Trademarks

FOXWELL is the trademark of Shenzhen Foxwell Technology Co., Ltd.
All other marks are trademarks or registered trademarks of their respective holders.

Copyright Information

©2024 Shenzhen Foxwell Technology Co., Ltd.

All rights reserved.

Disclaimer

The information, specifications and illustrations in this manual are based on the latest information available at the time of printing.

Foxwell reserves the right to make changes at any time without notice.

Visit our website at

www.foxwelltech.us

For Technical Assistance, send us email at

support@foxwelltech.com

ISED Statement

-English: This device contains licence-exempt transmitter(s)/receiver(s) that

comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

- French:Cet appareil contientdes émetteurs/récepteurs exempts de licence qui sont

conformesaux CNR exempts de licenced' Innovation, Sciences et Développement économique Canada. Le fonctionnementest soumis aux deux conditions suivantes :

(1) Cet appareil ne doit pas causerd'interférences.

(2) Cet appareil doit acceptertoute interférence,y compris les interférences susceptibles de provoquerun fonctionnement indésirable de l'appareil.

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennessur l'exposition aux champs rfet la conformité .

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

This equipment should be installed and operated with minimum distance 0cm between the radiator & your body.

Cet équipementest conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé .

Cet équipement doit êtreinstallé et utilisé avec une distance minimalede 0 cm entre le radiateur etvotre corps.

One-Year Limited Warranty

Subject to the conditions of this limited warranty, Shenzhen Foxwell Technology Co., Ltd (“FOXWELL”) warrants its customer that this product is free of defects in material and workmanship at the time of its original purchase for a subsequent period of one (1) year.

In the event this product fails to operate under normal use, during the warranty period, due to defects in materials and workmanship, FOXWELL will, at its sole option, either repair or replace the product in accordance with the terms and conditions stipulated herein.

Terms and Conditions

1 If FOXWELL repairs or replaces the product, the repaired or replaced product shall be warranted for the remaining time of the original warranty period. No charge will be made to the customer for replacement parts or labor charges incurred by FOXWELL in repairing or replacing the defective parts.

2 The customer shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:

a) The product has been subjected to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of FOXWELL, including damage caused by shipping.

b) The Product has been damaged from external causes such as collision with an object, or from fire, flooding, sand, dirt, windstorm, lightning, earthquake or damage from exposure to weather conditions, an Act of God, or battery leakage, theft, blown fuse, improper use of any electrical source, or the product was used in combination or connection with other product, attachments, supplies or consumables not manufactured or distributed by FOXWELL.

3 The customer shall bear the cost of shipping the product to FOXWELL. And FOXWELL shall bear the cost of shipping the product back to the customer after the completion of service under this limited warranty.

4 FOXWELL does not warrant uninterrupted or error-free operation of the product. If a problem develops during the limited warranty period, the consumer shall take the following step-by-step procedure:

a) The customer shall return the product to the place of purchase for repair or replacement processing, contact your local FOXWELL distributor or visit our website www.foxwelltech.us to get further information.

b) The customer shall include a return address, daytime phone number and/or fax number, complete description of the problem and original invoice specifying date of purchase and serial number.

c) The customer will be billed for any parts or labor charges not covered by this limited warranty.

d) FOXWELL will repair the Product under the limited warranty within 30 days after receipt of the product. If FOXWELL cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, FOXWELL at its option, will provide a replacement product or refund the purchase price of the product less a reasonable amount for usage.

e) If the product is returned during the limited warranty period, but the problem with the product is not covered under the terms and conditions of this limited warranty, the customer will be notified and given an estimate of the charges the customer must pay to have the product repaired, with all shipping charges billed to the customer. If the estimate is refused, the product will be returned freight collect. If the product is returned after the expiration of the limited warranty period, FOXWELL’ normal service policies shall apply and the customer will be responsible for all shipping charges.

5 any implied warranty of merchantability, or fitness for a particular purpose or use, shall be limited to the duration of the foregoing limited written warranty. Otherwise, the foregoing limited warranty is the consumer’s sole and exclusive remedy and is in lieu of all other warranties, express or implied. Foxwell shall not be liable for special, incidental, punitive or consequential damages, including but not limited to loss of anticipated benefits or profits, loss of savings or revenue, loss of data, punitive damages, loss of use of the product or any associated equipment, cost of capital, cost of any

substitute equipment or facilities, downtime, the claims of any third parties, including customers, and injury to property, resulting from the purc hase or use of the product or arising from breach of the warranty, breach of contract, negligence, strict tort, or any other legal or equitable theory, even if foxwell knew of the likelihood of such damages. Foxwell shall not be liable for delay in rendering service under the limited warranty, or loss of use during the period that the product is being repaired.

6. Some states do not allow limitation of how long an implied warranty lasts, so the one-year warranty limitation may not apply to you (the Consumer). Some states do not allow the exclusion or limitation of incidental and consequential damages, so certain of the above limitations or exclusions may not apply to you (the Consumer). This limited warranty gives the Consumer specific legal rights and the Consumer may also have other rights which vary from state to state.

Safety Information

For your own safety and the safety of others, and to prevent damage to the equipment and vehicles, read this manual thoroughly before operating your scanner. The safety messages presented below and throughout this user's manual are reminders to the operator to exercise extreme care when using this device. Always refer to and follow safety messages and test procedures provided by vehicle manufacturer. Read, understand and follow all safety messages and instructions in this manual.

Safety Message Conventions Used

We provide safety messages to help prevent personal injury and equipment damage. Below are signal words we used to indicate the hazard level in a condition.

⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.

⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.

Important Safety Instructions

And always use your scanner as described in the user's manual, and follow all safety messages.

⚠ 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.

Table of Contents

ONE-YEAR LIMITED WARRANTY **4**

SAFETY INFORMATION **5**

1 USING THIS MANUAL **8**
1.1 Bold Text 8
1.2 Symbols and Icons 8

2 INTRODUCTIONS **8**
2.1 Scanner Descriptions 9
2.2 Accessory Descriptions 9
2.3 Technical Specifications 10

3 GETTING STARTED **10**
3.1 Providing Power to Scanner 10
3.2 Application Overview 10
3.3 Input Dialog Box 11

4.VEHICLE IDENTIFICATION **12**
4.1 Auto VIN 13
4.2 Manual Vehicle Selection 15

5 DIAGNOSTIC OPERATIONS **18**
5.1 Control Module Selection 19
5.2 Diagnostic Operations 21
5.2.1 ECU Information 21
5.2.2 Read Codes 22
5.2.3 Clear Codes 24
5.2.4 Live Data 24

6 MAINTENANCE **29**
6.1 Oil Service Reset 30
6.2 Electronic Parking Brake 30
6.3 Battery Replacement (BRT) 31
6.4 Diesel Particulate Filter (DPF) Regeneration 31
6.5 Throttle Body Alignment (TPS/TBA) 31
6.6 Steering Angle Sensor (SAS) Calibration 32
6.7 Continuous Variable Transmission (CVT) 32
6.8 Gear Learning 32
6.9 TPMS Relearn 32
6.10 Injector Coding 32

7 OBDII/EOBD OPERATIONS **32**

8 SYSTEM SETUP **33**
8.1 Select Language 33

8.2 CHANGE UNITS 34
8.3 CONFIGURE SHORTCUT KEYS 34
8.4 DISPLAY TEST 35
8.5 KEYPAD TEST 36
8.6 TOOL INFORMATION 37

9 UPDATE 37

10 UNINSTALL 39

1 Using This Manual

We provide tool usage instructions in this manual. Below is the conventions we used in the manual.

1.1 Bold Text

Bold text is used to highlight selectable items such as buttons and menu options.

Example:

Press the **ENTER** button to select.

1.2 Symbols and Icons

1.2.1 Solid Spot

Operation tips and lists that apply to specific tool are introduced by a solid spot ●.

Example:

When **Settings** is selected, a menu that lists all available options displays. Menu options include:

- WIFI
- Language
- Unit
- Shortcuts
- Install
- Display Test
- Keypad Test
- About

1.2.2 Arrow Icon

▶ An arrow icon indicates a procedure.

Example:

▶ To change menu language:

1. Scroll with the arrow keys to highlight **Language** on the menu.
2. Press the **ENTER** button to select.

1.2.3 Note and Important Message

Note

A NOTE provides helpful information such as additional explanations, tips, and comments.

Example:

NOTE
Test results do not necessarily indicate a faulty component or system.

Important

IMPORTANT indicates a situation which, if not avoided, may result in damage to the test equipment or vehicle.

Example:

IMPORTANT
Do not soak keypad as water might find its way into the scanner.

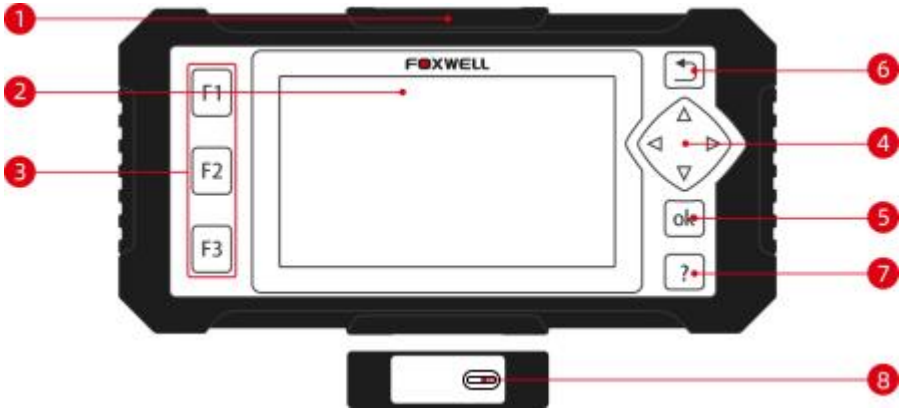
2 Introductions

This series of scanners from Foxwell are innovative diagnostic tools for most vehicles on the road today.

With the tool properly connected to the vehicle's data link connector (DLC), you can use the scanner to read diagnostic trouble codes and view "live" data readings from a variety of control systems. You can also save "recordings" of the data readings, and print stored information.

