Diesel&Petrol OBDII/EOBD+CAN Code Reader

iEasy320HD

USER MANUAL

Warranty and Service

Limited One Year Warranty

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

VIDENT 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 VIDENT shall not be liable for any consequential or incidental damages.

Customer Service

If you have any questions on the operation of the unit, please contact local dealer, or contact SHENZHEN VIDENT TECHNCOLOGY CO., LTD:
Tel: 86-755-28305016
E-mail: support@videnttech.com

Table of Contents

1 Introduction to iEasy320HD

The iEasy320HD is specially developed by Vident for heavy-duty vehicles(Diesel) and passenger cars(Gasoline or Petrol), which enables users to read DTCs, clear DTCs and view the datastream with a live color graphing. It covers a wide range of vehicles since it offers multiple data bus protocols, such as J1587, J1939, J1850VPW, J1850PWM, ISO9141, KWP2000(ISO14230-4) and CAN(Control Area Network ISO15765-4)

Notice: iEasy320HD may automatically reset while being disturbed by strong static electricity. THIS IS A NORMAL REACTION.

2 General Information

2.1 About DTC

Diagnostic Trouble Codes (DTC) are codes that are stored by the on-board computer diagnostic system in response to a problem found in the vehicle.These codes identify a particular problem area and are intended to provide you with a guide as to where a fault might be occurring within a vehicle. This section explains the basic elements of fault codes for J1587/J1708 and J1939 data bus protocols, how to view these codes on iEasy320HD, and what they mean. Each fault code on iEasy320HD

contains three distinct pieces of information, as described below.

J1587/J1708 fault codes consist of the following, in this order:

·Subsystem Identifier (SID) - Indicates what function on the ECU has failed.

·Failure Mode Indicator (FMI) - Indicates in what way the function failed.

·Occurence (OC) - Indicates the occurence times of fault codes.

J1939 fault codes consist of the following, in this order:

·Suspect Parameter Number (SPN) - Indicates what function on the ECU has failed.

·Failure Mode Indicator (FMI) - Indicates in what way the function failed.

·Occurence (OC) - Indicates the occurence times of fault codes.

2.2 J1708/J1587/J1939

SAE J1708, SAE J1587 and SAE J1939 are automotive diagnostic protocol standard developed by the Society of Automotive Engineers (SAE).

SAE J1708

SAE J1708 is a standard used for serial communications between ECUs on a heavy duty vehicle and also between a computer and the vehicle.

With respect to Open System Interconnection model (OSI), J1708 defines the physical layer.Common higher layer protocols that operate on top of J1708 are SAE J1587and SAE J1922.

SAE J1587

SAE J1587 is an automotive diagnostic protocol standard developed by the Society of Automotive Engineers (SAE) for heavy-duty and most medium-duty vehicles built after 1985. The J1587 protocol uses different diagnostic connectors. Up to 1995, individual OEMs used their own connectors. From 1996 to 2001, the 6-pin Deutsch-connector was standard. Beginning in 2001, most OEMs converted to the 9-pin Deutsch. Some OEMs still use the 6-pin Deutsch.It has mostly been used for US made vehicles, and also by Volvo.

SAE J1708 makes up the physical and data link layers while SAE J1587 makes up the transport and application layers with respect to the OSI model. SAEJ1587 is used in conjunction with SAE J1708 for automobile communication.

SAE J1939

SAE J1939 is the vehicle bus standard used for communication and diagnostics among vehicle components, originally by the car and heavy duty truck industry in the United States.

SAE J1939 is used in the commercial vehicle area for communication throughout the vehicle. With a different physical layer it is used between the tractor and trailer. This is specified in ISO 11992.

SAE J1939 can be considered the replacement for the older SAE J1708 and SAE J1587 specifications.

SAE J1939 has been adopted widely by diesel engine manufacturers.

One driving force behind this is the increasing adoption of the engine Electronic Control Unit (ECU), which provides one method of controlling exhaust gas emissions within US and European standards.

