

1. Product Introduction

This product is a CAN OBDII/EOBD code reader. It is the easiest and fastest solution for OBD faults. It provides useful information when diagnosing and checking engine problems. It quickly and effectively solves OBD2/EOBD failure problems on today's vehicles.

Breaking the concept of the conventional car OBD reading card, it has a new definition. It also has a 2.8-inch TFT color screen and functions for I/M readiness testing. It has a stylish appearance and creates a first-class material feel. It is not a simple car reading code card. The fault detector is the perfect tool for the mechanic to use.



Key definitions:

I/M Key: One-click reading of vehicle I/M readiness status

DTC Key: One-click reading of fault codes (DTC)

Direction Keys: Scroll menu options up/down/left/right; page navigation

Enter Key: Confirm selection and proceed to the next screen

Exit Key: Exit the current screen and return to the previous menu

TYPE-C Port: Connect to PC for power and software update/data transmission

2. Main Functions

- ☑ Diagnose and clear car fault codes
- ☑ I/M emission detection data
- ☑ High reliability, wide supply voltage range of 8-36V
- ☑ Data waveform display, real-time data stream
- ☑ 2.8-inch color LCD display
- ☑ Stronger overcurrent and overvoltage protection

Supported Live Data Items (example list):

- Engine RPM
- Fuel system state
- Long-term fuel trim
- Intake temperature
- O2 sensor voltage
- Computed load value
- Vehicle speed
- Intake manifold pressure
- Air velocity
- Fuel pressure
- Cooling fluid temp
- Short-term fuel trim
- Fuel injection timing
- Throttle position
- Fuel consumption

Note: The number of data items supported by different models in different years is also different, depending on the actual support situation.

3. Protocol Support (9 Protocols)

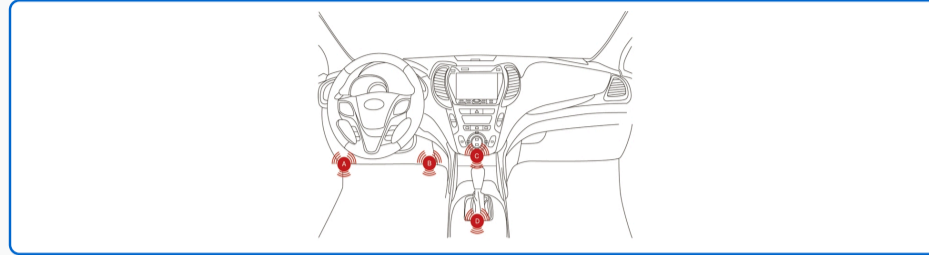
- ☑ 1) SAE J1850 PWM (41.6 Kbaud)
- ☑ 2) SAE J1850 VPW (10.4 Kbaud)
- ☑ 3) ISO 9141-2 (5 baud init, 10.4 Kbaud)
- ☑ 4) ISO 14230-4 KWP (5 baud init, 10.4 Kbaud)
- ☑ 5) ISO 14230-4 KWP (fast init, 10.4 Kbaud)
- ☑ 6) ISO 15765-4 CAN (11bit ID, 500 Kbaud)
- ☑ 7) ISO 15765-4 CAN (29bit ID, 500 Kbaud)
- ☑ 8) ISO 15765-4 CAN (11bit ID, 250 Kbaud)
- ☑ 9) ISO 15765-4 CAN (29bit ID, 250 Kbaud)

4. Product Parameters

Support System	Windows
Working Voltage	DC 9-36V
Working Current	58mA
Operating Environment	-20 to 65°C
Storage Temperature	-30 to 80°C
Overall Dimension	156 × 88 × 24 mm

5. Find the OBD Interface

Find the special OBD interface for the car. The location of the OBD interface for different models is different (it is usually located in the inner panel of the lower left of the dashboard, that is, above the accelerator pedal. For other models, please refer to the figure below).