2.1 Scanner Descriptions

This section illustrates external features, ports and connectors of the scanner.



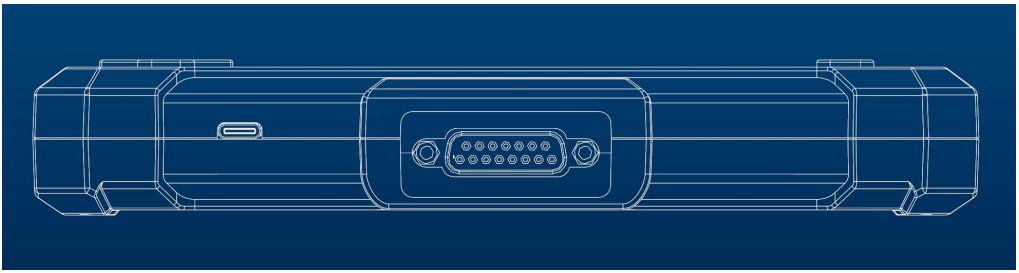


Figure 2-1 Front View

1 **Diagnostic Port** - provides connection between vehicle and the scanner.
2 **LCD Display** - shows menus, test results and operation tips.
3 **Function Keys / Shortcut keys** - three keys that correspond with "buttons" on some screens for executing special commands or provide quick access to most frequently used applications or functions.
4 **Direction Keys** - select an option or scroll through a screen of data or text.
5 **OK Key** - executes a selected option and generally goes to the next screen.
6 **BACK Key** - exits a screen and generally returns to previous screen.
7 **HELP Key** - displays helpful information.
8 **USB Port** - provides USB power connection between the scanner and PC/laptop.

IMPORTANT

Do not use solvents such as alcohol to clean keypad or display. Use a mild nonabrasive detergent and a soft cotton cloth.

2.2 Accessory Descriptions

This section lists the accessories that go with the scanner. If you find any of the following items missing from your package, contact your local dealer for assistance.

1 **User's Guide** - provides operation instructions for the usage of the scanner.

2 **Diagnostic Cable** - provides connection between the scanner and a vehicle.
3 **USB Cable** - provides connection between the scanner and a computer to update and print data.
4 **Warranty Card** - A warranty card is required if you need any repair or replacement from us.
5 **Blower Molding Case** - stores the scanner and its accessories.

2.3 Technical Specifications

Display: Backlit, 4.3'' TFT color display
Working Temperature: 0 to 60 ℃ (32 to 140℉)
Storage Temperature: -20 to 70℃ (-4 to 158℉)

Power Supply: 8-18V vehicle power and 3.3V USB power
Dimensions: (L*W*H**)**: 200*110*30mm
Weight: 1.8 Kgs

3 Getting Started

This section describes how to provide power to the scanner, provides brief introductions of applications loaded on the scanner and display screen layout and illustrates how to input text and numbers with the scan tool.

3.1 Providing Power to Scanner

Before using the scanner, make sure to provide power to the scanner.

The unit operates on any of the following sources:

- 12-volt vehicle power
- USB connection to computer

3.1.1 Connecting to Vehicle Power

The scanner normally powers on whenever it is connected to the data link connector (DLC).

To connect to vehicle power:

1. Locate the data link connector (DLC). The DLC is generally located under the dash on the driver side of the vehicle.
2. Attached the Diagnostic cable to the scanner and tighten the captive screws to ensure good connection.
3. Connect a correct adapter to the data cable according to the vehicle being serviced and plug it into the vehicle DLC.
4. Switch the ignition key to the ON position.
5. The scanner automatically boots up.

IMPORTANT
Never try to provide power for the scan tool from USB connection when the scan tool is communicating with a vehicle.

3.1.2 Connecting to Computer with USB Cable

The scan tool also receives power through the USB port when it is connected to a computer for software updates and printing of data.

To connect to computer:

1. Connect the scanner to a computer with the USB cable provided.

3.2 Application Overview

When the scan tool boots up, the Home screen opens. This screen shows all applications loaded on the unit. The available vehicle applications may vary depending on software configuration.

- **Auto VIN** - leads to screens for identifying a car by VIN reading.

- **OBDII/EOBD** - leads to OBDII screens for all 9 generic OBD system tests.
- **Diagnostic** - leads to screens for diagnostic trouble code information, live data stream, ECU information of a variety of vehicles.
- **Maintenance** - leads to screens of tests of the most frequently required service features.
- **Settings** - leads to screens for adjusting default settings to meet your own preference and view information about the scanner.
- **Data Manager** - leads to screens for access to data records.
- **Update** - leads to screen for updating the scanner.

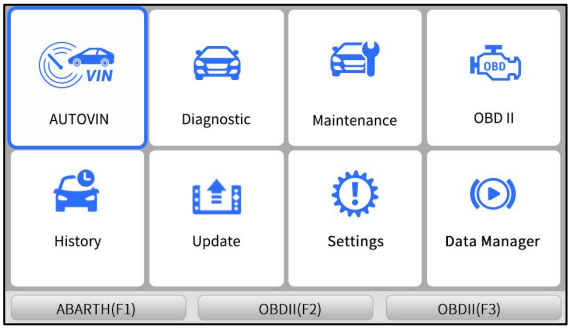


Figure 3-1 Sample Home Screen

3.3 Input Dialog Box

This section illustrates how to use the scan tool to input letters and numbers, such as VIN number, channel number, test values and DTC number. Typically, you may be required to input letters or numbers when you are doing any of the following operations.

- VIN entry
- input channel number
- set adaptation value
- enter block number
- enter login code
- key matching
- look up DTCs

The scan tool provides 4 different types of keyboard to meet your specific needs. Depending on the needs of text entry, it automatically shows the most suitable keypad.

- classic QWERTY keyboard for input of texts that contain both letters and numbers
- numeric keyboard for input of numbers
- alphabet keyboard for input of letters
- hexadecimal keyboard for special functions, such as key matching, UDS coding

To input text with the scan tool:

1. When you are requested to input text, press the function key **Keyboard**.

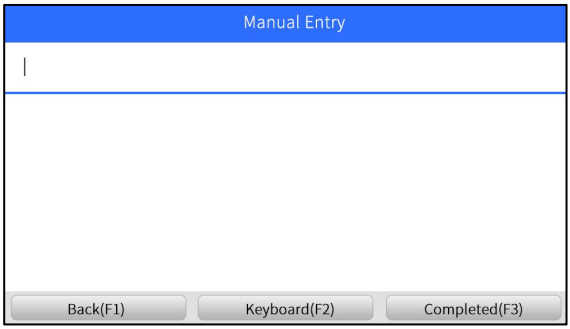


Figure 3-2 Sample Input Text Screen

2. Scroll with the arrow keys to highlight your desired letter or number and press the **ENTER** key to confirm.

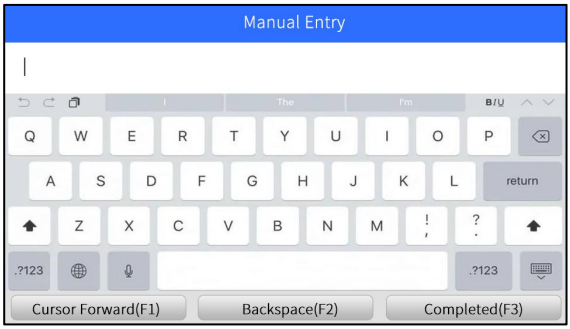


Figure 3-3 Sample Numeric Keyboard Screen

3. To delete a letter or number, use the function key **Cursor Forward t**o move the cursor to it and then press the **Backspace** button.
4. When finished the entry, press **Completed** key to continue.

4.Vehicle Identification

This section illustrates how to use the scanner to identify the specifications of the vehicle under test.

The vehicle identification information presented is provided by the ECM of the vehicle being tested. Therefore, certain attributes of the test vehicle must be entered into the scan tool to ensure the data displays correctly. The vehicle identification sequence is menu driven, you simply follow the screen prompts and make a series of choices. Each selection you make advances you to the next screen. Exact procedures may vary somewhat by vehicle. It typically identifies a vehicle by any of the following means:

- Automatic VIN reading
- Manual VIN entry
- Manual vehicle selection

NOTE
Not all identification options listed above are applicable to all vehicles. Available options may vary by vehicle manufacturer.

4.1 Auto VIN

Auto VIN is a shortcut for VIN reading menu which typically includes following options:

- Automatic VIN acquisition
- Manual input VIN

4.1.1 Automatic VIN Acquisition

Automatic VIN Acquisition allows to identify a vehicle by automatically reading the vehicle identification number (VIN).

To identify a vehicle automatic VIN reading:

1. Scroll with the arrow keys to highlight **Auto VIN** from the main menu and press the **ENTER** key.

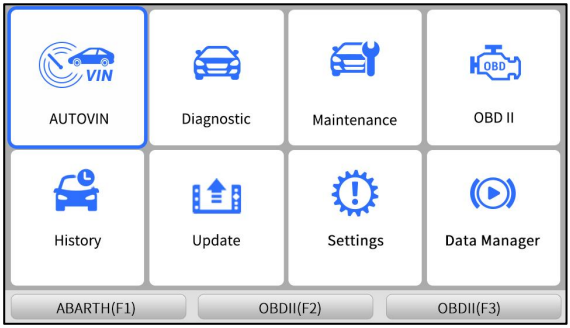


Figure 4-1 Sample Main Menu Screen

2. Select **Automatic VIN Acquisition** from the menu, and press the **ENTER** key.

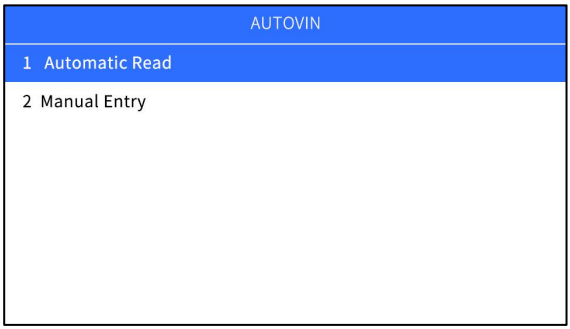


Figure 4-2 Sample VIN Reading Screen

3. The scan tool starts to communicate with the vehicle and read the Vehicle Specification or VIN Code automatically.

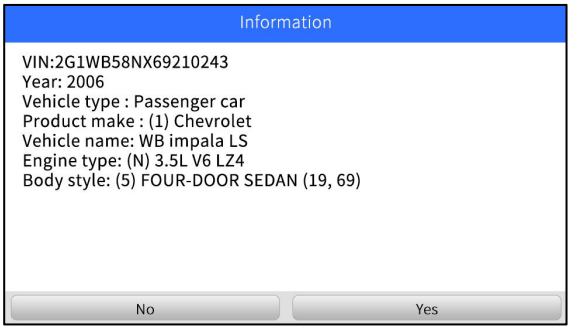


Figure 4-3 Sample Automatic VIN Reading Screen

4. Answer **YES** if the Vehicle Specification or VIN code is correct and a menu of controller selection displays. Answer **NO** if it is incorrect, and you are required to enter the correct VIN number manually.