Consequently, SAE J1939 can now be found in a range of diesel- powered applications: vehicles (on- and off-road), marine propulsion, power generation and industrial pumping.

Applications of J1939 now include off-highway, truck, bus, and even some passenger car applications.

3 Tool Description

3.1 Outline of iEasy320HD
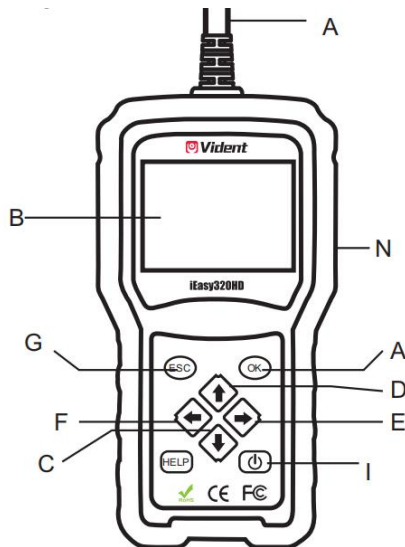
A **OBDII Cable-** provides communication for vehicle DLC.
B **LCD Display** - shows menus, test results and operation tips.
C D **Up/Down button -**moves cursor up or down for selection.
E F **Right/Left button-** moves cursor right or left for selection; Or turn page up or down when more than one page is displayed.
G **ESC button** - cancels an action and returns to previous screen or level.
H **OK button** - confirms an action or movement and moves to next level.
I **Power button** - switches on the tool.

3.2 Technical Specifications

Screen: 2.8"TFT 262K true color display,320*240 QVGA LCD display

Input voltage range: 8~32V

Operating current: <100mA@12V (Typical)

Power consumption: <1.2W (Typical)

Operating Temperature: 0 to 50 ℃ (32 to 122℉)

Storage Temperature: -20 to 70℃ (-4 to 158℉) @ RH60%

Weight: 350g

3.3 Accessories Included

1.User's Manual -- Instructions on tool operations

2.OBDII PIN DLC adaptor

3.Adaptor for 6pin and 9pin

3.4 Power supply

The power of the iEasy320HD is provided via the vehicle's Data Link Connector(DLC). Follow the steps below to power it up:

1.Find DLC on heavy-duty vehicle

A plastic DLC cover may be found for some vehicles and you need to remove it before plugging the 6 PIN and 9 PIN DLC diagnostic adaptor.

2.Plug one end of 6pin and 9pin DLC diagnostic adaptor into the included OBDII 16 pin connector, and connect the other end to the heavy- duty vehicle's DLC.

4 Operation

4.1 Connection

1.Turn the ignition off.

2.Locate the heavy-duty vehicle's Data Link Connector (DLC).

3.Select the desired diagnostic adaptor according to your vehicle's DLC. Plug one end of 6pin and 9pin DLC diagnostic adaptor into the included OBDII 16pin connector, and connect the other end to the heavy-duty vehicle's DLC.

4.Turn the ignition on. Engine can be off or running.

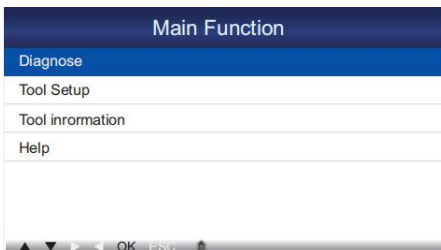5.After finishing, the system will enter the main menu interface, as shown in Figure 4-1.

