files
	Upgrade	For online upgrade of system software and vehicle software, see section 8 for details
	Settings	Set and view system information, see section 9 for details

5. DIAGNOSTIC FUNCTION

Take【Diesel OBD】as an example;

1) Click【DIESEL OBD】menu enter the diagnosis interface.
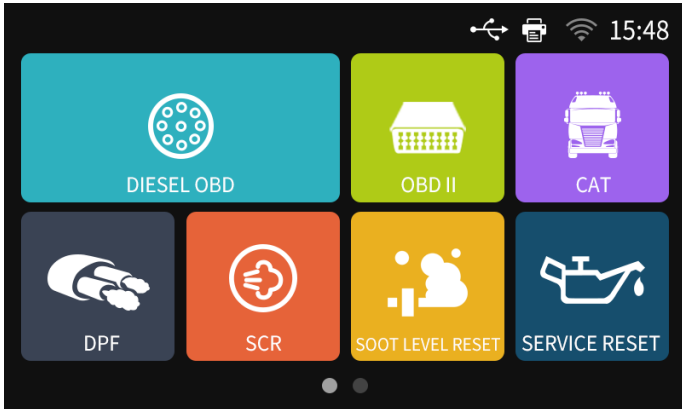
2) Select connector according to the specific situation, such as 【Diesel6&9PIN】;
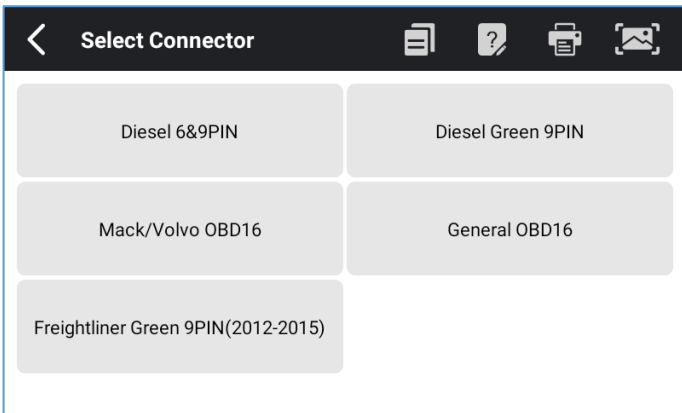
4) Select the required diagnostic method, such as 【Standard protocol(Fast Scan)】;

‹ **Select Connector/**	▤ ? ▣ ☒

Vehicle Information	Standard protocol(Fast Scan)
Standard protocol(Complete Scan)	SAE J1939 Diagnostic Message
SAE J2012 DTC Display	Diagnostic Report

‹ **Select Connector/**	▤ ? ▣ ☒
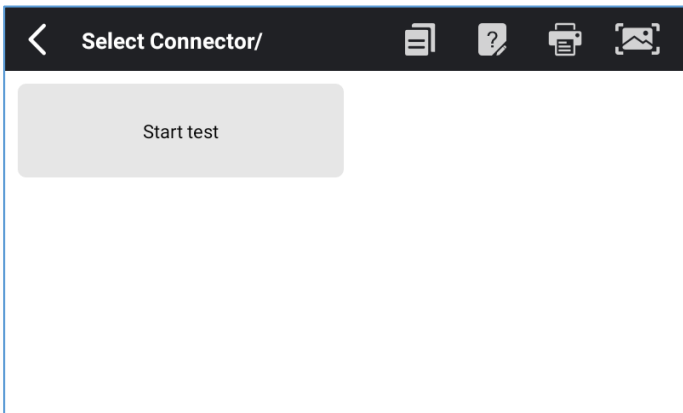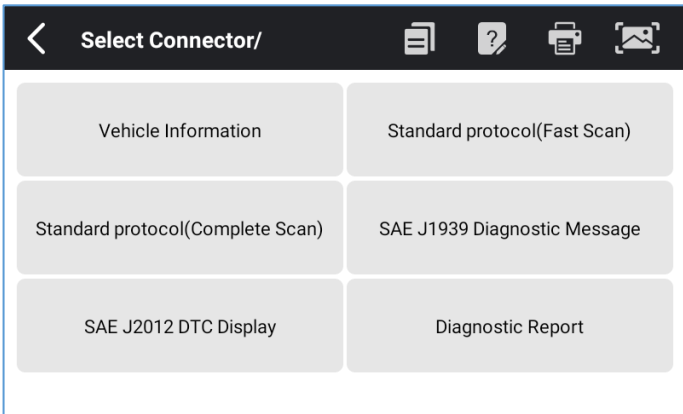
Start test