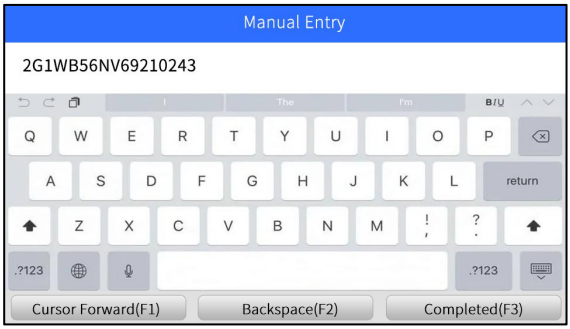


Figure 4-4 Sample Manual VIN Entry Screen

5. If it takes too long to get the VIN code, press **Cancel** to stop and input the VIN manually. Or if failed to identify the VIN, please input the VIN manually or click **Cancel** to quit.

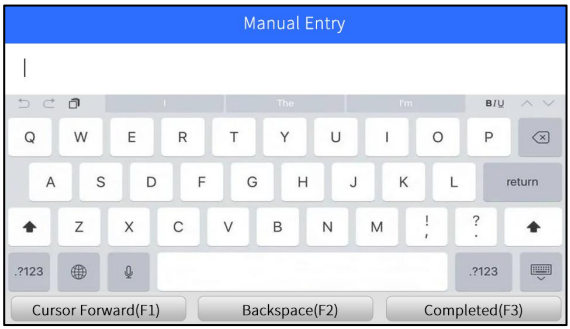


Figure 4-5 Sample Manual Entry Screen

4.1.2 Manual VIN Entry

Manual VIN Entry identifies a vehicle by manually inputting a 17-digit VIN code.

To identify a vehicle by manual VIN entry:

1. Scroll with the arrow keys to highlight **Auto VIN** from the main menu and press the **ENTER** key.

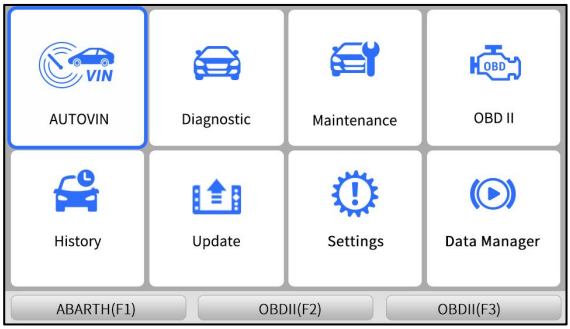


Figure 4-6 Sample Main Menu Screen

2. Select **Manually input VIN** from the menu, and press the **ENTER** key.

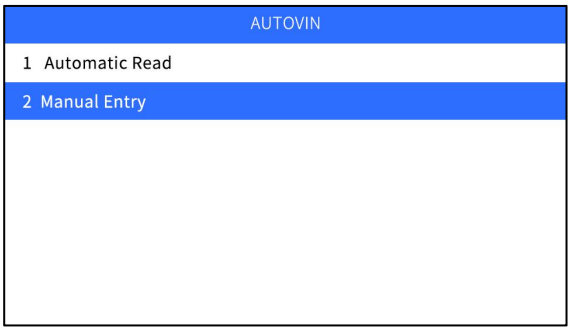


Figure 4-7 Sample VIN Reading Screen

3. Press the function key **Keyboard** and a virtual keyboard opens for VIN entry.

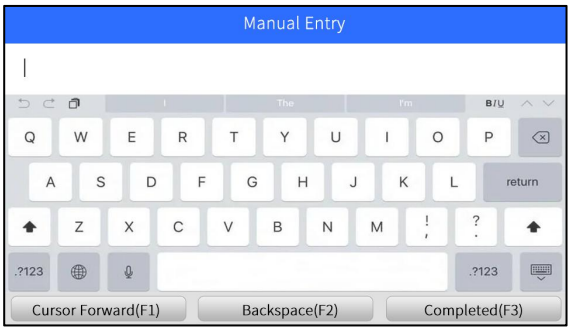


Figure 4-8 Sample Manual VIN Entry Screen

4. Input a valid VIN code and use the function key **Completed** to confirm. The scan tool starts to identify the vehicle.

4.2 Manual Vehicle Selection

Select vehicle brand you are to test, and two ways of getting to the diagnostic operations are available.

- SmartVIN
- Manual Selection

4.2.1 Smart VIN

Smart VIN allows to identify a vehicle by automatically reading the vehicle identification number (VIN).

To identify a vehicle by SmartVIN:

1. Scroll with the arrow keys to highlight **Diagnostic** from main menu and press the **ENTER** key to start. If you have the application assigned to one of the function keys at the bottom of the screen, you can alternatively press the function key to start the application.

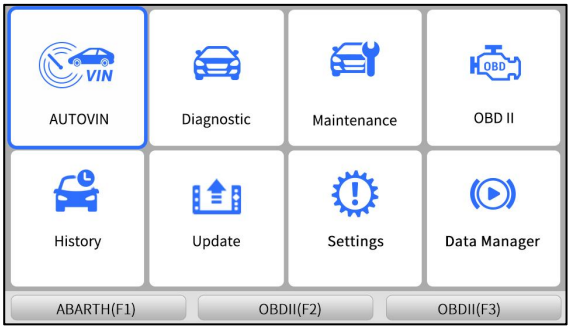


Figure 4-9 Sample Main Menu Screen

2. A screen with vehicle manufacturer areas displays. Select the area where the car brand is originated. A list of vehicle makes display.

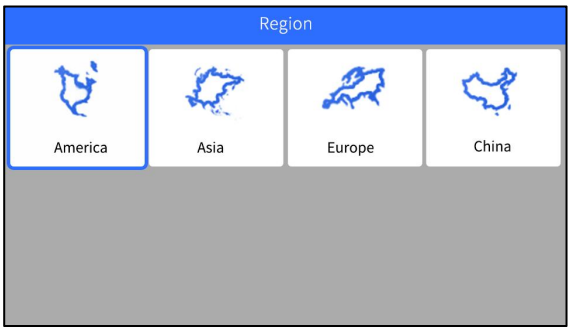


Figure 4-10 Sample Vehicle Manufacturer Area Selection Screen

3. Select the vehicle manufacturer. A list of vehicle identification options displays.

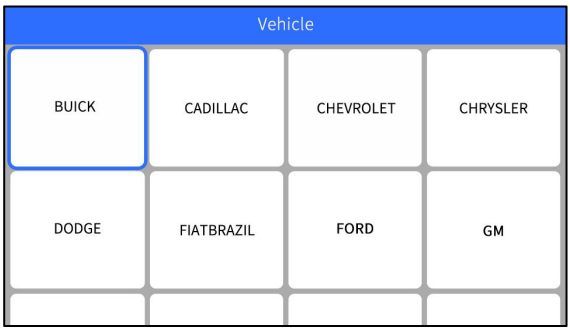


Figure 4-11 Sample Vehicle Selection Screen

4. Select **SmartVIN** from the menu, and press the **ENTER** key.

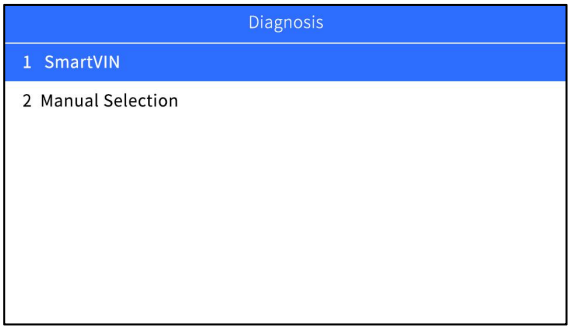


Figure 4-12 Sample VIN Reading Screen

5. The scan tool starts to communicate with the vehicle and read the Vehicle Specification or VIN Code automatically.

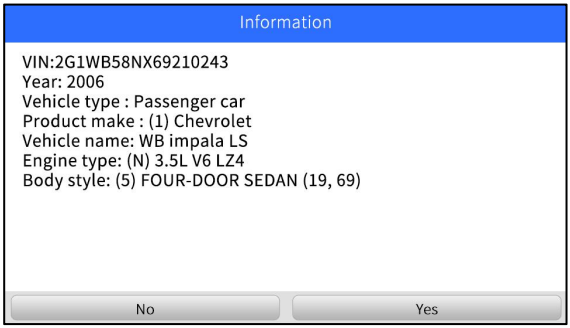


Figure 4-13 Sample Automatic VIN Reading Screen

6. Answer **YES** if the Vehicle Specification or VIN code is correct and a menu of controller selection displays. Answer **NO** if incorrect, and you are required to enter the correct VIN number manually.