Figure 4-1

⚠ CAUTION

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

4.2 Diagnose

In Figure 4-1, use[▲][▼] button to select [Diagnose] and press [ok], the system will switch to the following selection:
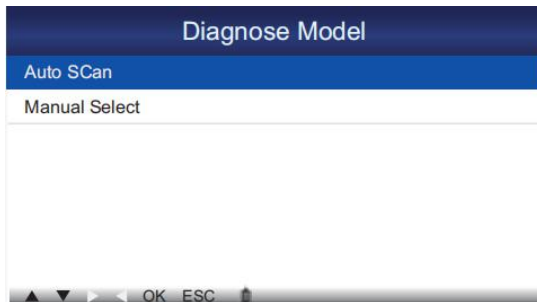

Figure 4-2

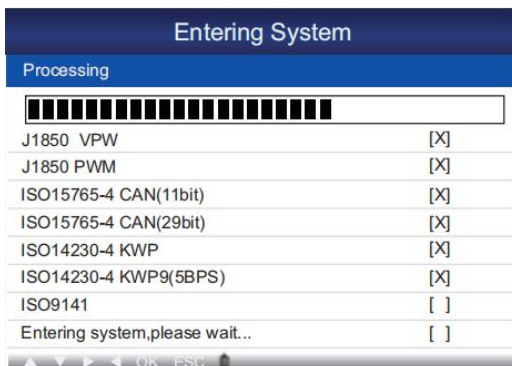If [Auto Scan] is selected, following figure will appear:

Figure 4-3

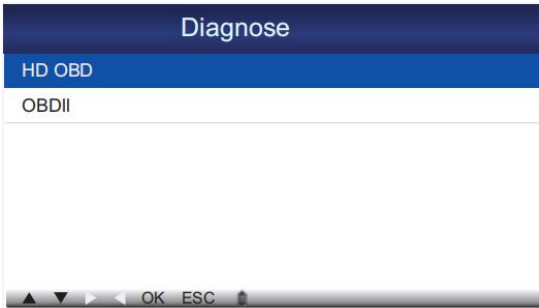If [manual select] is chosen, following figure will appear:

Figure 4-4
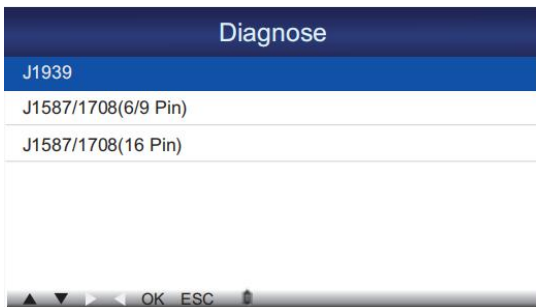
If [HD OBD] is selected, following figure will appear:

Figure 4-5

Press [▲][▼]button to highlight [J1587/1708 6/9 Pin] or [J1587/1708 16 Pin], and press [OK], the following screen will appears:
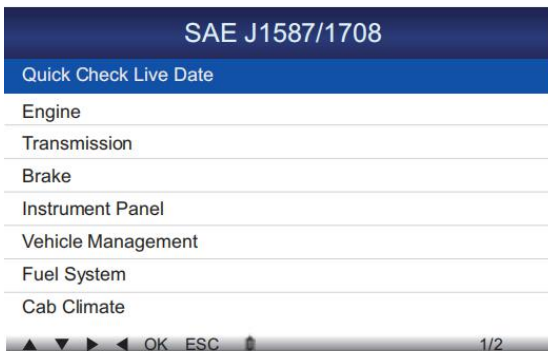
Figure 4-6

If [J1939] is selected in Figure 4-5, press [OK], the screen will appear as follows:

Figure 4-7

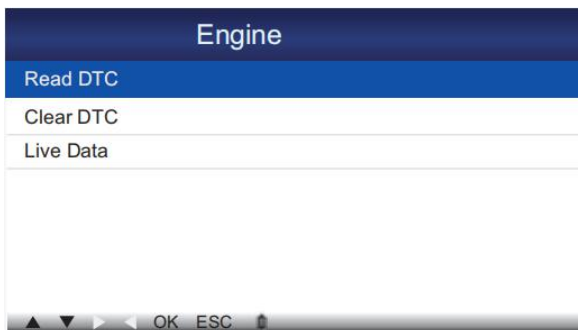After selecting the system item, press [OK],the screen will appear as below:

Figure 4-8

4.2.1 Read DTC

Select [Read DTC] and press [OK] in Figure 4-8, it will jump to the following screen:
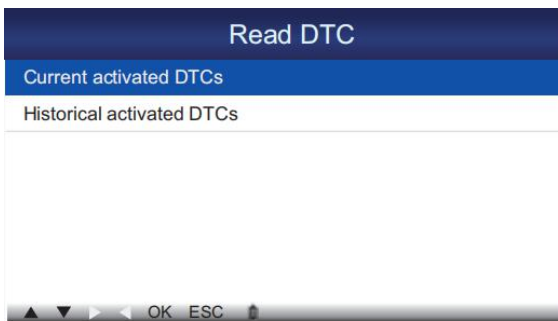
Figure 4-9

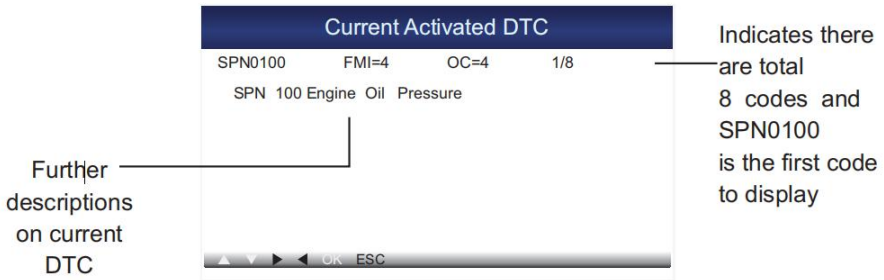Press [▲][▼]button to highlight one desired item and press [OK], a screen similar to Figure 4-10 will appear:

Current Activated DTC

SPN0100   FMI=4   OC=4   1/8

SPN 100 Engine Oil Pressure

Further descriptions on current DTC

Indicates there are total 8 codes and SPN0100 is the first code to display

Figure 4-10

Generally, there are three elements displayed on the first row and the second row indicates detailed descriptions on DTC, as shown in Figure 4-9:

•Suspect Parameter Number (SPN) - Indicates what function on the ECU has failed.
•Failure Mode Indicator (FMI) - Indicates in what way the function failed.
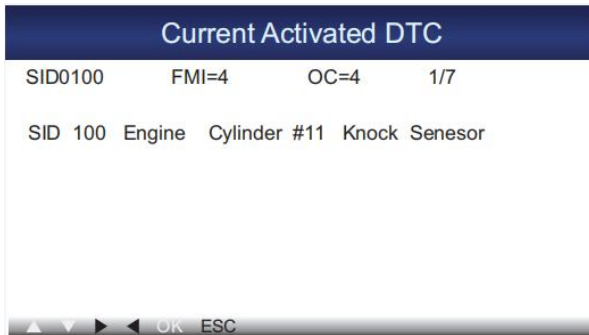•Occurence (OC) - Indicates the occurence times of the current DTC.

Whereas, if we choose [SAE J1587/1708], the faults code will be displayed similar to Figure 4-11:

•Subsystem Identifier (SID) - Indicates what function on the ECU has failed.
•Failure Mode Indicator (FMI) - Indicates in what way the function failed.
•Occurence (OC) - Indicates the occurence times of the current DTC.

Current Activated DTC

SID0100   FMI=4   OC=4   1/7

SID 100 Engine Cylinder #11 Knock Senesor

Figure 4-11

Press [▲][▲]to view the next or previous code; press [ESC] to exit and return to the Function screen.

4.2.2 Clear DTC

Select [Clear DTC] and press [OK], the system will switch to the following screen:
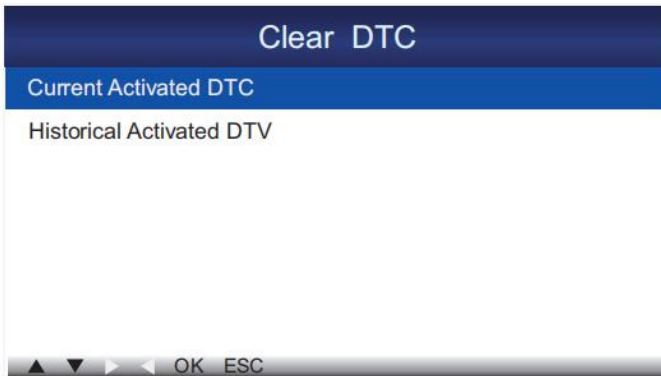
Figure 4-12

Select one desired item and press [OK], a prompt message will appear on the screen, as shown in Figure 4-13.
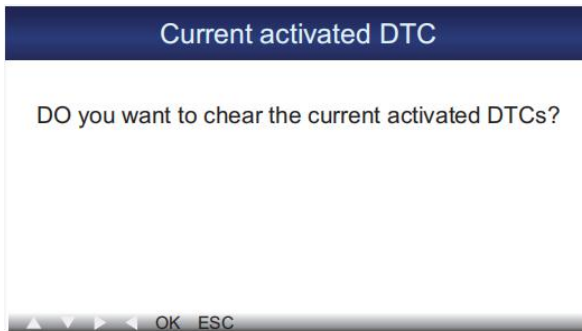

Figure 4-13

Press [OK] to erase DTCs, and if successfully, "Succeed" will be shown on the screen. Press [ESC] to exit and return to the Function screen.If it fails to communicate with ECU, a screen similar to Figure 4-14 will appear:
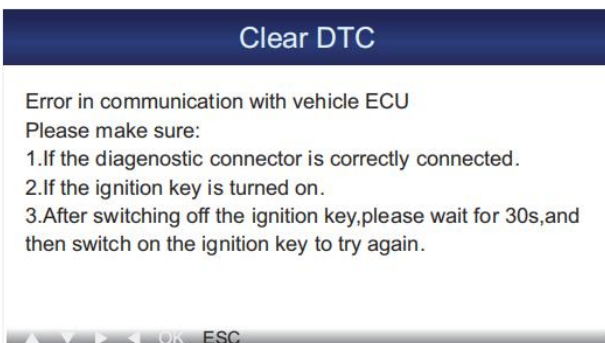

Figure 4-14

Follow the on-screen instructions to check the possible cause. Press [ESC] to exit and return to the previous screen.

Note

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.

4.2.3 Live Data

Press [▲][▼]button to select [Live Data] in Main Menu screen and then press [OK] button to confirm, the screen will display as Figure 4-15:
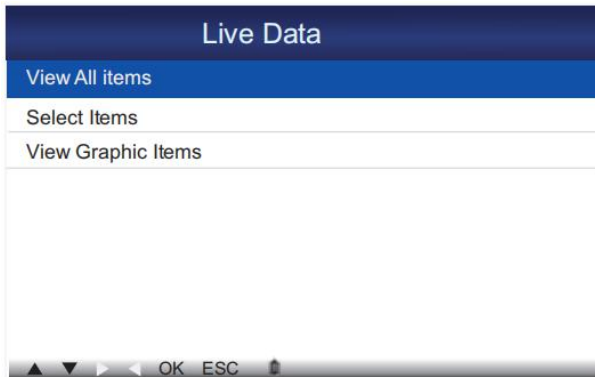

Figure 4-15

4.2.3.1 View All Items

Use [▲][▼]button to select [View All Items] and press [OK], a screen similar to Figure 4-16 will appear:

Figure 4-16

Press [▶][◀]to view other live data; press [ESC] to return to the Live Data menu screen.

4.2.3.2 View All Items

Use [▲][▼]button to select [Select Items] in Figure 4-15 and press [OK]screen similar to Figure 4-17 will appear:
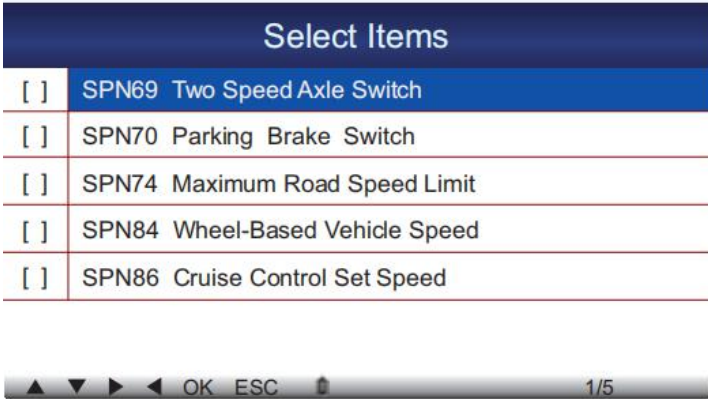

Figure 4-17

Press [OK] button to select items or remove selection, and press [▶][◀]to turn page,the screen will appear as shown in Figure 4-17:
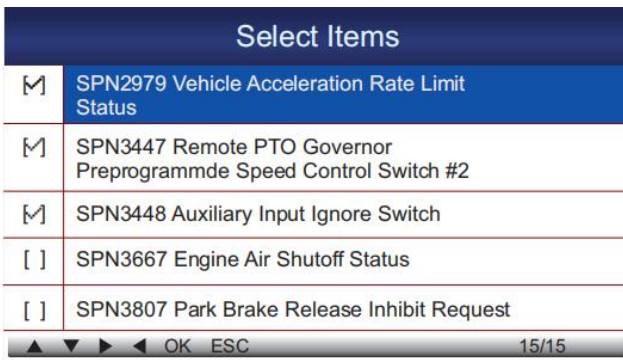

Figure 4-18

After selecting items and press [ESC], it will enter Figure 4-18. See Figure 4-18 shown as above.

4.2.3.3 View Graphic Items

Press[▲][▼]button to select [View Graphic Items] in Figure 4-15 and press[OK], the system will enter the live data selection interface. Select one desired item as shown in Figure 4-19 and press[OK], a screen similar to Figure 4-20 will appear:

Select Items	
SPN182 Engine Trip Fuel	9922.500 L
SPN236 Total Idle Fuel Used	9922.500 L
SPN244 Trip Distance	0km

▲ ▼ ► ◄ OK ESC   1~3/3
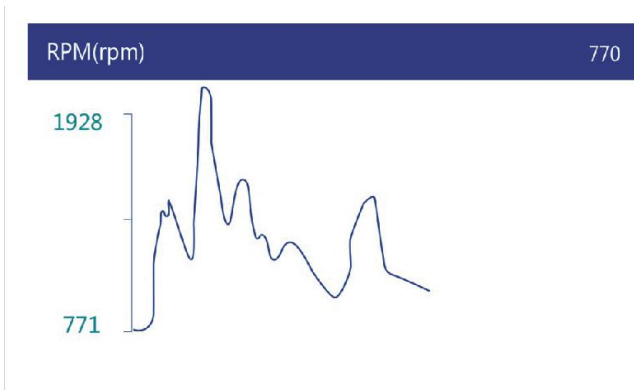
Figure 4-19

RPM(rpm)   770

1928

771

Figure 4-20

4.3 Tool Setup

Select [Tool Setup] in the main menu and press [OK],the system will enter the following screen:
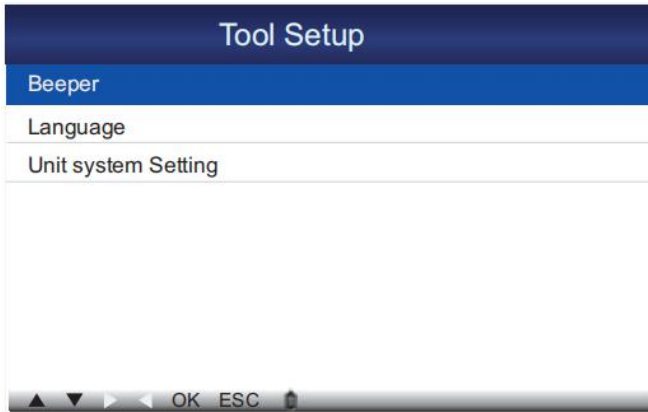
Figure 4-21

1) Beeper: Turn ON/OFF the Beeper.