Various OBD port locations by vehicle model

6. Product Settings

The reader allows the following adjustments and settings:

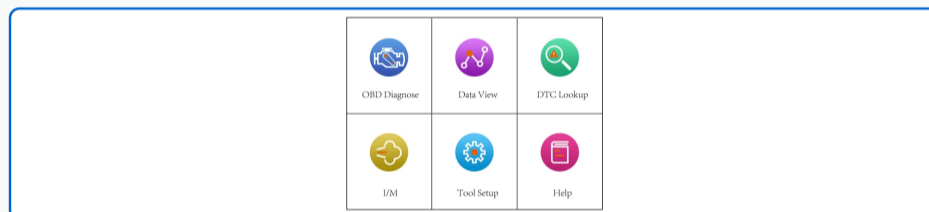
- 1) Unit of Measure:** Set the unit to English or metric
- 3) Buzzer:** Turn the setting on/off

- 2) Language:** Select the desired language
- 4) Device Automatic Test:** Screen test / Button test

The settings will remain the same until changing the current settings.

6.1 Product Settings (System Setup)

With six setup screens, press the Up/Down button to enter the System Setup menu. Adjust and set as described in the setup options below.

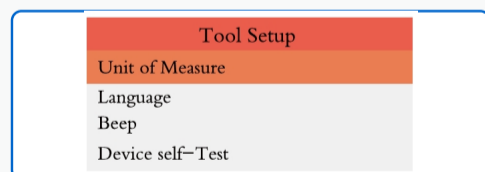


6 setup options available

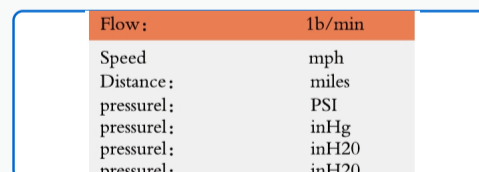
6.2 Measurement Unit

* Measurement unit is metric unit by default.

- 1)** In the system setting menu, press Up/Down button to select Measurement Unit, then press Return/Confirm button.
- 2)** In the measurement unit menu, press Up/Down button to select the required measurement unit.
- 3)** Press Return/Confirm button to save the selection, and return to the previous menu.



From system settings

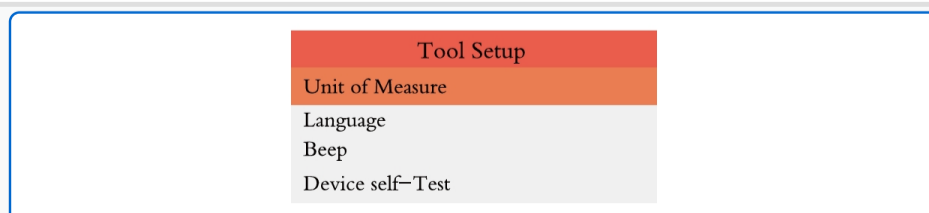


Choose measurement unit

6.3 Language Setting

* English as default.

- 1)** In the system setting menu, press Up/Down button to select Language, and then press Return/Confirm button.
- 2)** Press Up/Down button to select the required language, press Return/Confirm button to save the selection, and return to the previous menu.



Multi-Language available

6.4 Buzzer Setting

The default is on.

- 1) In the System Settings menu, use the Up/Down button to select Buzzer, then press the On/Off button.
- 2) Use the Up/Down buttons to select the desired setting, use the Back/OK button to save the selection and return to the previous menu.

6.5 Automated Test

• Screen automation test

• Key automation test

In the System Settings menu, use the Up/Down button to select a test option and press the Enter/Back button.

7. Application Range of Vehicle

This OBD II/EODB decoder is specially applied to all the vehicles that accord with OBD II standard, including the vehicles for preparing the next generation of protocols - controlling the area network (have the capacity). All the vehicles selling in USA as required by United States Environmental Protection Agency, and 1996 newer (automobile) light trucks must be accorded with OBD II standard. Including all the domestic, Asian and European vehicles.