5) Click 【Start test】

6) Select【(J1939) Engine】;

Select Connector/	
(J1939)0 Engine #1	(J1939)41 Retarder, Exhaust, Engine #1
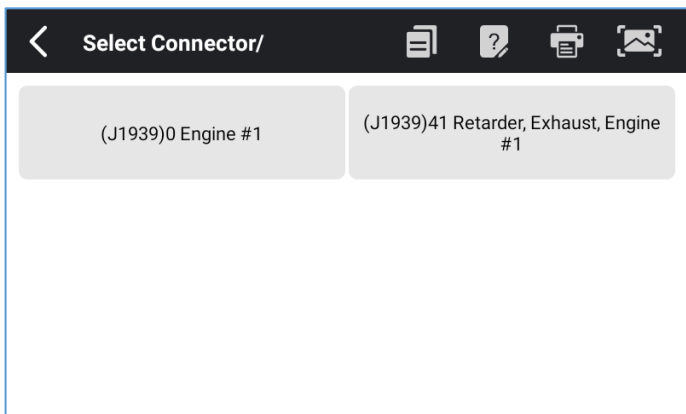
7) Enter 【Diagnosis home page】;

Select Connector/	
Read ECU Information	Read Fault Code
Erase Fault Code	Live Data
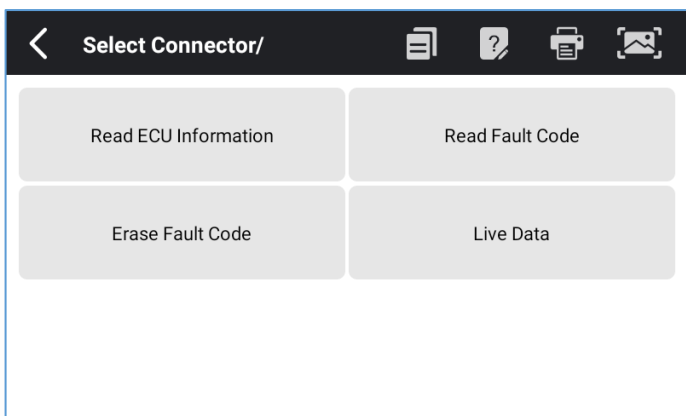
The main diagnostic interface usually includes the following options:

Read ECU Information: Read and display the control system module information detected from ECU

Read Fault Code: Read the fault code information retrieved from the vehicle system module

Erase Fault Code: Clear the fault code and freeze frame data

retrieved from the vehicle system module

Live Data: Read and display the real-time operation parameters of the current system module

6. PIN DETECT

This function mainly measures the voltage of 16 PIN of OBD diagnostic interface, and judges the pin position of K- line and CAN line.

After connecting the OBD interface of vehicle, click the main interface 【Tools】 to select pin detection. The program automatically measures the 16pin voltage of OBD diagnostic interface, and judges the pin position of K-line and CAN line, as shown in the figure below:
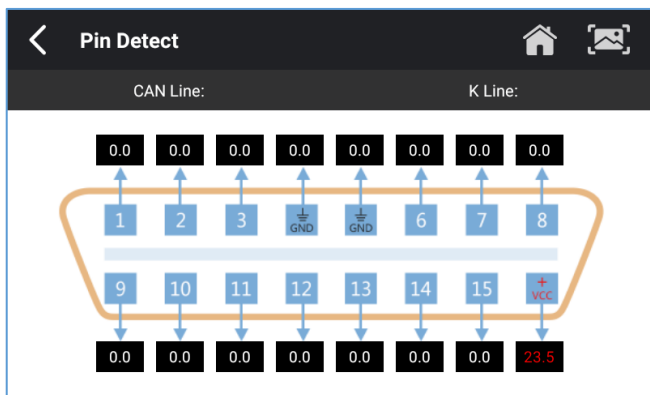
7. DATA MANAGEMENT