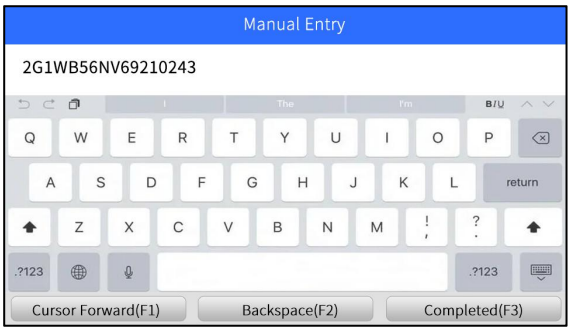


Figure 4-14 Sample Manual VIN Entry Screen

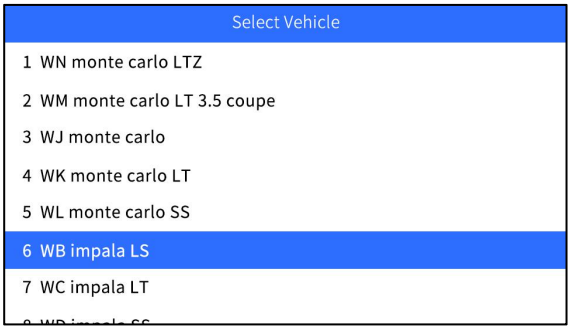
4.2.2 Manual Selection

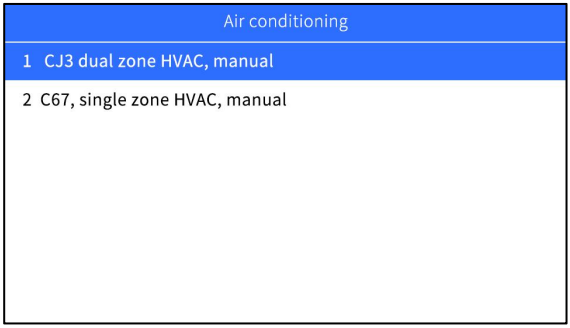
Manual Selection identifies a vehicle by making several selections according to certain VIN characters, such as model year, and engine type.

To identify a vehicle by manual vehicle selection:

1. Refer to step 1-3 of 4.2.1 SmartVIN.

2. On each screen that appears, select the correct option and then press the **ENTER** key. Do this until the complete vehicle information is entered and the menu of controller selection displays.





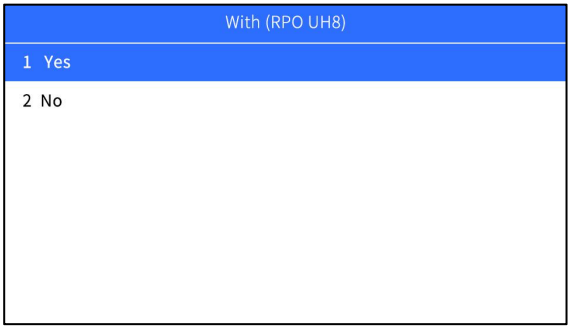


Figure 4-15 Sample Manual Vehicle Selection Screen

5 Diagnostic Operations

This section illustrates how to use the scanner to read and clear diagnostic trouble codes, and view “live” data readings and ECU information on controllers installed on a variety of vehicles and also save “recordings” of the data readings.

5.1 Control Module Selection

When you completed the identification of vehicle, you have to identify the control modules installed in the vehicle. There are two ways to identify the controllers installed in a car:

- Quick Scan
- Control Modules

5.1.1 Quick Scan

Quick Scan performs an automatic system test to determine which control modules are installed on the vehicle and provides diagnostic trouble codes (DTCs) overview. Depending on the number of control modules, it may take 10 minutes or longer to complete the test.

To perform an automatic system scan:

1. Scroll with the arrow keys to highlight **Quick Scan** from the menu and press **ENTER** to start.

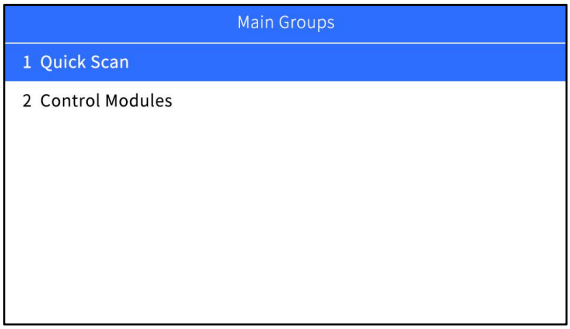


Figure 5-1 Sample Quick Scan Screen

2. To pause the scan, press the function key corresponding with **Pause** on the screen.

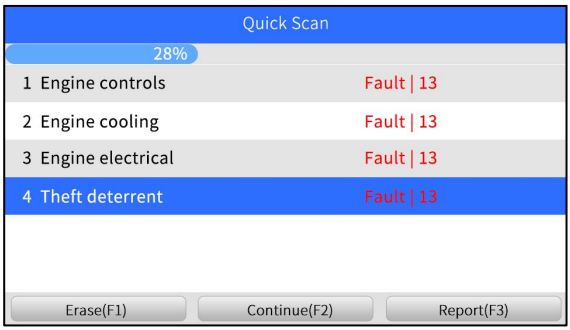


Figure 5-2 Sample Quick Scan Screen

3. At the end of successful automatic controller scan, a menu with a list of installed controllers together with their DTC overview displays.

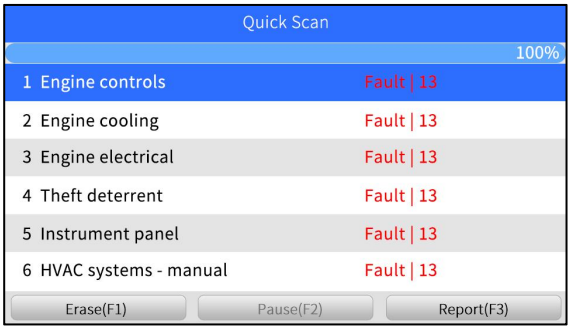


Figure 5-3 Sample Quick Scan Screen

4. If there is diagnostic trouble code(s) detected in a control unit, press the function key corresponding with **Report** on the screen to view details of code information. Or press the function key **Erase** to clear them.

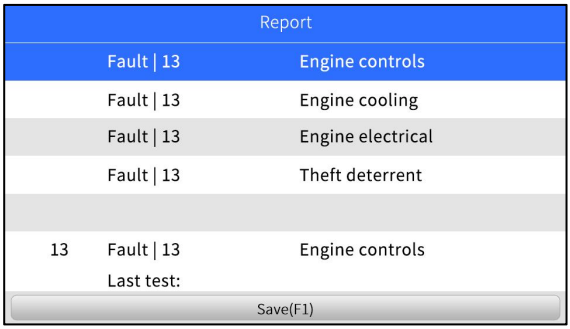


Figure 5-4 Sample DTC Screen

5. Press function key F1 to save the trouble code information.
6. Select the system you would like to test, and press the **ENTER** key. When the scanner has established connection with the vehicle, the Function Menu displays.

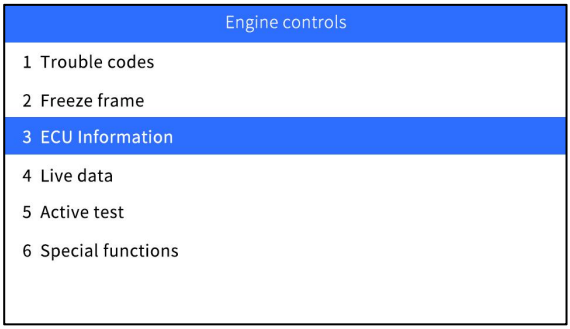


Figure 5-5 Function Menu screen

5.1.2 Control Modules

Control Modules screen displays all controllers available on the vehicles. The controllers listed on the menu do not mean that they are installed on the vehicle.

To select a system for testing:

1. Scroll with the arrow keys to highlight **Control Modules** from the menu and press the **ENTER** key. A controller menu displays.

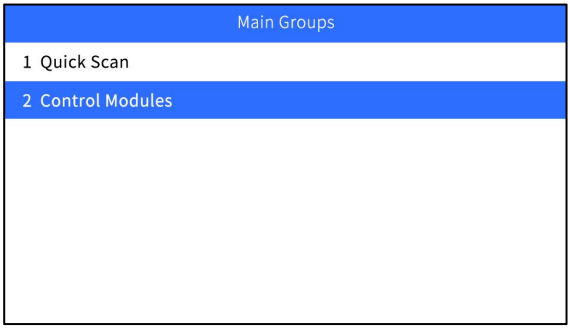


Figure 5-6 Sample Control Module Screen

2. Select the system you would like to test. When the scanner has established connection with the vehicle, the Control Module menu displays.

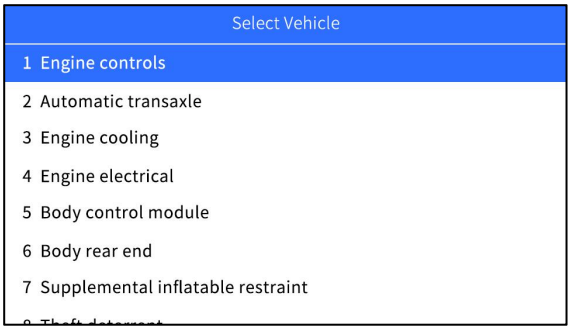


Figure 5-7 Sample Control Module Menu Screen

5.2 Diagnostic Operations

After a system is selected and the scanner establishes communication with the vehicle, the Function Menu displays. The menu options may include:

- ECU information
- Read Codes
- Clear Codes
- Live Data

NOTE

Not all function options listed above are applicable to all vehicles. Available options may vary by the year, model, and make of the test vehicle.

5.2.1 ECU Information

ECU Information screen displays the identification data of the control module under test, such as the control module identification string, the control module coding, and Work Shop Code.