A small amount of 1994 and 1995 petrol vehicles are accorded with OBD II standard. If need to verify if 1994 or 1995 vehicles are accorded with OBD II standard, please check the vehicle emission control information (VECI) label. Most vehicles are stuck this label under the engine jacket or near the radiator. If the vehicle is accorded with OBD II standard, then its label is marked with "OBD II certification". In addition, the government laws and regulations require all the vehicles that are accorded with OBD II standard must have "General" 16 pin data link connector (DLC).

If your vehicle is accorded with OBD II standard, there must be a 16 pin DLC (data link connector) below the instrument panel, and a vehicle emission control information label states the vehicle is accorded with OBD II standard.

8. OBD II Diagnosis

When diagnostic scanner detects multiple vehicle control modules, the system will prompt you to select the module that can retrieve the data. Power assembly control module [PCM] and gearbox control module [TCM] are the commonly options.

Caution:

Do not connect or disconnect any test equipment when ignition switch is opening or engine is running.

- 1) Turn off ignition switch.
- 2) Find the vehicle 16 pin data link connector (DLC).
- 3) Insert OBD II wire to vehicle DLC.
- 4) Turn on ignition switch. Engine stops or runs.
- 5) Press Return/Confirm button to enter diagnostic menu. A series of OBD2 protocol information will be displayed on the display screen, until the vehicle protocol is detected.

Connection Error Troubleshooting

* If decoder can not communicate with the vehicle ECU (engine control unit), "Connection error!" will be displayed on the display screen.

- ✓ Confirm ignition switch is turned on
- ✓ Check if OBD II connector of decoder is connected to vehicle DLC
- ✓ Confirm the vehicle is accorded with OBD2 standard
- ✓ Turn off ignition switch and wait for 10 seconds. Turn on ignition switch again, repeat the steps in 5.

* If "Connection error" information still appears, then it may be the communication between decoder and vehicle has the problem. Please contact the local dealer or the Customer Service Department of the manufacturer for getting the help.

After the system status (Diagnostic indicator state, diagnostic code counting, monitor state) is displayed, wait for several seconds or press any key to display the diagnostic menu.

8.1 Read Code

1) Press Up/Down button to select Read Code from diagnostic menu, and then press Return/Confirm button.



* If multiple modules are detected, the system will prompt you to select the module before testing.

2) Read DTC and its definition on the screen.

* Control module No., diagnostic code order, total numbers of code to be detected and type of code (general or specified by manufacturer, storage or code to be processed) will be displayed on the upper right corner of screen.

3) If find out multiple DTC, please press Up/Down button by the requirements, until all codes are displayed.

* If not detect the code, "Code is not stored in module!" information is displayed on the screen.

* If the retrieved DTC contains any manufacturer-specific or enhanced code, then the "manufacturer control" is displayed on the screen to select the vehicle for inspection.

4) Press Return/Confirm button to return to the previous menu.

8.2 Delete the Code

⚠ Caution:

Delete the diagnostic code of decoder may not only delete the code on truck-mounted computer, but also delete "Freeze Frame" data and the enhanced data of the manufacturer. In addition, I/M ready monitor status of all vehicle monitors are reset as non-ready and non-finish state. Do not delete the code before the technicians check the system completely.

* Implement this function by the key on (KOEO) engine. Do not start the engine.

1) If decide to delete the diagnostic code, please press Up/Down button to select "Del the code" from the Diagnostic menu, and then press Return/Confirm button.