【Data Management】The function is used to save and view test reports, screenshots and problem feedback files. Most of the files are generated by executing the toolbar operation of the vehicle diagnosis interface.
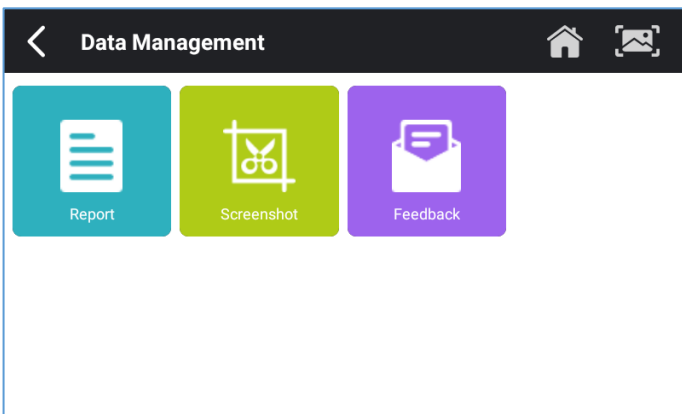
8. DIAGNOSTIC SOFTWARE UPGRADE

By connecting the device to a wireless network, the diagnostic software can be upgraded. Open 【Update】 in the function main menu, and the system will automatically search for the latest update program, as shown in the figure below. Click 【Update】 to upgrade the model and other applications to the latest version.
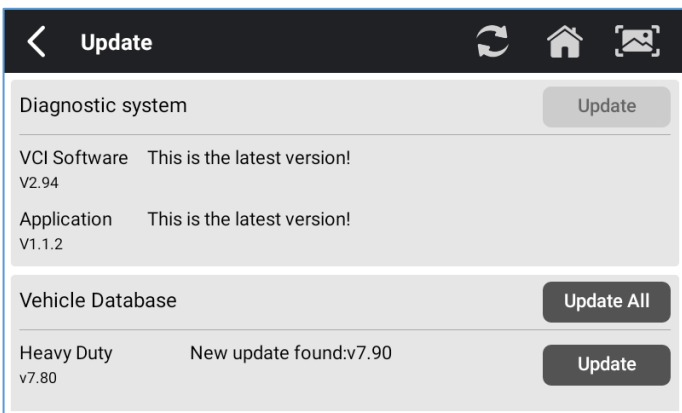
9. SETTINGS

Select 【Settings】 from the main menu to open the setting interface, where you can adjust the following system settings：
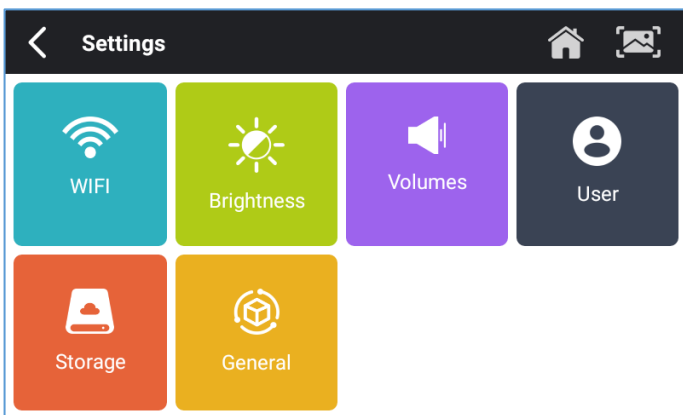
9.1 WIFI CONNECTION

The device supports wireless network connection for diagnostic software upgrade and problem feedback.
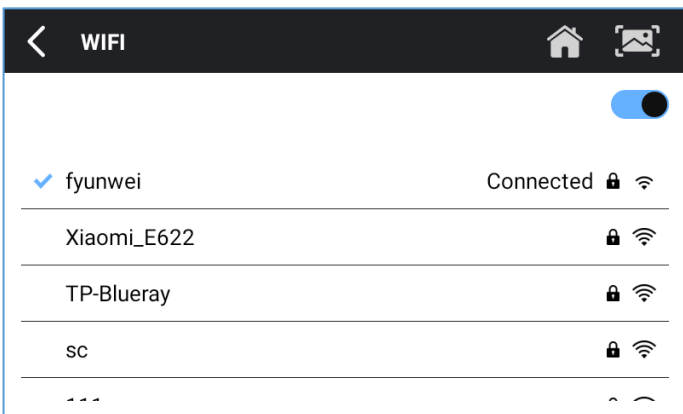
9.2 BRIGHTNESS