To read ECU information:

1. Select **ECU Information** from the menu and press the **ENTER** key.

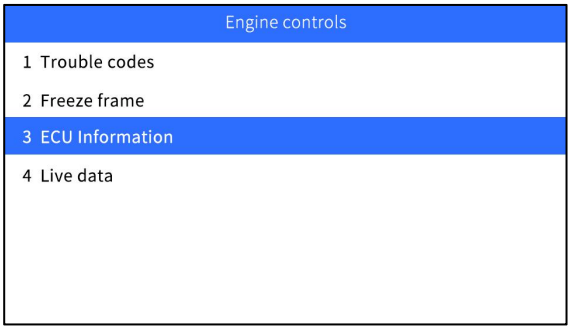


Figure 5-8 Sample Function Menu Screen

2. A screen with detailed information of the selected control module displays.

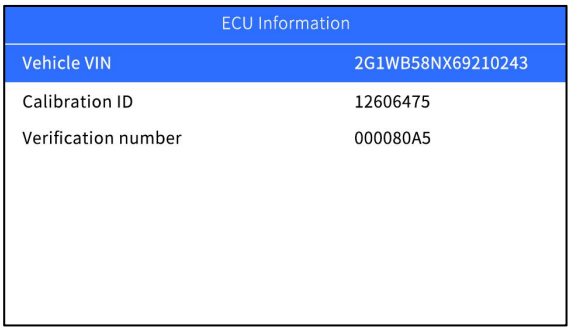


Figure 5-9 Sample ECU Information Screen

3. Press function key **Save** to store ECU information. Or use the key to exit.

5.2.2 Read Codes

Read Codes menu lets you read trouble codes found in the control unit.

Typical code status include:

- Present/Permanent/Current Codes
- Pending Codes
- History Codes

Present/Permanent/Current codes stored in a control module are used to help identify the cause of a trouble or troubles with a vehicle. These codes have occurred a specific number of times and indicate a problem that requires repair.

Pending codes are also referred to as maturing codes that indicate intermittent faults. If the fault does not occur within a certain number of drive cycles (depending on vehicle), the code clears from memory. If a fault occurs a specific number of times, the code matures into a DTC and the MIL illuminates or blinks.

History codes are also referred to as past codes that indicate intermittent DTCs that are not currently active.

To read codes from a vehicle:

1. Scroll with the arrow keys to highlight **Read Codes** from Function Menu and press the **ENTER** key. A code list including code number and its description displays.

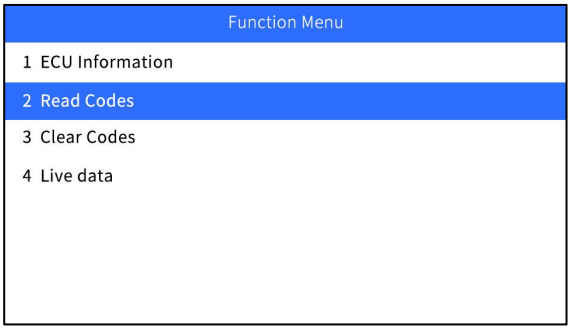


Figure 5-10 Sample Function Menu Screen

2. Use the up and down arrow keys to scroll through data to select lines, and left and right arrow keys to scroll back and forth through different screens of data.

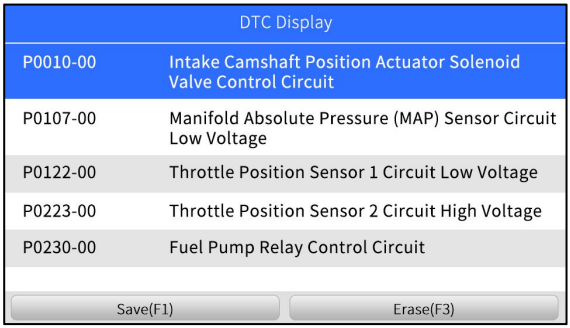


Figure 5-11 Sample Code Screen

3. Press function key **Save** to store DTC information. Press function key **Freeze Frame** to view freeze data.

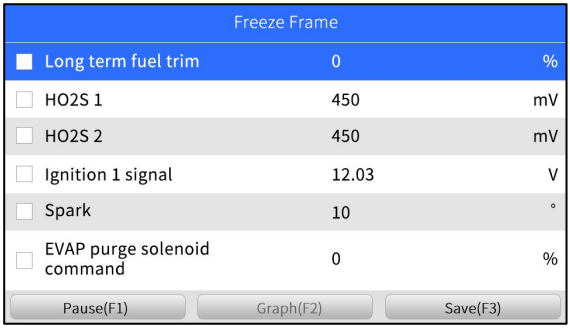


Figure 5-12 Freeze Data screen

Freeze Frame Data: a snapshot of critical vehicle operating conditions automatically recorded by the on-board computer at the time of the DTC set. It is a good function to help determine what caused the fault.

4. Use left and right arrow keys to scroll back and forth through different screens of data.
5. Press function key **Save** to store freeze frame information. Or use the **BACK** key to exit.

5.2.3 Clear Codes

Clear Codes menu lets you to clear all current and stored DTCs from a selected control module. Also it erases all temporary ECU information, including freeze frame. So make sure that the selected system is completely checked and serviced by technicians and no vital information will be lost before clearing codes.

NOTE

- To clear codes, make sure that the ignition key is switched to ON with the engine off.
- Clear Codes does not fix the problem that caused the fault! DTCs should only be erased after correcting the condition(s) that caused them.

To clear codes:

1. Scroll with the arrow keys to highlight **Clear Codes** from Function Menu and press the **ENTER** key.

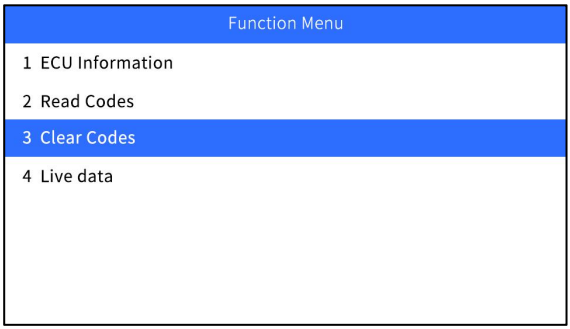


Figure 5-13 Sample Function Menu Screen

2. Follow the on-screen instructions and answer questions about the vehicle being tested to complete the procedure.

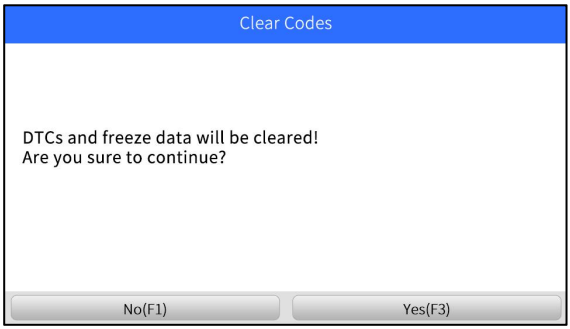


Figure 5-14 Sample Clear Codes Screen

3. Check the codes again. If any codes remain, repeat the Clear Codes steps.

5.2.4 Live Data

Live Data menu lets you view and record real time PID data from a selected vehicle electronic control module.

Menu options typically include:

- Complete List
- Custom List

5.2.4.1 Complete List

Complete List menu lets you view all live PID data from a selected system.

To view live PID data:

1. Scroll with the arrow keys to highlight **Live Data** from the menu and press the **ENTER** key.

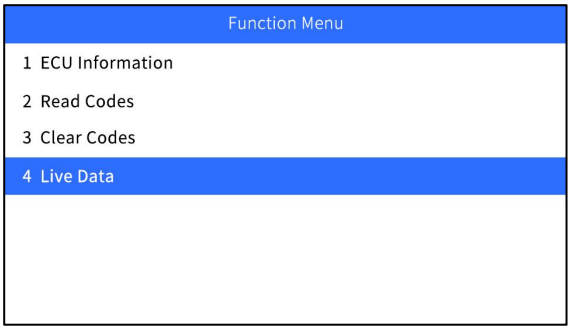


Figure 5-15 Sample Function Menu Screen

2. Select the **Complete List** from the menu and press the **ENTER** key to display the data screen.

Figure 5-16 Sample Live Data Menu Screen

3. Scroll with the up and down arrow keys to highlight a line, and left and right arrow keys to scroll back and forth through different screens of data. Press function key **Pause** to suspend collecting data from the vehicle and use the **Start** key to resume collecting data. To record data to memory of the scanner, use the function key **SAVE**, and press **Stop Saving** to stop recording at any time.

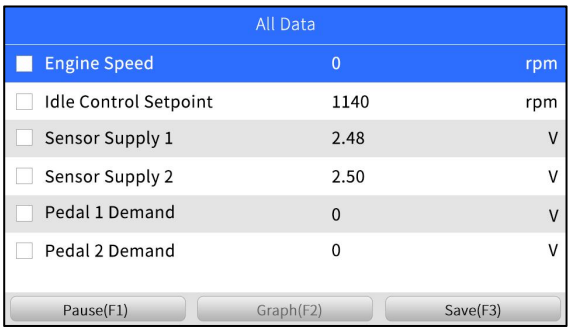


Figure 5-17 Sample Live Data Screen

4. Use up and down arrow key to select line. If Graph is highlighted, it indicates graphing is available for the selected line. Press the function key **Graph** to display the PID graph.

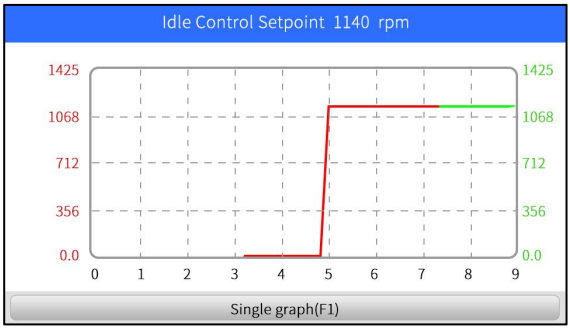


Figure 5-18 Sample PID Graph Screen

5. Press the function key **Multi-graphs** to display two PID graphs in one screen. Press **Single graph** to view one plot.

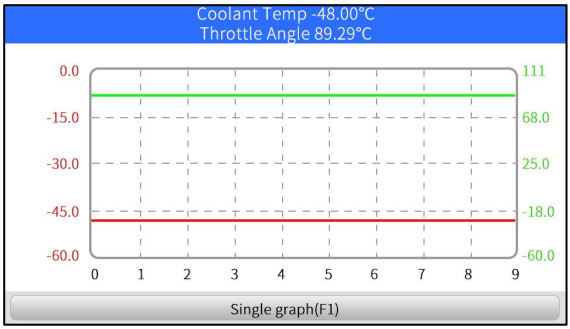


Figure 5-19 Sample Two PID Graph Screen

6. Press the function key **Merge Graph** to display two PID plots in one coordinate to check how they affect each other.

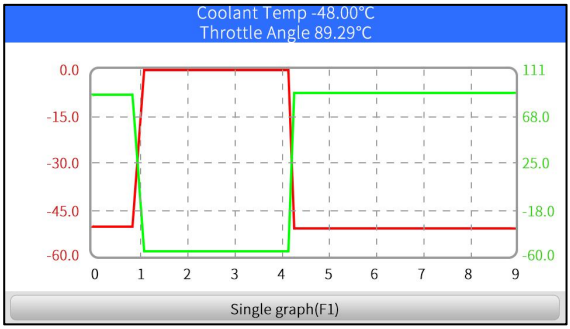


Figure 5-20 Sample Merge Graph Screen

7. Press the **Back** key to return to the previous menu.

5.2.4.2 Custom List

Custom List menu lets you to minimize the number of PIDs on the data list and focus on any suspicious or symptom-specific data parameters.

To create a custom data list:

1. Select **Custom List** from the menu and press the **ENTER** key.

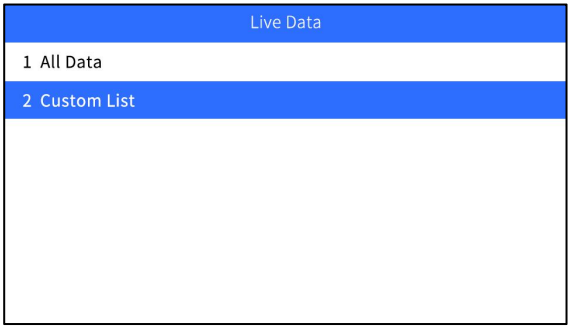


Figure 5-21 Sample Live Data Menu Screen

2. The custom data selection screen displays. Scroll with the up and down arrow keys to highlight a line, press the **ENTER** key and then repeat the action to make more selections. To deselect an item, select it again and then press the **ENTER** key. Alternatively, use the function keys **Select All** and **Deselect** to select or deselect all items at once.

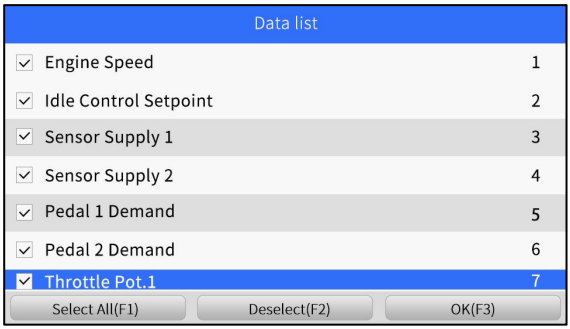


Figure 5-22 Sample Custom List Selection Screen

3. When finished selection, use the function key **OK** to display selected items.

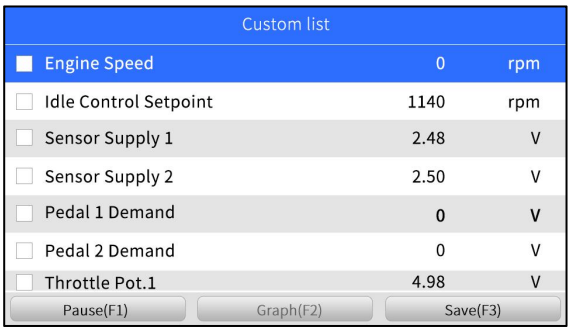


Figure 5-23 Sample Live Data Screen

Maintenance

NOTE

NT614/GT21 Elite support

● BLEEDING ● EPB ● OILRESET ● SAS ● TPS

NT624 Elite support

● BLEEDING ● INJECTOR
● BRT ● OILRESET
● DPF ● SAS
● EPB ● TPS/TBA

NT644 Elite and NT634 supports all of the following service and maintenance operations。

● AFA ● BLEEDING ● BRT
● CLUTH ● CVT ● DPF ● EPB
● Gear Learn
● INJECTOR
● LANG_CHANGE
● Oil Light Reset
● PFP ● SAS
● SEATMATCH
● TPMS
● TPS/TBA
● TURBO
● WINDOWSDOOR

6 Maintenance

This section gives brief instructions of the most commonly required service and maintenance operations. Typical service operation screens are a series of menu driven executive commands. Follow on-screen instructions to complete the operation.

Available service and maintenance options include:

- Oil Light Reset
- EPB Service
- Battery Configuration
- DPF Regeneration
- TPS/TBA
- SAS Calibration
- CVT
- Gear Learn
- TPMS Programming Service
- Injector coding

To start a test:

1. Scroll with the arrow keys to highlight **Maintenance** from the main menu and press the **ENTER** key. A list of available services display.

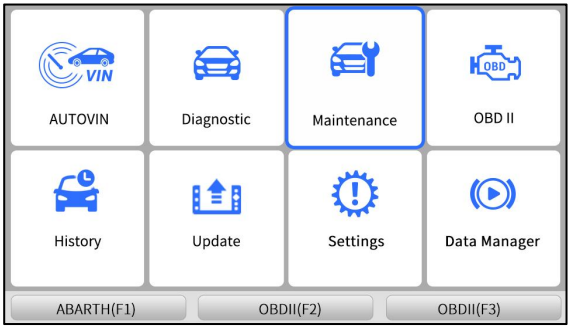


Figure 6-1 Sample Main Menu Screen

2. Select a service to test and press **ENTER** key to start.

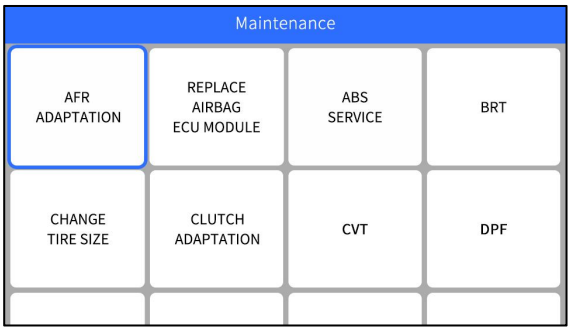


Figure 6-2 Sample Maintenance Screen

6.1 Oil Service Reset

Oil Light Reset menu allows you to reset the service lamps on the instrument cluster. The Service Indicator System is designed to alert the driver when the vehicle is due for a service.

Oil service reset methods are determined by the vehicle being tested.

- Oil Reset With One Button - applicable to GM models only. It offers quick and simple oil service reset with the click of one button.
- Manual Reset - almost all Asian vehicles and most American and European vehicles have mechanical oil service indicator reset. The service tool does not have to communicate with the vehicle being tested, but guides you to complete the service manually by providing step-by-step on-screen instructions. When Manual Reset is selected and the vehicle being tested identified, a procedure opens on the screen. Scroll with arrow keys to read the entire procedure and performing the necessary steps as directed by the on-screen instructions. The exact order of the test operation steps may vary depending on the test vehicle. Be sure to follow all on-screen instructions. The manual reset procedure can be interrupted and aborted if the ignition key position is changed.
- Auto Reset - Auto Reset is a bi-directional communication procedure directed by the service tool. The service tool displays guides for you through the process. A number of instructions that require a response to continue display, including an option to clear any stored codes once the interval has been reset. Follow the on-screen instructions.

6.2 Electronic Parking Brake

EPB Service menu allows you to perform the service and maintenance of brake systems, including deactivation and activation of the brake control system, bleeding brake fluid, opening and closing brake pads, and setting brakes after disc or pad replacement, on multiple brands of vehicles where electronic brake systems are fitted.

Some tests display a command to the operator. For example, if “Pressing Brake Pedal” displays, the operator has to press and hold the brake pedal and then continue. Actual tests vary by vehicle manufacturer, year, make.

Typical special test options include:

- **Deactivate/Activate SBC/EPB systems** - allows to deactivate brakes for further service or maintenance work on brake systems or activate brakes when service or maintenance work on brake systems are completed.
- **Adaptation on Audi A8** - allows to set new pad thickness of rear brakes calipers after changing brake discs & pads on Audi A8 models.
- **Replace hydraulic brake systems fluid/bleed brake system on Mercedes SBC vehicles** - allows to change brake fluid/bleed brake system.
- **Perform service reset and service position on BMW EPB vehicles** - allows to do the CBS reset and CBS correction for front brake and rear brake.
- **Perform activation/service work on Volvo PBM vehicles** - allows to perform installation check, applying parking brake, releasing parking brake, activating service mode and exiting service mode.
- **Reset memory on Toyota EPB vehicles** - allows to clear the learned memory of the EPB ECU.
- **Perform brake cable replacement and electric parking brake replacement** - allows to fit in or remove the brake cable safely, adjust brake cable’s tension and calibrate the electric parking brake replacement.
- **Save and write clutch pedal programming on Renault EPB vehicles** - allows to save clutch pedal programming on Renault vehicles fitted with manual gearbox. After this command is activated, the tool allows to "flash" the electric parking brake unit with the saved clutch data.

- **Perform control function and reset function on Opel EPB vehicles** - allows to apply/release park brake cable service, provide park brake cable service replacement procedures and calibrate the parking brake systems after brake service.
- **Sensor calibration on Honda EPB vehicles** - allows to program the current output value of each sensor into the electric parking brake unit.
- **Provides parking brake unjam procedure and perform longitudinal accelerometer calibration on Land** Rover **EPB vehicles** - allows to drive the electronic park brake so it is unjamed in the releasing direction and then drive it into mounting position or the latching position; also allows to perform longitudinal accelerometer calibration.

⚠ WARNING

- EPB systems must be deactivated before carrying out any maintenance/service work on the brakes such as changing of pads, discs and calipers.
- Use proper tools to avoid the risk of body injuries of mechanics and technicians and damage to the brake system.
- Make sure the vehicle is properly blocked after deactivation of the systems.

6.3 Battery Replacement (BRT)

BRT menu lets you to n to validate new battery, clear faults from the dashboard and display current battery details of the vehicle such as Audi, BMW, Citroen, Peugeot, Seat, Skoda, Volvo, VW and Ford.

1. Replace the old battery with the new one. Ensure the key is not in the ignition.

2. Connect the scanner to the vehicle's 16 pin Data Link Connector (DLC) with the diagnostic cable.
3. Boost the device and select BRT; it will display all the vehicle makes available. Choose your vehicle make and follow the scanner instruction to start.
   - **Sensor calibration on Honda EPB vehicles** - allows to program the current output value of each sensor into the electric parking brake unit.
   - **Perform BRT on Citroen/Peugeot cars** – make several selections to confirm your car model, and then complete the battery replacement following on-screen instructions.
   - **Perform BRT on Audi/VW/Seat/Skoda cars** - after communicating with vehicles, there's two options under Replace battery menu - **Validate battery** and **Display data**.
     - **Validate battery** menu lets you to recode the new battery to the vehicle's ECU and to turn off dashboard warning lights. The on-screen instructions would guide you step by step to complete the replacement.
     - **Display Data** menu lets you to check the battery information or battery replacement records
   - **Perform BRT on BMW/Volvo cars** – after making several selections to confirm your vehicle model, you can select **Display data**, **Validate Battery** or **Clear codes** from Function menu.

6.4 Diesel Particulate Filter (DPF) Regeneration

DPF Regeneration menu lets you perform the DPF cleaning to clear the blockage through continuous burning of the particulates captured in the DPF filter. When a DPF regeneration cycle is completed, the DPF light automatically goes off.

6.5 Throttle Body Alignment (TPS/TBA)

It's very common to see a customer pull into the shop with a Volkswagen or Audi that just will not idle correctly. One of the possible causes is that the throttle position is not known. When the motion range is not known, the ECU simply has no idea where to set the throttle. The ECU must know the full range of motion of the throttle in order for it to properly control the engine. Using the throttle position sensors in the throttle body, the ECU learns the full open and full closed positions through various states (idle, part throttle, WOT) known as a Throttle Body Alignment (TBA).

6.6 Steering Angle Sensor (SAS) Calibration

SAS Calibration menu let you perform calibration of the Steering Angle Sensor, which permanently stores the current steering wheel position as straight-ahead in the sensor EEPROM. On successful calibration of the sensor, its fault memory is automatically cleared.

6.7 Continuous Variable Transmission (CVT)

This function is used to reset the compensation code and initialize the ECT after a solenoid valve or valve body assembly has been replaced.

6.8 Gear Learning

The crankshaft position sensor learns crankshaft tooth machining tolerance and save to the computer to more accurately diagnose engine misfires. If tooth learning is not performed for a car equipped with Delphi engine, the MIL turns on after the engine is started. The diagnostic device detects the DTC P 1336 'tooth not learned'. In this case, you must the diagnostic device to perform tooth learning for the car. After tooth learning is successful, the MIL turns off.

After the engine ECU, crankshaft position sensor, or crankshaft flywheel is replaced, or the DTC 'tooth not learned' is present, tooth learning must be performed.

6.9 TPMS Relearn

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.

6.10 Injector Coding

Write injector actual code or rewrite code in the ECU to the injector code of the corresponding cylinder so as to more accurately control or correct cylinder injection quantity. After the ECU or injector is replaced, injector code of each cylinder must be confirmed or re-coded so that the cylinder can better identify injectors to accurately control fuel injection.

7 OBDII/EOBD Operations

OBDII/EOBD menu lets you access all OBD service modes. According to ISO 9141-2, ISO 14230-4, and SAE J1850 standards, the OBD application is divided into several sub programs, called ‘Service $xx’. Below is a list of OBD diagnostic services:

- **Service $01** - request current powertrain diagnostic data
- **Service $02** - request powertrain freeze frame data
- **Service $03** - request emission-related diagnostic trouble codes
- **Service $04** - clear/reset emission-related diagnostic information
- **Service $05** - request oxygen sensor monitoring test results
- **Service $06** - request on-board monitoring test results for specific monitored systems
- **Service $07** - request emission-related diagnostic trouble codes detected during current or last completed driving cycle
- **Service $08** - request control of on-board system, test or component
- **Service $09** - request Vehicle Information
- **Service $0A** - permanent diagnostic trouble codes(DTCs)(cleared DTCs)

When OBDII/EOBD application is selected from Home screen, the scanner starts to detect the communication protocol automatically. Once the connection has established, a menu that lists all of the tests available on the identified vehicle displays. Menu options typically include:

- System Status
- Read Codes
- Freeze Frame Data
- Clear Codes
- Live Data

- I/M Readiness
- O2 Sensor Test
- On-board Monitor Test
- Component Test
- Vehicle Information
- Modules Present
- Code Lookup

NOTE
Not all function options listed above are applicable to all vehicles. Available options may vary by the year, model, and make of the test vehicle. A “Not supported the mode!” message displays if the option is not applicable to the vehicle under test.

8 System Setup

This section illustrates how to program the scanner to meet your specific needs.

When **Settings** is selected, a menu with available service options displays. Menu options typically include:

- Language
- Unit
- Shortcuts
- Beep Set
- Display Test
- Keypad Test
- About

8.1 Select Language

Selecting **Language** opens a screen that allows you to choose system language. The scan tool is set to display English menus by default.

To configure system language:
1. Scroll with the arrow keys to highlight **Language** from Settings menu and press **ENTER** key.

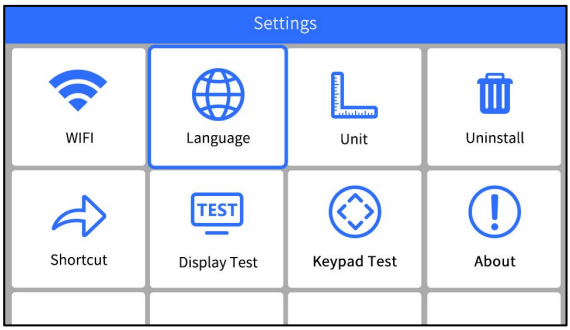


Figure 8-1 Sample Settings Screen

2. Press left and right arrow key select a language and press the **ENTER** key to confirm. Press the **Back** key to exit and return.

Figure 8-2 Sample Language Selection Screen

8.2 Change Units

Selecting **Unit** opens a dialog box that allows you to choose units of measure.

To change the unit setup:

1. Scroll with the arrow keys to highlight **Units** from Settings menu and press the **ENTER** key.

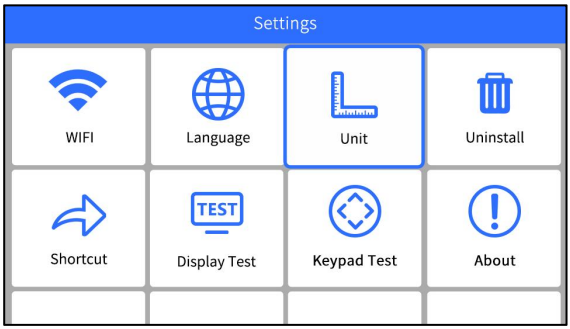


Figure 8-3 Sample Settings Screen

2. Press the up and down arrow key select an item and press the **ENTER** key to save and return.

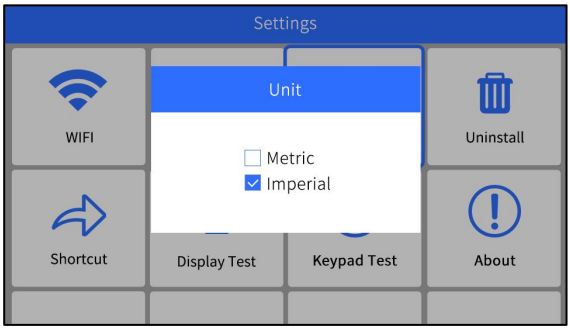


Figure 8-4 Sample Unit Selection Screen

8.3 Configure Shortcut Keys

Selecting **Shortcuts** option lets you to change the functionality of the shortcut buttons.

To assign a function to a shortcut button:

1. Scroll with the arrow keys to highlight **Shortcuts** from Settings menu and press the **ENTER** key. A screen with available shortcut keys displays.

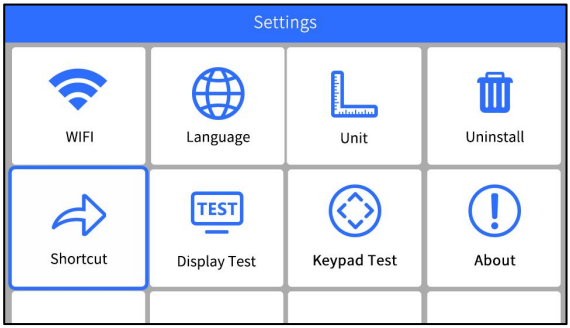


Figure 8-5 Sample Settings screen

2. Press the up and down arrow key select a shortcut key and press the **ENTER** key. A screen with a list of loaded applications displays.

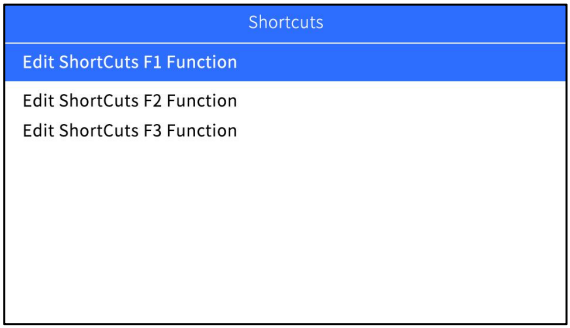


Figure 8-6 Sample Shortcuts Screen

3. Scroll with the arrow keys to highlight an application and press the **ENTER** key to assign the application to the shortcut key.

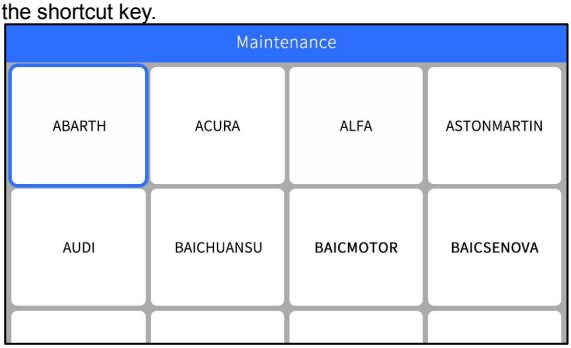


Figure 8-7 Sample Shortcuts Screen

8.4 Display Test

Selecting **Display Test** option opens a screen that allows you to check the functionality of the display.