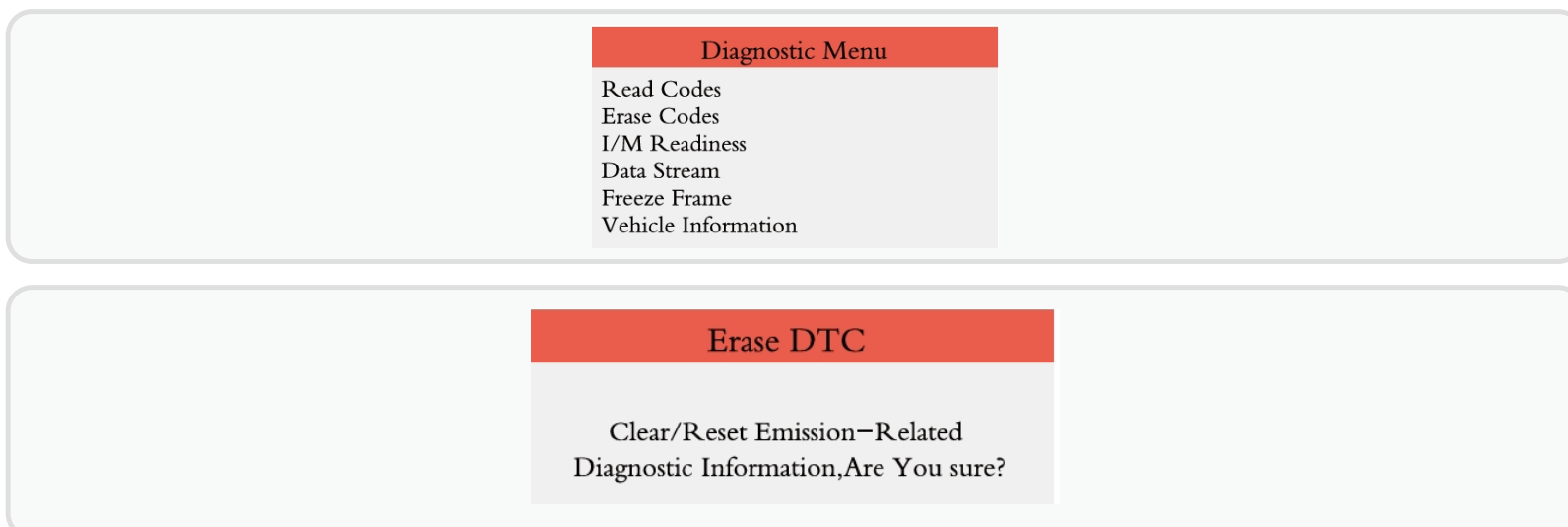
2) A warning message appears, and needs to confirm.

3) If go on deleting the code, please press Return/Confirm button to delete.

* If the code is deleted successfully, then "Delete is finished!" information is displayed on the screen.

* If the code is not deleted successfully, then "Delete is failed. Rotate the key in the case of engine is turned off!" is displayed on the screen. Wait for several seconds or press any button to return to Diagnostic menu.

4) If you want to go on deleting the code, press Up/Down button to select, and press Return/Confirm button. "Cancel the command" information is appeared. Press any button or wait for several seconds to return to Diagnostic menu.