The device supports screen brightness setting, please adjust it according to your preference.
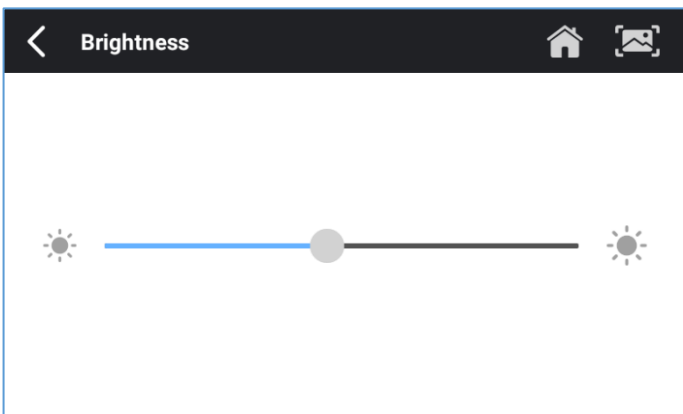
9.3 VOLUMES

The device supports volume adjustment.
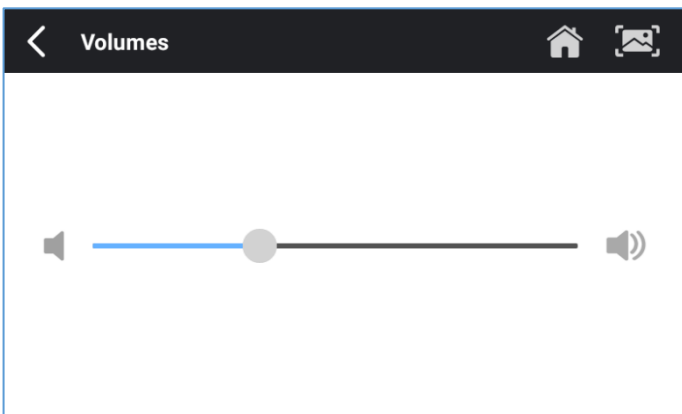
9.4   USER

1) Activate

The products are not activated when they leave the factory.
Connect the network to enter the setting, and click【Activation】
to activate the machine.

**Note: Please ensure that the device is connected to the
Wi-Fi before performing the activation operation.**
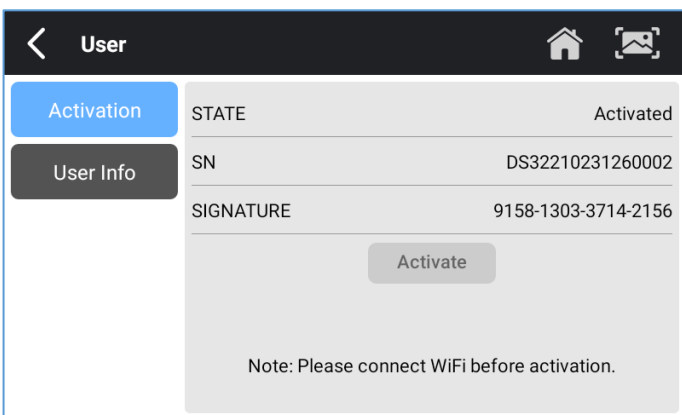
2) User Info

Set your personal information: name, telephone, email, address, etc.

9.5 STORAGE

Cleaning up useless data with one click, freeing up more space and cleaning up regularly will help the system run more stable.
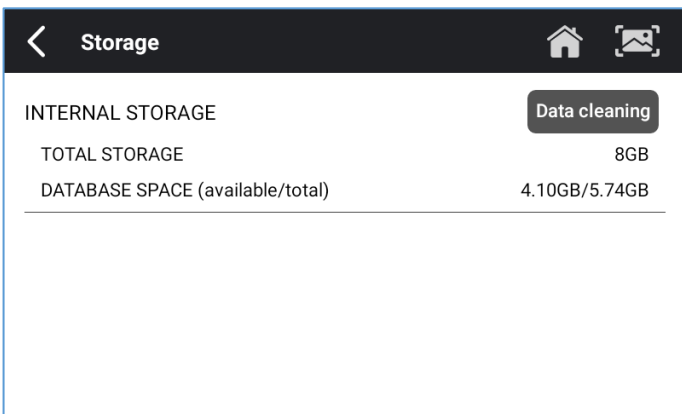
9.6   GENERAL