To test the display:

1. Scroll with the arrow keys to highlight **Display Test** from Settings menu and press the **ENTER** key to start test. Check if there are any missing spots in the LCD screen.

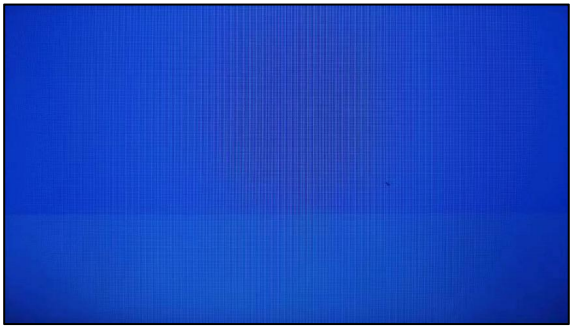


Figure 8-8 Sample LCD Test Screen

2. To quit the test, press the **Back** key.

8.5 Keypad Test

Selecting **Keypad Test** option opens a screen that allows you to check the functionality of the keypad.

To test the keypad:

1. Scroll with the arrow keys to highlight **Keypad Test** from Settings menu and press **ENTER** key.

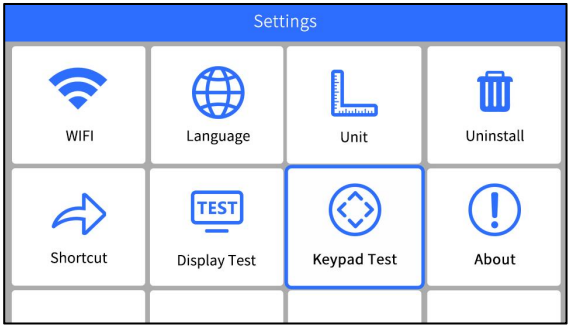


Figure 8-9 Sample Settings Screen

2. Press any key to start test. The virtue key corresponding with the key you pressed will be highlighted on the screen if it works correctly.

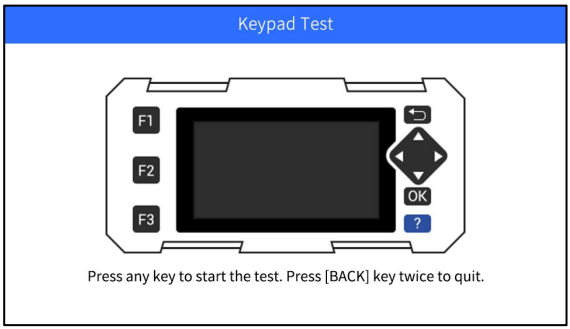


Figure 8-10 Sample Keypad Test Screen

3. To quit the test, press **Back** key twice.

8.6 Tool Information

Selecting **About** option opens a screen that shows information about your scan tool, such as serial number, which may be required for product registration.

To view information of your scan tool:

1. Scroll with the arrow keys to highlight **About** from Settings menu and press the **ENTER** key.

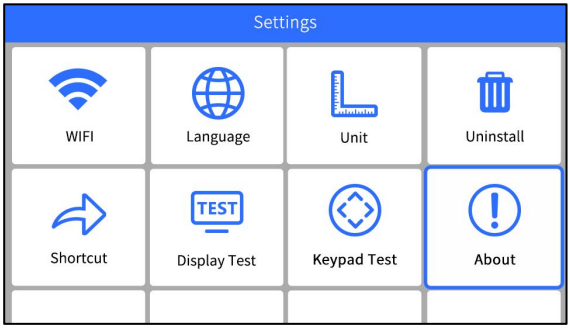


Figure 8-11 Sample Settings Screen

2. A screen with detailed information of the scanner displays.

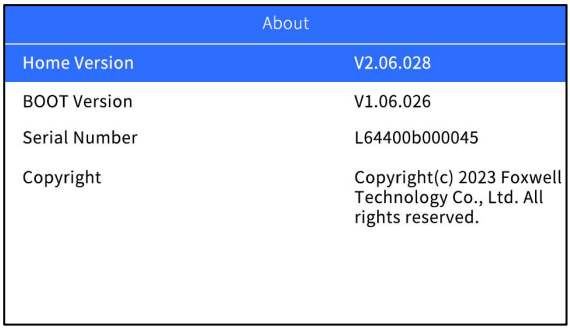


Figure 8-12 Sample Tool Information Screen

3. Press the **Back** key to exit.

9 Update

To update scanner**,** you need the following tools:

- The scan tool
- Available WIFI service
- power supply with USB ports or diagnostic cable

NOTE

Before updating, please make sure your network works correctly.
Before updating, please make sure your scanner is turned on.

1.Enter **Update** and select an avaliable WIFI to connect.

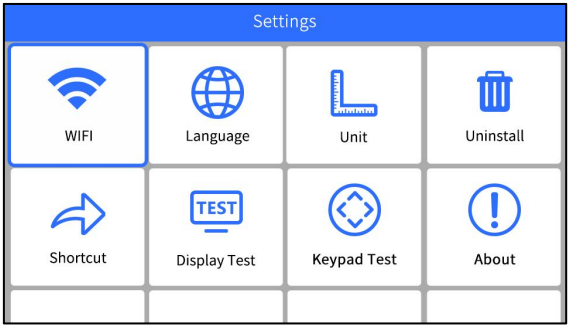


Figure 9-1 Sample WIFI Screen

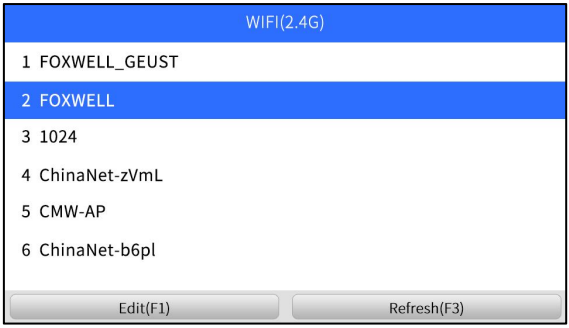


Figure 9-2 Sample WIFI Selection Screen

2.In the **Update**, click the check box(es) in front of the software(s) you wish to update and then click the **Update Select** button to download.

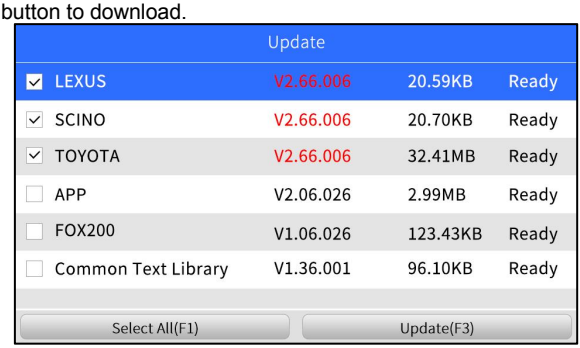


Figure 9-3 Sample Upgrade Check Screen

3.When all the items are updated, an **"All software downloads are successfully installed!"** message displays.

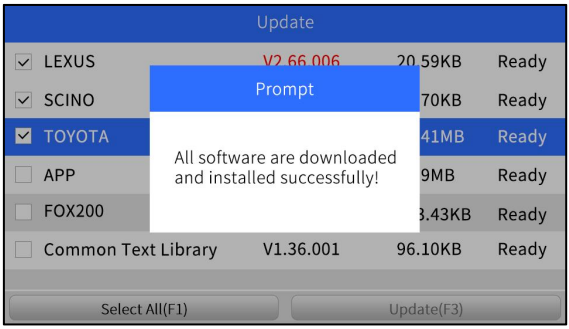


Figure 9-4 Sample Update Completed Screen

10 Uninstall

This option allows you to uninstall the vehicle software installed in the scanner.

To uninstall a vehicle software:

1. Enter **Settings** application on home screen.

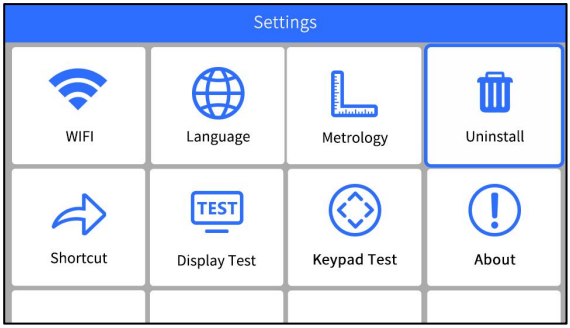


Figure 10-4 Sample Uninstall Vehicle Software Screen

2. Select the Uninstall Vehicle Software option on the option list.
3. Choose the vehicle software you want to delete or choose **Select All** to **Uninstall**.

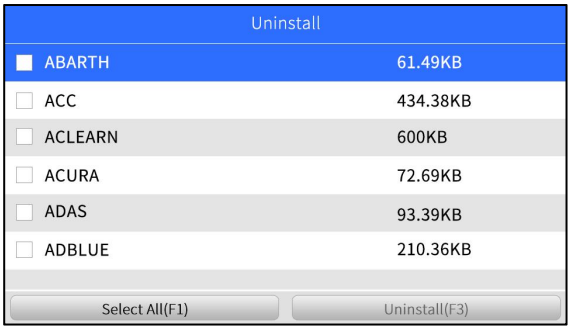


Figure 10-5 Sample Uninstall Vehicle Software Screen

FCC Warnning:

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 againstharmful interference in a residential installation. This equipment generates, uses and can radiateradio frequency energy and, if not installed and used in accordance with the instructions, maycause harmful interference to radio communications. However, there is no guarantee thatinterference will not occur in a particular installation. If this equipment does cause harmfulinterference to radio or television reception, which can be determined by turning the equipmentoff and on, the user is encouraged to try to correct the interference by one or more of thefollowing 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 0cm between the radiator and your body.