8.3 Read Freeze Frame Data

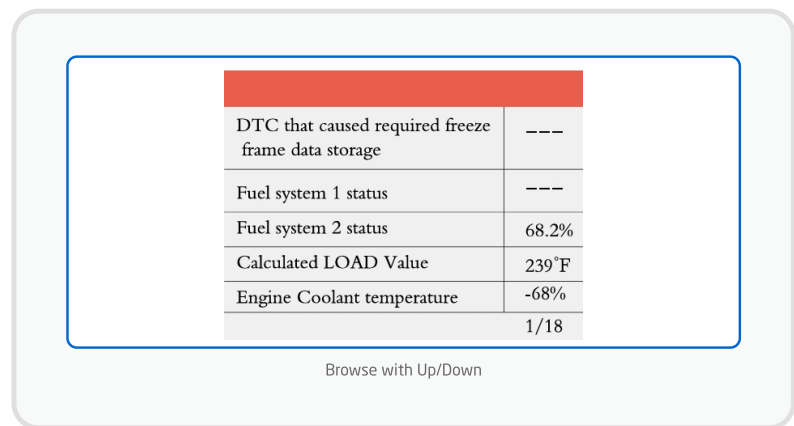
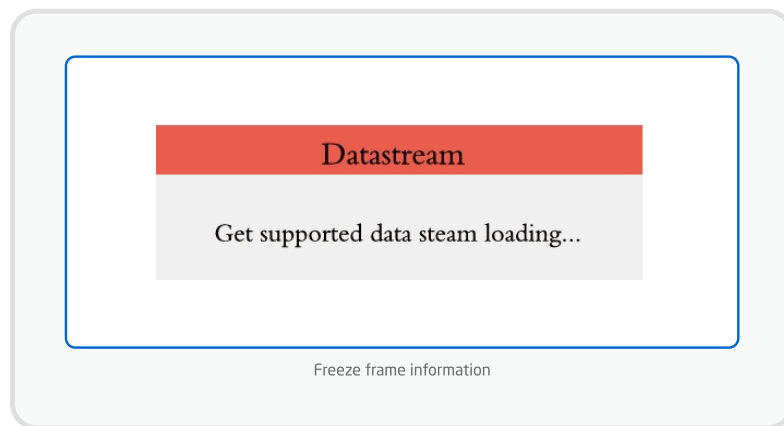
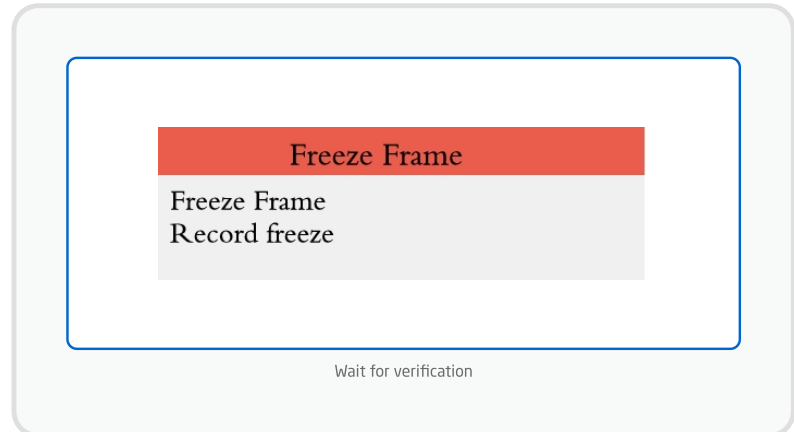
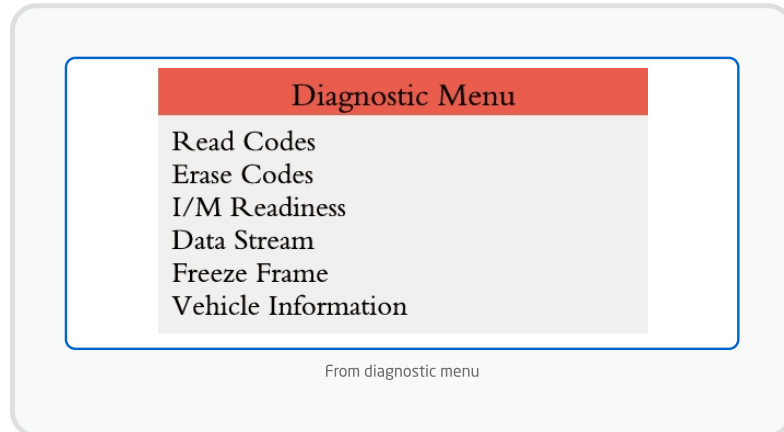
1) If need to read Freeze Frame, press Up/Down button to select Freeze Frame from diagnostic menu, and then press Return/Confirm button.

