



User Manual

Compatible with:

M500 Home version / M500 Multiple vehicle versions

Warning Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

Note: 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

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Safety Information

To ensure your safety and the safety of others, and to prevent damage to the device and the vehicle, please read this manual carefully before operating the scanner. The safety information provided throughout this manual is intended to alert operators that extreme caution must be exercised when using this equipment. Always refer to and follow the safety information and testing procedures provided by the vehicle manufacturer. Read, understand, and adhere to all safety information and operating instructions in this manual.

WARNING

- Do not route the test cable in a manner that would interfere with driving controls.
- Do not exceed voltage limits between inputs specified in this user's manual.
- Always wear ANSI approved goggles to protect your eyes from propelled objects as well as hot or caustic liquids.
- Fuel, oil vapors, hot steam, hot toxic exhaust gases, acid, refrigerant and other debris produced by a malfunction engine can cause serious injury or death. Do not use the scanner in areas where explosive vapor may collect, such as in below-ground pits, confined areas, or areas that are less than 18 inches (45 cm) above the floor.

- Do not smoke, strike a match, or cause a spark near the vehicle while testing and keep all sparks, heated items and open flames away from the battery and fuel / fuel vapors as they are highly flammable.
- Keep a dry chemical fire extinguisher suitable for gasoline, chemical and electrical fires in work area.
- Always be aware of rotating parts that move at high speed when an engine is running and keep a safe distance from these parts as well as other potentially moving objects to avoid serious injury.
- Do not touch engine components that get very hot when an engine is running to avoid severe burns.
- Block drive wheels before testing with engine running. Put the transmission in park (for automatic transmission) or neutral (for manual transmission). And never leave a running engine unattended.
- Do not wear jewelry or loose fitting clothing when working on engine.
- Don't connect or disconnect the equipment while the ignition is on or the engine is running.

1. General Introduction

The M500 scanner is the handheld model combining with the best possible coverage of OE-level to help you diagnose symptoms, codes, customer complaints easily, quickly and efficiently. This manual describes the construction and operation of the device and how it works.

1.1. Introduction to the Diagnostic Scanner Interface



No.	Name	Definition
1	Screen	4.3-inch color display screen
2	OBD Cable	Connection line between equipment and car
3	FN button	Cursor switching between multiple buttons
4	Select button	Used for selecting up, down, left, right during use
5	OK button	Executes a selected option and generally goes to the next screen
6	ESCbutton	Exits a screen and generally returns to previous screen
7	USB Port	Provides power to the device and setup connection for data transmission between the device and PC.

1.2. Technical Specifications

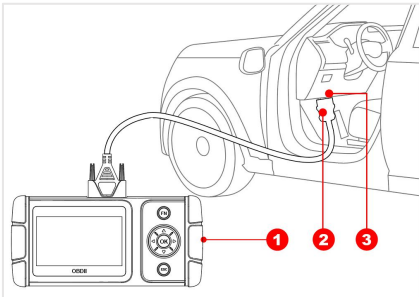
1	Operating Temperature	-20~ 60°C (-4 to 140 F°)
2	Storage Temperature	-20~ 60°C (-4 to 140 F°)
3	Power	9~16 V

2. Get Ready before Diagnostic

2.1. Cable Connection for On-Board Diagnostic

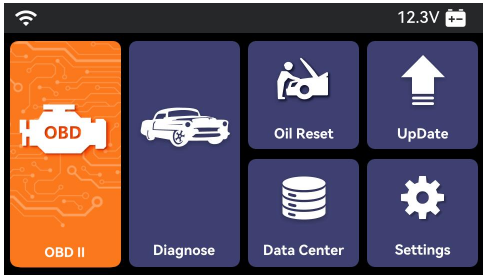
Ensure a secure connection between the diagnostic scanner and the vehicle's diagnostic interface.

Connection method: Connect the main unit to the OBD main cable for power supply.



No.	Description	Features and Functions
①	Diagnostic Scanner Main Unit	To communicate with vehicle and display the diagnostic result
②	OBD Cable	To connect the connector and the vehicle
③	Diagnostic Socket on car	Socket location varies of different car makes/ models

The system boots up and shows the screen with the M500 diagnostic scanner Job Menu as below:



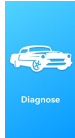
Almost all operations on the display are controlled by menu driven, which allows you to quickly locate the test procedure, or data that you need, through a of choices and questions. Detailed descriptions of the menu structures are found in the chapters for the various applications.

2.2. Application Icon Introduction

The Application buttons configure the M500 Diagnostic Scanner for the type of operation or activity to be performed.

Primary Menu	Submenu	Description
 OBDII	 Read code	● Select the "Read Code" function, and the product will diagnose the vehicle's engine system. ● If there are any engine faults, the engine trouble codes and their definitions will be displayed. ● If multiple fault codes are present, use the Up/Down keys to scroll through them. ● Press ESC to return.
	 Erase code	Select "Erase Code" and a confirmation message will appear. After confirming the clearance, the vehicle's engine warning light will turn off, indicating successful code clearance. If the clearance fails, try clearing the codes again with the ignition on but the engine off.

 OBDII	 Data list	Upon entering the data stream function, the product will read and display real-time data stream information from the vehicle's engine.
	 Freeze	Freeze frame data refers to the snapshot automatically recorded by the vehicle's computer when an emissions-related trouble code is triggered. This is a valuable feature that helps pinpoint the root cause of the fault.
	 I/M	The I/M readiness function is used to check whether the vehicle's monitors are in a prepared operational state.
	 Vehicle Info	You can view information such as the Vehicle Identification Number (VIN), Calibration Identification Code, and Calibration Verification Number.
	 Mode 6	It can test exhaust-related components such as oxygen sensors, catalytic converters, variable valve timing systems, oxygen sensor heaters, and heated catalysts.

 OBDII	 Mode 8	The function can detect whether there is a leak in the vehicle's evaporative emission control system.
	 O2 Sensor	Entering the oxygen sensor test item will read the values of the vehicle's oxygen sensor to determine whether various detection data are normal.
	 DTC Lib	Upon entering the "Query Trouble Codes" option, the user can use the directional keys to navigate through the fault codes. Scroll to the desired fault code and press the "OK" button to view its definition.
 Diagnostic	It can perform read codes, clear codes, and detect data streams for all vehicle systems. Supported brands include: Audi, Mercedes-Benz, Bentley, BMW, Bugatti, Jaguar, Land Rover, Lamborghini, MINI, Volkswagen, Volkswagen Commercial Vehicles, Porsche, Rolls-Royce, SEAT, Skoda, Buick, Cadillac, Chevrolet, Chrysler, Ford, General Motors, GMC, Scion, Acura, Daihatsu, Honda, Hyundai, Infiniti, Isuzu, Kia, Lexus, Mazda, Nissan, SsangYong, and Toyota.	
	Covers mainstream vehicle models on the market and can quickly	

 Reset	perform zero reset (information reset) of reminder messages after maintenance.	
	Europe includes 27 automotive manufacturer brands: Mercedes-Benz, SMART, BMW, MINI, Volkswagen, Audi, Skoda, SEAT, Lamborghini, Bentley, Bugatti, Porsche, Land Rover, Jaguar, Renault, Peugeot, Citroën, DS, Ferrari, Maserati, Fiat, Lancia, Alfa Romeo, Opel, Vauxhall, Saab, Volvo.	
	Asia includes 15 automotive manufacturer brands: Toyota, Lexus, Honda, Acura, Nissan, Infiniti, Hyundai, Kia, Mitsubishi, Mazda, Suzuki, Isuzu, Subaru, Mahindra, Proton.	
 Data center	America includes 19 automotive manufacturer brands: Ford, Lincoln, Mercury, Chrysler, Jeep, Dodge, Buick, Chevrolet, Holden, Hummer, Oldsmobile, Pontiac, GMC, Daewoo, Scion, Ravon, Workhorse.	
	 Cloud print	This feature will provide significant convenience when you need to view electronic documents or use your mobile phone for printing.

 Data center	 Perf Test	Test vehicle acceleration, braking, distance, and instrument data.
	 Battery	It can measure battery voltage, waveforms, and vehicle starting waveforms.
	 History	It can automatically store previous diagnostic actions, facilitating long-term tracking of vehicle status changes.
 Update	Connect to Wi-Fi and upgrade the software directly.	
 Settings	Adjust and view system settings, including the measurement units of the diagnostic system, device display language, and sound settings.	
	WIFI Connect the device, open the Wi-Fi settings, select the network name,	

 Settings	and enter the password to connect.
	Languages English, Chinese, German, French, Italian, Portuguese, Spanish, Polish, Russian, Japanese, Korean.
	Buzzer Turn the prompt tone on or off.
	Self Test Provides options for LCD screen test, button test, and buzzer test.
	Tool Information Provides related information about the device.
	Unit Provides two unit options for real-time data: metric units and imperial units.
Select auto brand Select the vehicle brand and download the corresponding diagnostic software.	
Restore factory settings Restore default language/unit/buzzer settings and delete cloud print records and history.	

3. Operation Guide

To start a new test, you need to establish the proper vehicle communication to the M500 diagnostic scanner; you need to follow the screen instructions step by step for the car testing.

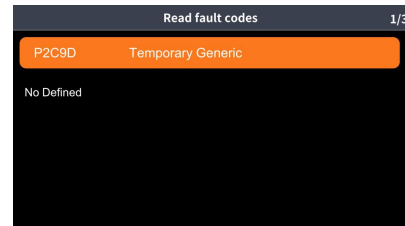
3.1. Diagnostic

- When the main unit is properly connected to the vehicle, click the Diagnostic icon button on the M500 diagnostic scanner.
- Enter the diagnostic function interface.



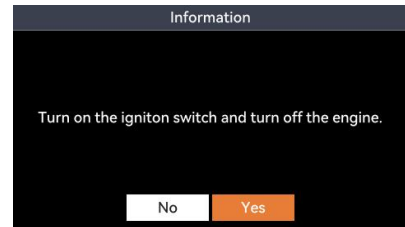
3.1.1. Read code

- Select the "Read Code" function, and the product will diagnose the vehicle's engine system.
- If there are any engine faults, the engine trouble codes and their definitions will be displayed.
- If multiple fault codes are present, use the Up/Down keys to scroll through them.
- Press ESC to return.



3.1.2. Erase code

Select "Erase code" and a confirmation message will appear. After confirming the clearance, the vehicle's engine warning light will turn off, indicating successful code clearance. If the clearance fails, try clearing the codes again with the ignition on but the engine off.



3.1.3. Data list

Upon entering the data stream function, the product will read and display real-time data stream information from the vehicle's engine.

Read data stream		1/169
Number of fault codes stored in this ECU		2
Malfunction Indicator Lamp (MIL) Status		OFF
DTC that caused required freeze frame data storage		P0103
Fuel system A status:		OL -Drive B2
Fuel system B status:		CL
Calculated LOAD Value:		20.78%
Engine Coolant Temperature		-1.0°C

3.1.4. Freeze

Freeze frame data refers to the snapshot automatically recorded by the vehicle's computer when an emissions-related trouble code is triggered. This is a valuable feature that helps pinpoint the root cause of the fault.

DTC Freeze Data		1/169
Number of fault codes stored in this ECU		2
Malfunction Indicator Lamp (MIL) Status		OFF
DTC that caused required freeze frame data storage		P0103
Fuel system A status:		OL -Drive B2
Fuel system B status:		CL
Calculated LOAD Value:		20.78%
Engine Coolant Temperature		-1.0°C

3.1.5. I/M ready status

The I/M readiness function is used to check whether the vehicle's monitors are in a prepared operational state.

Readiness Data		1/9
Misfire Monitor		Complete
Fuel system Monitor		Complete
Comprehensive component Monitor		Complete
NMHC catalyst Monitor		Complete
NOx aftertreatment Monitor		Complete
Boost pressure Monitor		Complete
Exhaust gas sensor Monitor		Complete

3.1.6. Vehicle Info

You can view information such as the Vehicle Identification Number (VIN), Calibration Identification Code, and Calibration Verification Number.

Version information	
Vehicle Identification Number	
1A1JC5444R7252367	
Calibration Identifications	
JMB*36761500	
Calibration Verification Numbers	
1791BC82	
Calibration Verification Numbers 2	
16E062BE	

3.1.7. Mode 6

It can test exhaust-related components such as oxygen sensors, catalytic converters, variable valve timing systems, oxygen sensor heaters, and heated catalysts.

On Board Monitor Test	1/88
Exhaust Gas Sensor Monitor Bank 1 - Sensor 1	
Exhaust Gas Sensor Monitor Bank 1 - Sensor 2	
Exhaust Gas Sensor Monitor Bank 1 - Sensor 3	
Exhaust Gas Sensor Monitor Bank 1 - Sensor 4	
Exhaust Gas Sensor Monitor Bank 2 - Sensor 1	
Exhaust Gas Sensor Monitor Bank 2 - Sensor 2	
Exhaust Gas Sensor Monitor Bank 2 - Sensor 3	

3.1.8. Mode 8

The function can detect whether there is a leak in the vehicle's evaporative emission control system.

Component Test
Evaporative system leak test

3.1.9. O2 Sensor

Entering the oxygen sensor test item will read the values of the vehicle's oxygen sensor to determine whether various detection data are normal.

O2 Monitor Test	1/3
Oxygen Sensor Bank 1 - Sensor 2	
Oxygen Sensor Bank 1 - Sensor 3	
Oxygen Sensor Bank 2 - Sensor 3	

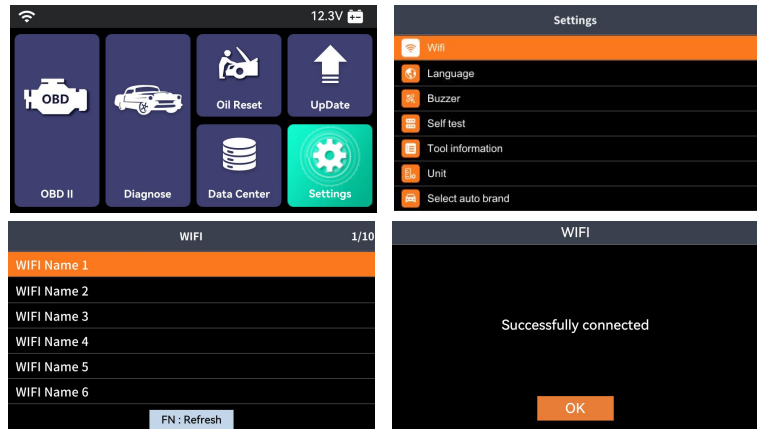
3.1.10. DTC Lib

Upon entering the "DTC Lib" option, the user can use the directional keys to navigate through the fault codes. Scroll to the desired fault code and press the "OK" button to view its definition.

DTC Query	
P 0 0 0 0	
◀ ▶	Left / Right
▲ ▼	Change Dight
OK	Confirm

3.2. Diagnostic

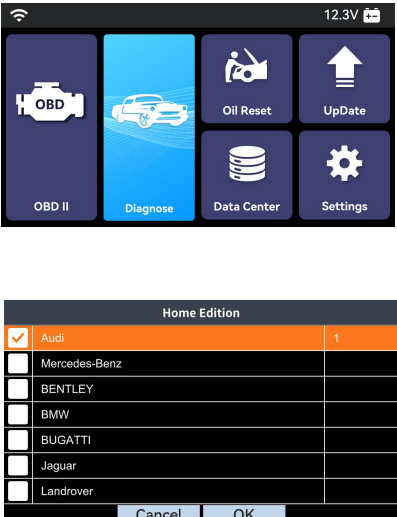
(1) During initial use, ensure the diagnostic tool is connected to Wi-Fi, navigate to the "Settings" function, and select "Wi-Fi".



(2) Select the "Diagnosis" function, add the vehicle brand you need to diagnose, and follow the steps below in sequence.

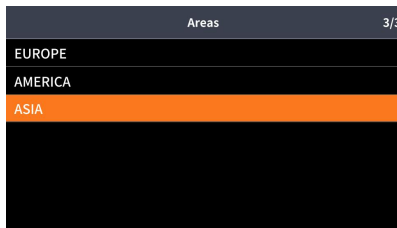
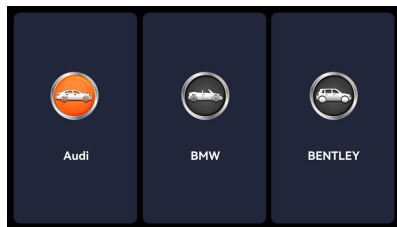
Note:

A maximum of three vehicle brands can be added. Once selected, they cannot be modified. Please choose carefully.

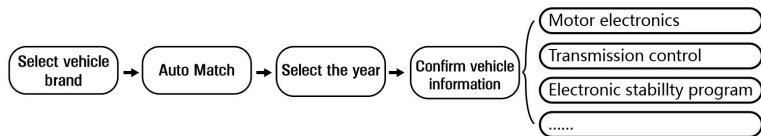


(3) After the addition is complete, you can begin the diagnosis.

⚠ **Note:** If you have purchased the M500 Home version, you can directly select the vehicle model by region.



(4) Follow the steps below to access the system:



(5) Upon entering the control unit menu, the diagnostic tool will display all detectable diagnosable systems. You can select the system you need to diagnose to proceed to the next step.



(6) If you select "Safety airbag," options such as version information, read codes, clear codes, and data stream will be displayed.



● Version Information

Version Information1/3

VAG number
3453B28R5E3069321
System identification number
1233B28R5E3069321
Control unit model
EV_AirbaAU10BPAAU64X
Diagnostic software number
001000
Software coding
443535303030

Version Information2/3

Software version
0123B28R5E3069321
Hardware part number
2343B28R5E3069321
Hardware version
A33000
Workshop code
12336
IMP
00864

● Read fault codes

Read fault codes1/3

P2C9D Temporary Generic

No Defined

● Erase code

Information

Turn on the igniton switch and turn off the engine.

NoYes

● Data list

On Board Monitor Test1/88

Security access: Invalid key count

Driver's side seat belt switch in the second row

Front passenger side second row seat belt switch

Central second row seat belt switch

Driver's side third row seat belt switch

Passenger side third row seat belt switch

Third row center seat belt switch

3.3. Oil Reset

The Oil Reset function is very powerful, covering 61 car manufacturers on the market and continuously updated. Its measurable range includes vehicles on the market that support automatic or manual zeroing modes. If you cannot determine which mode the vehicle belongs to when using it for the first time, you can try to find the vehicle from these two modes.

12.3V

OBD

OBD II

Car

Diagnose

Oil Reset

Data Center

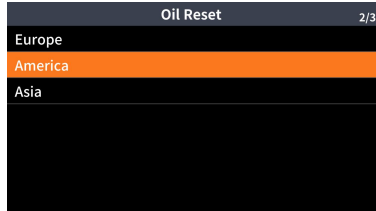
UpDate

Settings

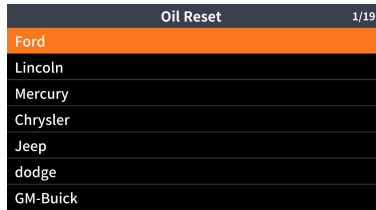
The following will take 2020 Ford models as an example

The vehicle will be identified in a few seconds, and once the matching is successful, the system will guide you the diagnostics screen directly.

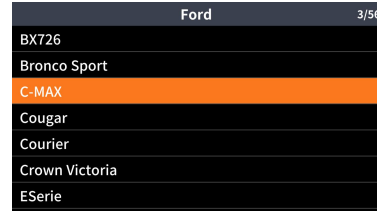
Select **[America]** from the list as below:



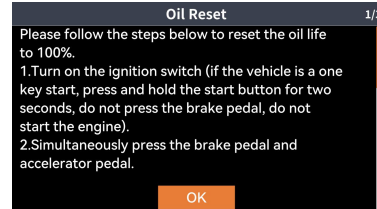
Select **[FORD]** as below:



Select **[C-MAX]** from the list as below:

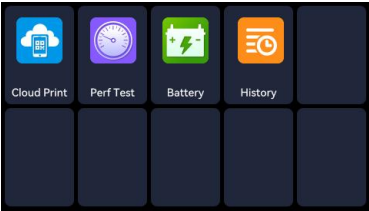


Display instructions on how to perform manual zeroing steps and methods from the list as below:



3.4. Data center

It includes functions such as cloud printing, performance testing, battery detection, and history.

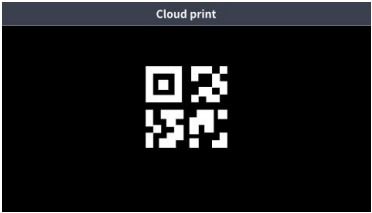


3.4.1. Cloud print

This feature will provide significant convenience when you need to view electronic documents or use your mobile phone for printing.

Cloud print	2/3
Print DTC	
Print data stream	
Print Freeze	

Print data stream	1/169
Number of fault codes stored in this ECU	2
Malfunction Indicator Lamp (MIL) Status	OFF
DTC that caused required freeze frame data storage	P0103
Fuel system A status:	OL -Drive B2
Fuel system B status:	CL
Calculated LOAD Value:	20.78%
Engine Coolant Temperature	-1.0°C



3.4.2. Perf Test

Test vehicle acceleration, braking, distance, and instrument data.

Performance Test	1/4
Acceleration performance	
Braking performance	
Disance performance	
Power performance	



3.4.3. Battery

It can measure battery voltage, waveforms, and vehicle starting waveforms.



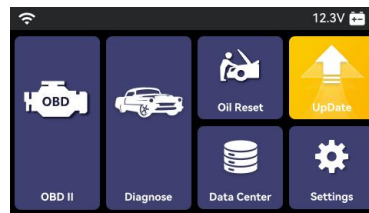
3.4.4. History

It can automatically store previous diagnostic actions, facilitating long-term tracking of vehicle status changes.



3.5. Update

- The product can be upgraded after connecting to Wi-Fi.



- Select the upgrade item.

Update software			
Filename	Version number	Size	Status
☒ Sien/Lexus/Toyota	V0.00.001	20.00KB	upgrade

Select All Deselect all upgrade

- Wait for the upgrade to complete.

Update software				
	Filename	Version number	Size	Status
	Sien/Lexus/Toyota	V0.00.001	20.00KB	10.2%
Select All Deselect all upgrade				

4. Troubleshooting

Why is the vehicle connection incorrect?

If the tool cannot communicate with the ECU, follow these steps:

- Confirm that the ignition switch is turned on.
- Check whether the cable or connector is securely attached to the vehicle's Data Link Connector (DLC).
- Turn off the ignition, wait approximately 10 seconds, then turn the ignition back on and resume testing.
- Verify that the control module is not faulty.

Why is the device not powering on?

If the diagnostic tool fails to power on or is otherwise not functioning correctly, follow these steps to check the connection:

- Check that the connector is properly inserted into the socket.
- Inspect the DLC pins for bending or breakage.
- Clean the Data Link Connector pins if necessary.

When the display is not working properly:

- Ensure that both the system software and diagnostic application software are correctly updated.
- Check all cables, connections, and indicator lights to verify whether signals are being received.