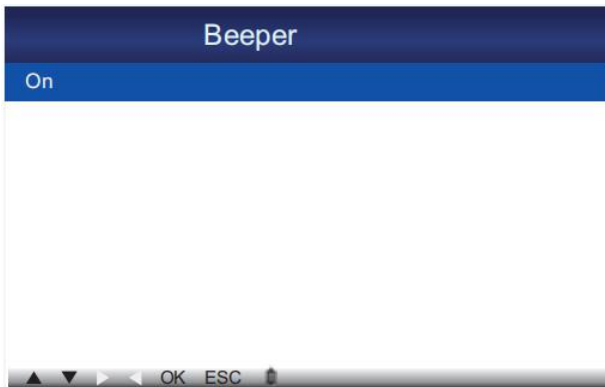Select [Beeper] in the main menu and press [OK] to switch to the screen shown as below:

Figure 4-22

The icon 🔋 will appear at bottom of the screen if Beeper is set to ON.

2) Language

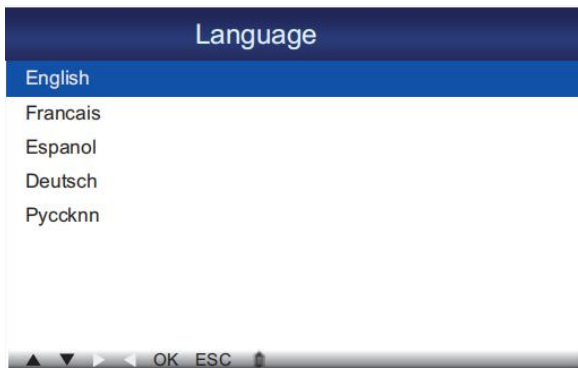Select [Language] in the main menu and press [OK]to enter the setting screen, as shown in Figure 4-23.

Figure 4-23

3) Unit System Setting

   Select [Unit System Setting] in the main menu and press [OK]to enter the setting screen, as
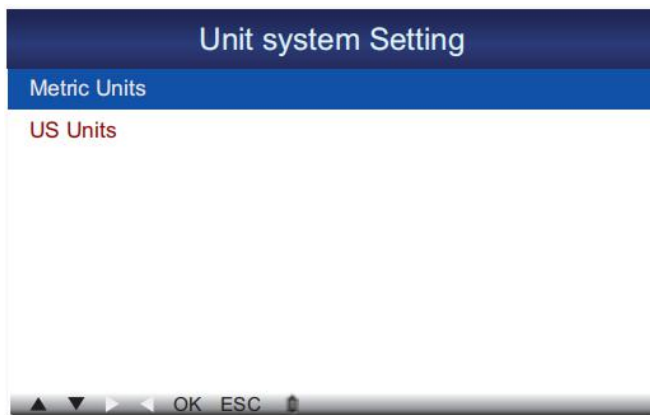   shown in Figure 4-24.

Figure 4-24

4.4 Tool information

   Tool Information: includes software version, hardware version, serial number,supported.

4.5 Help

   This function is to introduce OBDII and HD OBD.

5 Update

Please download the update client from our website as following:

http://www.videnttech.com/support/update/

Or visit the individual product page of iEasy320HD, click the download to install.

Besides language, you can also update the software via above client.

6 FAQ

Here we list some frequently asked questions and answers relating to iEasy320HD.

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

Answer: It may be caused by a slackened connector. Please turn off the iEasy320HD, firmly connect the connector, and switch on it again.

Question: Screen of main unit flashes at engine ignition start.

Answer: Caused by electromagnetic disturbing, and this is normal phenomenon.

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

Answer: 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.

Question: Why are there so many fault codes?

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