* If multiple modules are detected, the system will prompt you to select the module before testing.

* Press Up/Down button to select a module, and then press Return/Confirm button.

2) Wait for several seconds, until the decoder PID mapping is verified.

3) If the retrieved information covers multiple screens, then need to press Up/Down button, until all the data is displayed.



The digital "x/x" on the upper right corner of the screen shows the total Frame coverage of retrieved data on the screen and the serial number of the current displaying data. If no available Freeze Frame data, "Freeze Frame is not stored" information will be displayed on the screen.

4) Press Return/Confirm to return to Diagnostic menu.

8.4 Retrieve I/M Ready State

I/M ready function is used to check the operating situation of vehicle emission system that is accorded with OBD2 standard. This is a very good function before checking if the vehicle is accorded with the state emission plan.

Some newest vehicle models may support two types of I/M ready test:

A) DTC has been deleted – Shows the display status since DTC has been deleted.

B) This Drive Cycle – Shows the monitor status since the current drive cycle has been started.

I/M ready result is "No", it is not sure shows the tested vehicle can not pass the state I/M check. Some states permit one or multiple such monitors are "Non-ready" passed the emission check.

Status Definitions:

- **"Confirm"** – Shows the diagnostic test for the special monitor being checked has been finished.
- **"INC"** – Shows the diagnostic test for the special monitor being checked has not been finished.
- **"Not applicable"** – The vehicle doesn't support the monitor.

1) Press Up/Down button to select I/M ready from Diagnostic menu, and then press Return/Confirm button.

* If multiple modules are detected, the system will prompt you to select the module before testing.

2) Wait a few seconds until the reader PID mapping is verified. If the vehicle supports two types of tests, display two types on the screen to choose from.

Monitor Status Check - MIL Light and Monitors:

- Misfire monitor
- Component monitor
- Oxygen Sens Mon
- EVAP System Mon
- Sec Air System
- AC Refrig Mon
- Fuel System Mon
- EGR system
- Catalyst Mon
- Oxygen Sens htr
- Htd Catalyst

8.5 Read the Vehicle Information

Vehicle information function can retrieve vehicle identification number (VIN), calibration sign, calibration verification number (CVN) and the models above 2000 support the vehicle performance tracking of mode 9.

- 1) In Diagnostic menu, press Up/Down button select Vehicle Information. Press Return/Confirm button.
- 2) Wait for several seconds or press Return/Confirm button to go on.

Vehicle Identification Number (VIN)

Not Supported

Calibration Identifications (CPN)

Not Supported

Calibration Verification Numbers (CVN)

CVN 1: 82E10000

* If the vehicle doesn't support this mode, "The selected mode is not supported!" is displayed on the screen.

* If multiple modules are detected, the system will prompt you to select the module before testing.

- 3) When decoder is reading the vehicle information, please wait for several seconds.
- 4) In vehicle information menu, press Up/Down button to select the available items you want, and then press Confirm button.
- 5) Read the retrieved vehicle information on the screen.
- 6) Press Return/Confirm button to return to the previous menu.

Vehicle Information	
Vehicle Information Number(VIN)	Not Supported
Calibration Identifications(CPN)	Not Supported
Calibration Verification Numbers(CVN)	CNV1:82E10000

VIN, CPN, CVN information

8.6 Waveform Display

- 1) Press Confirm button to enter real-time waveform interface.

- 2) Press the OK button to view:

• View all items

• View graphic items

• Record Select

- 3) Press the OK button to wait for loading.

Diagnostic Menu	
Read Codes	
Erase Codes	
I/M Readiness	
Data Stream	
Freeze Frame	
Vehicle Information	

Datastream	
View All Items	
View Graphic Items	
Record Select	

Datastream	
Get supported data stream loading...	

All Datastream	
Fuel system 1 status	---
Fuel system 2 status	---
Calculated LOAD Value	68.2%
Engine Coolant temperature	239°F
Short Term Fuel Trim-Bank1	-68%
	1/18

Select Datastream	
[]	Calculated LOAD Value
[]	Engine Cool Temperature
[]	Short Term Fuel trim-Bank 1
[]	Long Term Fuel trim-Bank 1
[]	Short Term Fuel trim-Bank 2
	1/16

* **View all items:** After entering the interface, display all data.

* **View graphic items:** After viewing the graphic item, enter all the data that can be viewed after entering the interface (click V, press Back to display the waveform).

* **Note:** The data playback interface will only display data after clicking this function.

- 4) Press the Back button or the OK button to exit the page.

8.7 Diagnostic Code Query

Press "A" to adjust the next code.

Press "W" to adjust the current code.

Press **Confirm** to query after input the code.

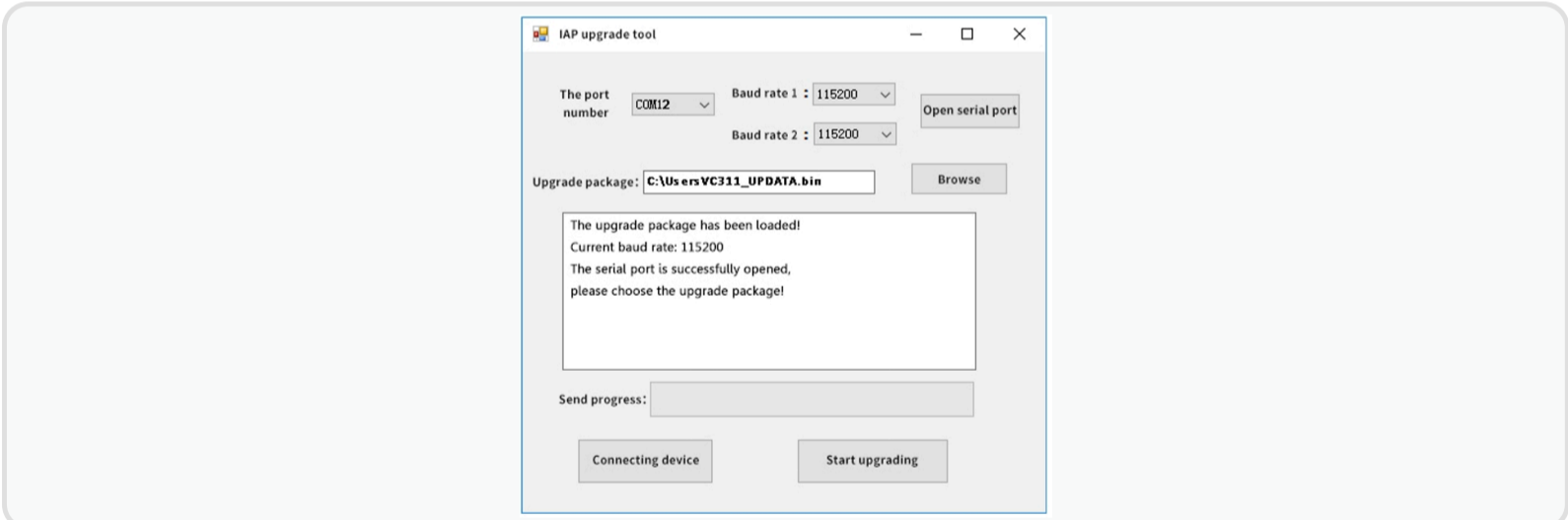
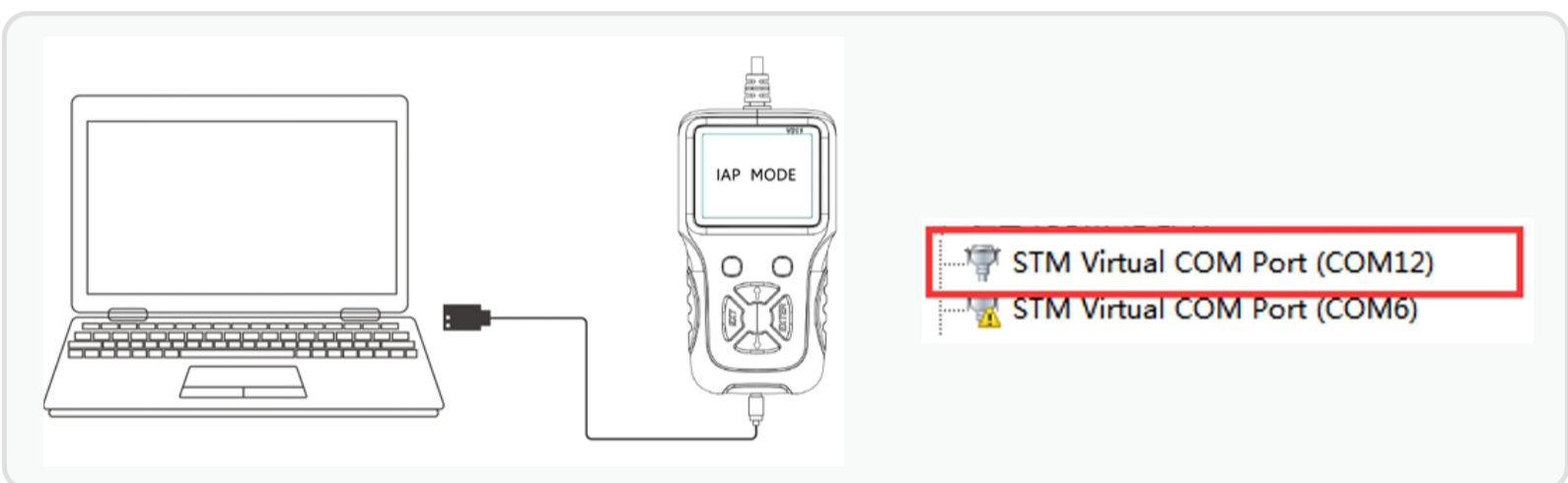
Review	
P O O O O	
The 1st rang:P,C,B,U	
The 2st rang:P,C,B,U	
The others from O to F	

8.8 Upgrade Function

Preparation Conditions:

- A TYPE-C data cable
- A Windows computer
- A device link

- 1) Download the upgrade software "UPDATA.exe". The software can be downloaded from www.elm327.com
- 2) Press and hold the Down button of the host and insert the TYPE-C cable into the USB port on the computer. The device enters the upgrade mode "IAP MODE" as shown below.
- 3) After the TYPE-C cable is plugged into the computer, the driver software will be installed automatically. For example, the serial port shown below is COM12.
- 4) Open the upgrade tool and select the serial port. Open the serial port and you will be prompted to open the serial port successfully.
- 5) Select the upgrade package as "VC311_UPDATA.bin".
- 6) Click to start the upgrade. The upgrade progress bar will be displayed, indicating that the upgrade is successful.



9. Disclaimer Conditions

We are committed to providing unparalleled customer support to our customers before and after sales. Below we offer our exemption for this product:

If any of the following conditions are met, the customer shall not enjoy the benefits covered by this limited warranty:

a) Abnormal Use: Products are damaged due to abnormal use, abnormal conditions and improper storage, such as exposure to humidity or dampness, unauthorized modification, unauthorized maintenance, misuse, negligence, abuse, accident, modification, improper installation or other non-malfunctioning behaviour, including damage caused by transportation.

b) External Damage: Our company is not responsible for damage to products caused by external causes (such as collision with objects) or fire, flood, sand, dust, storm, lightning, earthquake or weather conditions, irresistible acts of natural disasters or leakage of batteries, theft, fuse breaking, incorrect use of any power source.