Set the general information or look up the device information.
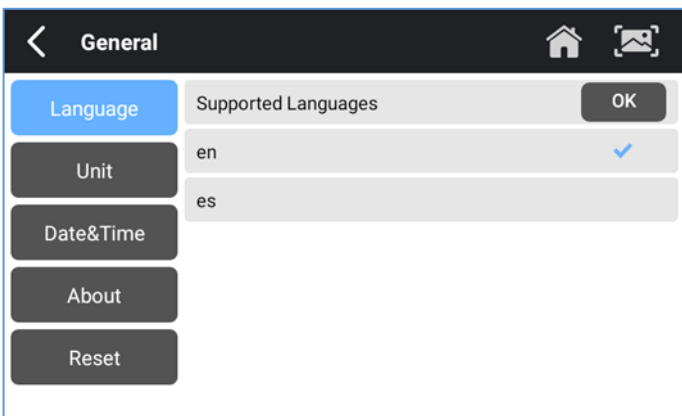
1)   Language

Please select settings based on the language you support for the model you purchased.

2)   Unit

This option is used to set the data flow unit in the diagnostic equipment software. Please select metric system or English system as required.

3) Date &Time

This option is used to set the date / time of the device. The default is automatic network synchronization update, or it can be set manually.

4) About

This option is used to lookup the device model, version, serial number, etc.

5) Reset

This option is used to restore the original settings of the device, which will delete all the data stored in the device, including the activation information and model data. You need to re-connect to the network to activate and download the model data package.

10. PRINTER INTRODUCTION

10.1 PRINTER LOADING OR CHANGING PAPER

1) Open the paper bin cover by the following two steps.

Step 1: Push the snap-fit according to the arrow direction.

Step 2: Draw the cover out toward the left.
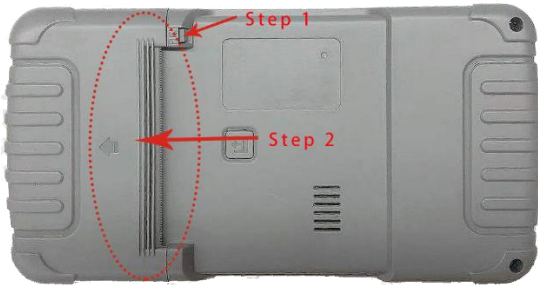
2) Take out the paper roller upward first, and then the paper bail.
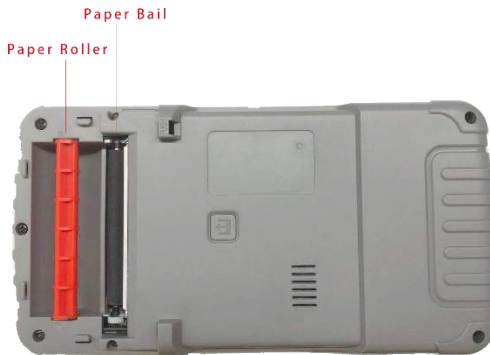
3) Insert the roller into the print paper.
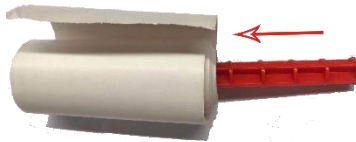
4) Put the paper into the socket first, and draw a part of paper, then put the paper bail on the paper and clip it into the socket.

Note: Pay attention to the direction of the paper. If the installation is reversed, the printing will be blank;

5)   Close the cover.

10.2 PRINTER SELF TEST FUNCTION

1)   When the machine is turned on, press the printer test key
      briefly, and the printer will automatically print out a piece of
      blank paper.

2) In the case of power on, long press the printer test key for three seconds, the printer will automatically print a section of self-test content, indicating that the printer function is normal.

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.

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

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.

Radiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Certification

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

Product name	
Product serial number	HD Code Pro
Date of production	
Inspector	

Warranty card

Product name	HD Code Pro
Product serial number	
Purchase date	

Company name:

User address:

Contact person:

Contact number: