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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.

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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.

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- 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.

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# 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

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# 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:

- Language
- Unit
- Shortcuts
- 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

Foxwell NT510Elite Multi-system scanner is a unique tool that delivers OE-level diagnosis for all the electronic systems of different car brands. What's more important is that it supports the most commonly required service features such as Oil Light/Service reset, brake deactivation, transmission adaptations, and so on.

Available applications are BMW, Mercedes Benz, Fiat, PSA, Chrysler, Ford, GM, Honda, Nissan, Toyota and more. And the functions may vary by year and model.

## 2.1 Scanner Descriptions

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

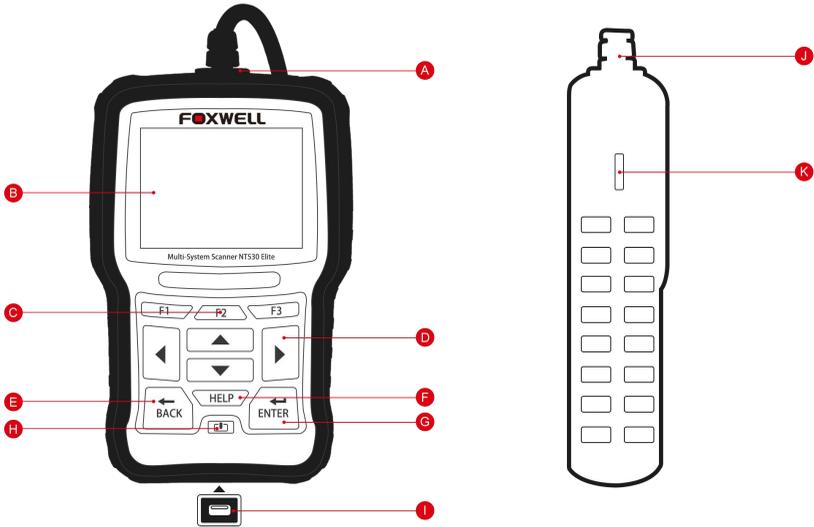


Figure 2-1 Front View

A/J **Diagnostic Cable** - provides connection between vehicle and the scanner.

B **LCD Display** - shows menus, test results and operation tips.

C **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.

D **Direction Keys** - select an option or scroll through a screen of data or text.

E **BACK Key** - exits a screen and generally returns to previous screen.

F **HELP Key** - displays helpful information.

G **ENTER Key** - executes a selected option and generally goes to the next screen.

H **Power Switch** - hold for 5 seconds for emergency reboot.

I **USB Port** - provides USB power connection between the scanner and PC/laptop.

K **TF Card Port** - holds the TF memory card for data backup and software update.

---

### 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 **Nylon Carry Pouch** - stores the scanner and its accessories.

## 2.3 Technical Specifications

**Display:** Backlit, 240\*320 TFT color display

**Working Temperature:** 0 to 60 °C (32 to 140°F)

**Storage Temperature:** -20 to 70 °C (-4 to 158°F)

**Power Supply:** 8-18V vehicle power and 3.3V USB power

**Dimensions:** (L\*W\*H): 200\*100\*38mm

**Weight:** 0.6 Kg

## 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.

Take a Toyota customized scanner for example, following applications are preloaded into the scanner:

- **Auto VIN** - leads to screens for identifying a car by automatic VIN reading.
- **OBDII/EOBD** - leads to OBDII screens for all 9 generic OBD system tests.
- **Toyota** - leads to screens for diagnostic trouble code information, live data, ECU information, active test, and special functions on vehicles sold worldwide.
- **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.

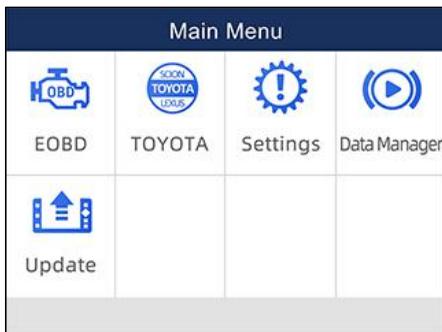


Figure 3-1 Sample Home Screen

### 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**.

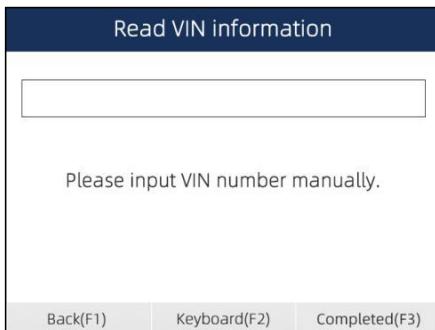


Figure 3-2 Sample Input Text Screen

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

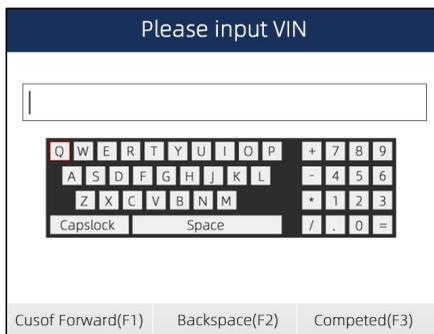


Figure 3-3 Sample Numeric Keyboard Screen

3. To delete a letter or number, use the function key **Cursor Forward** to 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:

- SmartVIN
- Manual selection

### 4.1 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 arrow keys to highlight the vehicle application from main menu and press **ENTER**.

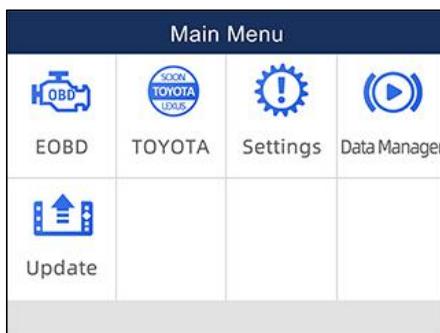


Figure 4-1 Sample Main Menu Screen

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

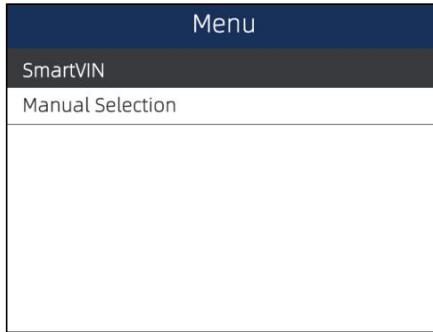


Figure 4-2 Sample VIN Reading Screen

- 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

- 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.

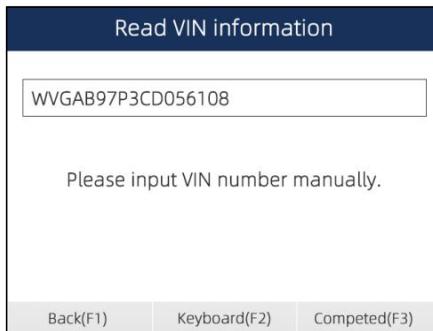


Figure 4-4 Sample Manual VIN Entry Screen

## 4.2 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. Scroll with arrow keys to highlight the vehicle application from main menu and press **ENTER**.

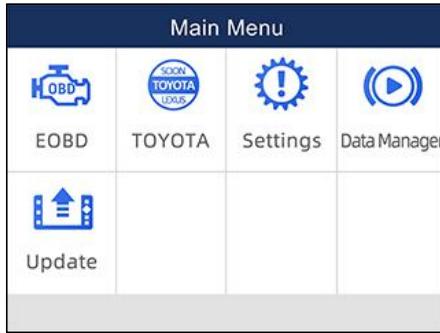


Figure 4-5 Sample Main Menu Screen

2. Select **Manual Selection** from the menu, and press the **ENTER** key.



Figure 4-6 Sample Control Module Selection Screen

3. 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 4-7 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.

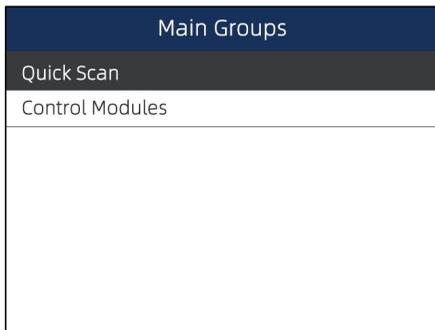


Figure 5-1 Sample Main Group Screen

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

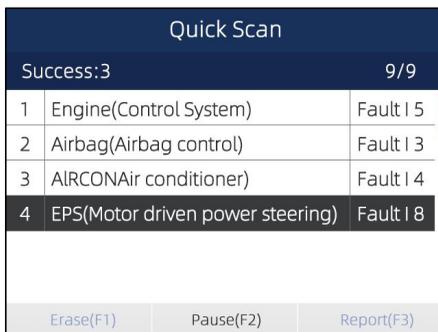


Figure 5-2 Sample Quick Scan Screen

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

Quick Scan		
Success:3		9/9
1	Engine(Control System)	Fault I 5
2	Airbag(Airbag control)	Fault I 3
3	AIRCON(Air conditioner)	Fault I 4
4	EPS(Motor driven power steering)	Fault I 8
5	BCM(Body control module)	Fault I 12
6	ABS/EPS(ABS/EPS)	Fault I 20
Erase(F1)		Pause(F2)
Report(F3)		

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.

Report	
ID	Description
P012300	Throttle/Pedal Pos Sensor A Cro. High Input -Active/static
P022200	Throttle/Pedal Position Sensor / switch B Low nput =Active/state Ib
P308700	Supply relay for engne component Electrical malfunction in orout- Passive/Sporadic
P201400	Intake Manifold Runner Postion
Save(F1)	

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.

Function Menu
Read Codes
Clear Codes
Live Data
Active Test
ECU Information
Special Functions

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 Menu Screen

2. Select the system you would like to test. When the scanner has established connection with the vehicle, the Function Menu displays.

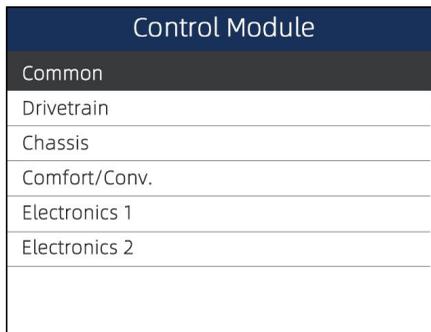


Figure 5-7 Sample Control Module Menu Screen

## 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:

- Read Codes
- Clear Codes
- Live Data
- Active Test
- ECU Information
- Special Functions

---

### 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 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.

Function Menu	
Read Codes	
Clear Codes	
Live Data	
Active Test	
ECU Information	
Special Functions	

Figure 5-8 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.

Trouble Codes		
ID	Status	Description
B1651	Active	Crash recorded in driver sideairbag(Replace SRSCM)
B1490	History	OCS(Occupant classification system)defet
B1388	History	STPS(Seat track position sensor)-Driver open or short to battery
Save(F1)		Freeze Frame(F2)

Figure 5-9 Sample Code Screen

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

B1651		
Name	Value	Unit
Airbag firing condition(1 st stage)-Driver	NO FIRE	
Airbag firing condition(2nd stage)Driver	NO FIRE	
Airbag firing condition(1 st stage)-Passenger	NO FIRE	
Airbag firing condition(2nd stage)-Passenger	NO FIRE	
Retractor pretensioner -driver		
Save(F1)		

Figure 5-10 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.

## 5.2.2 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.

Function Menu
Read Codes
<b>Clear Codes</b>
Live Data
Active Test
ECU Information
Special Functions

Figure 5-11 Sample Function Menu Screen

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

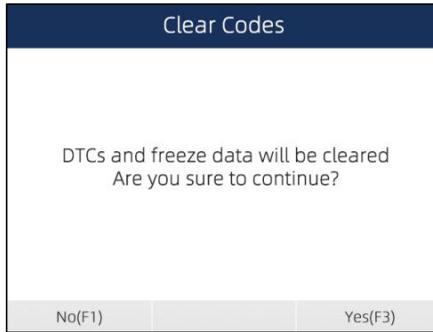


Figure 5-12 Sample Clear Codes Screen

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

### 5.2.3 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

#### 5.2.3.1 Complete Data 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.

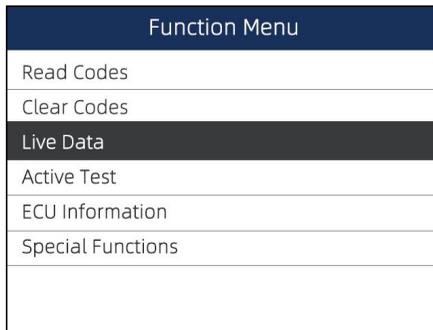


Figure 5-13 Sample Function Menu Screen

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

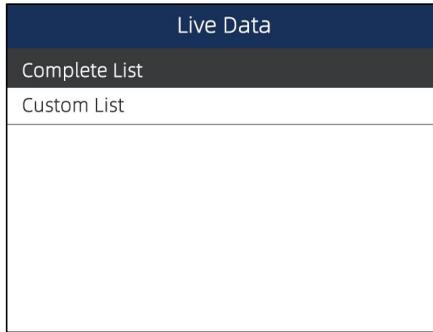


Figure 5-14 Sample Live Data Menu Screen

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.

The screenshot shows a table titled 'Live Data' with three columns: 'Name', 'Value', and 'Unit'. The table contains several rows of data. At the bottom of the screen, there are three function keys: 'Pause(F1)', 'Graph(F2)', and 'Save(F3)'. The 'Graph(F2)' key is highlighted.

Name	Value	Unit
Alocation of oxygen sensorsOxygen sensor bank 2.sensor 4	Not installed	
Ambient air pressure	11.6	psi
Calculated oil temperature	21	
Cause for cancellation	0	
Charge air pressure specified Value	994.09820557	HPa

Figure 5-15 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.

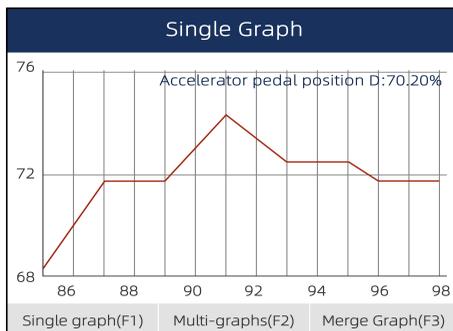


Figure 5-16 Sample PID Graph Screen

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

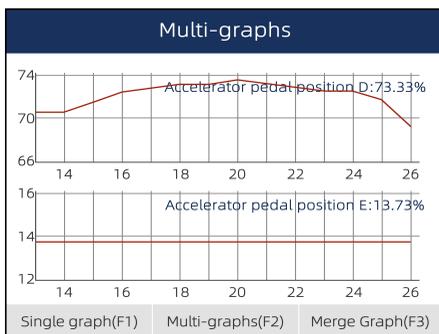


Figure 5-17 Sample Two PID Graph Screen

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

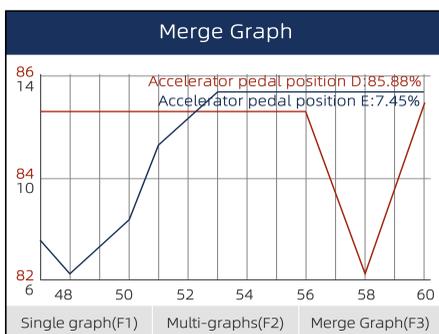


Figure 5-18 Sample Merge Graph Screen

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

### 5.2.3.2 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.

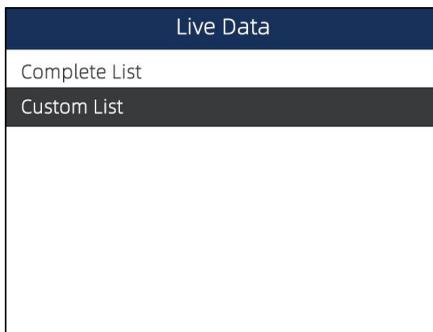


Figure 5-19 Sample Live Data Menu Screen

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.

Custom list		
<input type="checkbox"/>	Steering angle sensor-1(ESP only)	11
<input type="checkbox"/>	Steering angle sensor-2(ESP only)	12
<input type="checkbox"/>	Steering angle sensor-NESP only)	13
<input type="checkbox"/>	G-Sensor longitudinal	14
<input type="checkbox"/>	G-Sensor lateral	15
<input type="checkbox"/>	ABS warning lamp	16
<input type="checkbox"/>	EBD warning lamp	17
<input type="button" value="Select All(F1)"/> <input type="button" value="Deselect(F2)"/> <input type="button" value="OK(F3)"/>		

Figure 5-20 Sample Custom List Selection Screen

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

Live data		
Name	Value	Unit
Wheel speed sensor-Right front	1	mph
Wheel speed sensor-Left front	1	mph
Wheel speed sensor-Left rear	0	mph
Wheel speed sensor-Right rear	1	mph
Steering angle sensor-1(ESP only)	HGH	
Steering angle sensor-2(ESP only)	LOW	
Steering angle sensor-2(FSP only)	LOW	
<input type="button" value="Pause(F1)"/> <input type="button" value="Graph(F2)"/> <input type="button" value="Save(F3)"/>		

Figure 5-21 Sample Live Data Screen

## 5.2.4 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.

Function Menu
Read Codes
Clear Codes
Live Data
Active Test
<b>ECU Information</b>
Special Functions

Figure 5-22 Sample Function Menu Screen

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

ECU Information	
MODEL	BC
SYSTEM	DEF
S/W VER	48.49
ECU P	5041424344
S/W NUMBER	4243
Save(F1)	

Figure 5-23 Sample ECU Information Screen

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

## 5.2.5 Active Tests

Active Tests, also known as Actuator Tests, are bi-directional diagnostic tests on vehicle systems and component. The tests let you to use the scanner temporarily activate or control a vehicle system or component, and when you exit the test, the system/component returns to normal operation.

Some tests display a command to the operator. For example, if "Press Brake Pedal" displays, the operator has to press and hold the brake pedal and then continue. The sequence, number and type of tests are dictated by the control module.

On some systems, the actuator tests cannot be restarted until the ignition key is switched off for some time. Alternatively, briefly start and run the engine, shut down, turn the ignition to the run position, then re-initiate the actuator tests.

### IMPORTANT

The tests activate a component, but they do not check if the component is working correctly. Make sure the components to be tested are in good condition and correctly mounted.

### NOTE

Available tests depend on the control module under test and the vehicle itself.



To start a test:

1. Select **Active Tests** from Function Menu and press the **ENTER** key.

Function Menu
Read Codes
Clear Codes
Live Data
<b>Active Test</b>
ECU Information
Special Functions

Figure 5-24 Sample Function Menu Screen

2. Select the test you would like to perform and press the **ENTER** key. Follow on-screen instructions to make proper selections and operations to complete the tests.

Active Test
Cylinder 1 fuel injector
<b>Cylinder 2 fuel injector</b>
Cylinder 3 fuel injector
Cylinder 4 fuel injector
Cylinder 5 fuel injector
Cylinder 6 fuel injector
Motronic engine control module power supply relay

Figure 5-25 Sample Active Tests Selection Screen

**WARNING**

- Before running any tests, always observe the safety instructions provided in this manual and the warnings provided by the vehicle manufacturer. In addition, follow any warnings and descriptions provided on the scanner screens.
- Never run the tests while the vehicle is moving.

### 5.2.6 Special Functions

**Special Functions** perform various component adaptations of the control module under test, allowing you to recalibrate or configure certain components after making repairs or replacement. Typical service operation screens are a series of menu driven executive commands. Follow on-screen instructions to complete the operation.

- ▶ To perform special tests on a vehicle:
  1. Scroll with the arrow keys to highlight the special function test you want to perform from the menu and press the **ENTER** key.

Function Menu
Read Codes
Clear Codes
Live Data
Active Test
ECU Information
<b>Special Functions</b>

Figure 5-26 Sample Function Menu Screen

2. Select an available service from the menu and press the **ENTER** key to continue.

Special function
Injector specific data
Component change routine
Engine test function
CPF service regeneration (CPF OPT)

Figure 5-27 Sample Special Function Screen

3. A group selection screen, test selection screen, several step-by-step instruction screens, or bi-directional control screen may appear. Read the screens and follow all instructions. If necessary, use the function keys to perform commands or answer any questions. If more than 3 function keys displays, use up and down arrow keys to select a command and press the **ENTER** key to confirm.
4. When completed, press the **BACK** key to return to previous screens.

## 6 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

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.

## 7 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
- Display Test
- Keypad Test
- About

### 7.1 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 7-1 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 7-2 Sample Language Selection Screen

## 7.2 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.

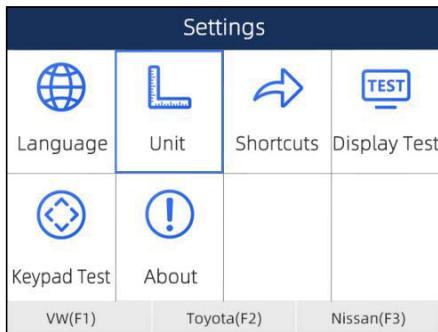


Figure 7-3 Sample Settings Screen

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

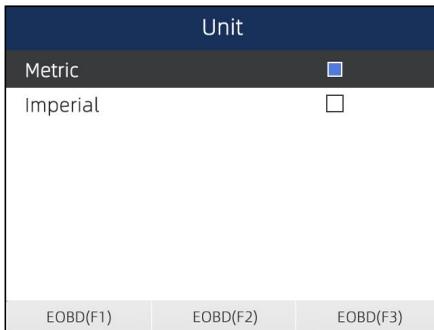


Figure 7-4 Sample Unit Selection Screen

## 7.3 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 7-5 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 7-6 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 7-7 Sample Shortcuts Screen

## 7.4 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 7-8 Sample LCD Test Screen

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

## 7. 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.

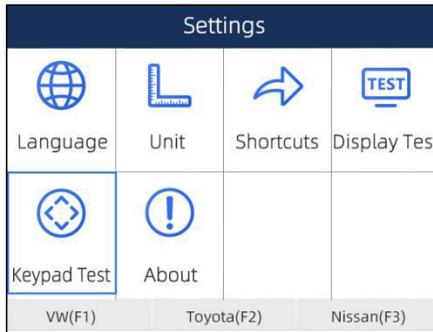


Figure 7-9 Sample Settings Screen

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.

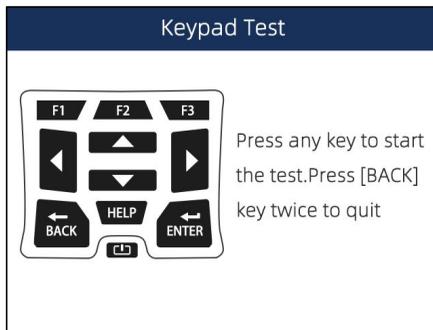


Figure 7-10 Sample Keypad Test Screen

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

## 7.6 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.

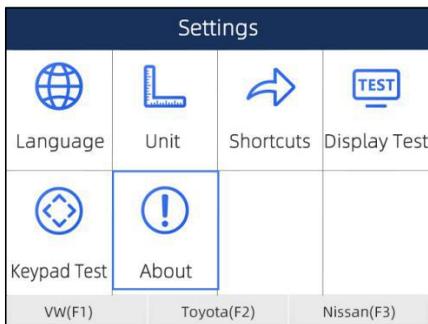


Figure 7-11 Sample Settings Screen

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



The image shows an 'About' screen with a dark blue header. Below the header is a table with the following information:

Home Version	V1.01.005	
BOOT Version	V2.04.003	
Serial Number	N680P1e000003	
Copyright	Copyright(c)2018 Foxwell Technology Co.,Ltd. All rights reserved	
EOBD(F1)	EOBD(F2)	EOBD(F3)

Figure 7-12 Sample Tool Information Screen

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

## 8 Update

The scanner can be updated to keep you stay current with the latest development of diagnosis. This section illustrates how to register and update your scan tool.

- ▶ To update your scanner, please follow the three steps as below:

- Step1: Obtain an FOXWELL ID.
- Step2: Register the product with the product serial number.
- Step3: Update the product by the update application FoxAssist.

For step 1 and 2, you can also go to our site with the link below.

Step 1: <http://www.foxwelltech.us/support-detail-216.html>

Step 2: <http://www.foxwelltech.us/support-detail-621.html>

## 8.1 Create a Foxwell ID

### 8.1.1 Register through Website

If you are new to FOXWELL, please register on [www.foxwelltech.us](http://www.foxwelltech.us) and create a FOXWELL ID first. If you have installed the update application FoxAssist, please refer to the registration guide on 8.1.2.



1. To register through website:

To create a Foxwell ID and register your scan tool

a. Visit our site [www.foxwelltech.us](http://www.foxwelltech.us) and then select **Support>Register**.

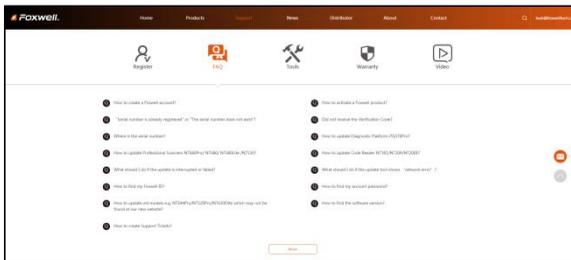


Figure 8-1 Sample Register Screen

b. Click **Register** link at the top right of the website or at the lower side of home page.



Figure 8-2 Sample Register Screen

2. Enter your own email address and click “Send code” to find the verification code in your mailbox. Create a unique password, confirm password and then click “Free registration” to complete. When your ID has been created, you are allowed to view all programs associated with your tool, download updates, edit your profile, submit feedback and join our community to share your ideas and your stories about our products. Note: Please always remember your FOXWELL ID and Password, as it’s important for you to manage your product and updates.

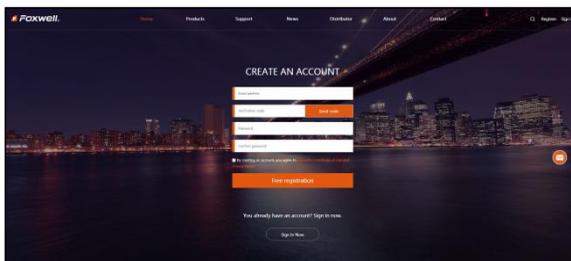


Figure 8-3 Sample Registration Form Filling Screen

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### IMPORTANT

---

User name is limited to Email address and please always find the Verification Code in your registered email.

---

3. A **Registration success** message will appear if you registered successfully.

---

**IMPORTANT**

Please always remember your FOXWELL ID and Password as it's important for you to manager your product and updates.

---

4. The registration page will be bypassed, skipping to the log in page. Just input your FOXWELL ID and Password to sign in.

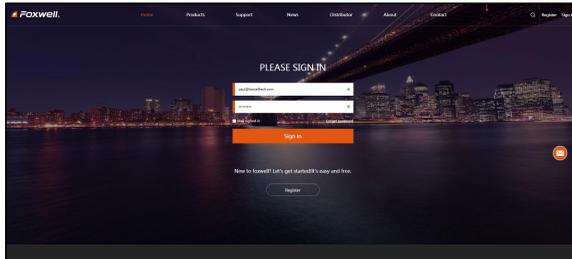


Figure 8-4 Sample Sign in Screen

5. When log in successfully, the **Member Center** will show as below. This platform enables you to review the registered products, register new products, modify personal information or reset the password.

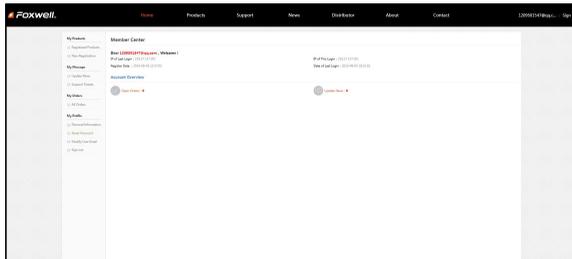


Figure 8-5 Sample Member Center Screen

6. If you forget your password, just click **Sign in** at the top right of the website, then click **Forget password**. You are required to input your registered email address, verification code, new password and confirmed password, click **Reset password**.



Figure 8-6 Sample User ID and/or Password Retrieve Screen

---

**IMPORTANT**

Before enter new password or confirm password, please enter the correct Verification Code in your registered email.

7. A **Password reset succeeded** message will appear if you reset password successfully. Now you are able to log in with your ID and the new password. If you want to change the password, please sign in with your user name and password, then select **My Profile/Reset Password**.



Figure 8-7 Sample Password Reset Succeeded Screen

8. If you forget your email or Foxwell ID, just click **Sign in** at the top right of the website, then click **Forgot password**, and click **Forgot Email or Foxwell ID**. You are required to input your registered serial number.

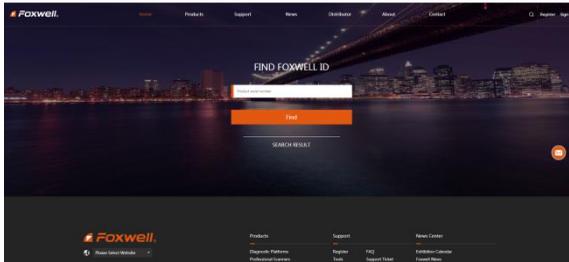


Figure 8-8 Sample Product Serial Number Required Screen

9. Your Registered email or Foxwell ID will appear under **SEARCH RESULT**.

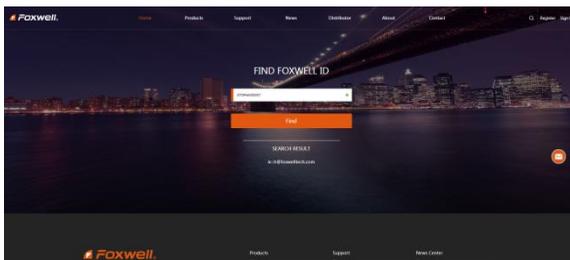


Figure 8-9 Sample FOXWELL Search Result Screen

## 8.1.2 Register with FoxAssist

You are also allowed to register and create a Foxwell ID with the update client FoxAssist.



To register through website:

1. Visit our site [www.foxwelltech.us](http://www.foxwelltech.us) and go the **Product** page. Find your product model and click it to view the product profile. Or Find the update tool under Tools in the **Support** page. Select **Download** tab to download the PC application file.

2. Unzip the application file. Follow instructions on computer screen to install the application and driver.



Figure 8-10 Sample FoxAssist Installation Screen

3. Double click the desktop icon  to launch the application.

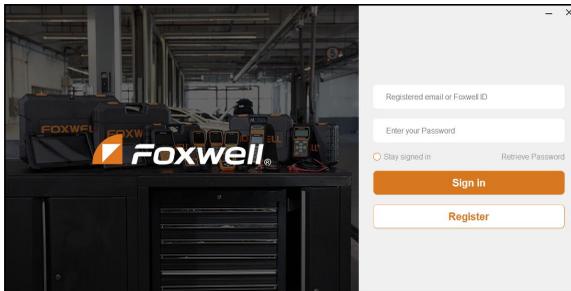


Figure 8-11 Sample FoxAssist Main Screen

4. Click **Register** button, a **Register** window will pop up. Enter your own email address and click “Send code” to find the verification code in your mailbox . Create a unique password, confirm password and then click “**Free registration**” to complete.

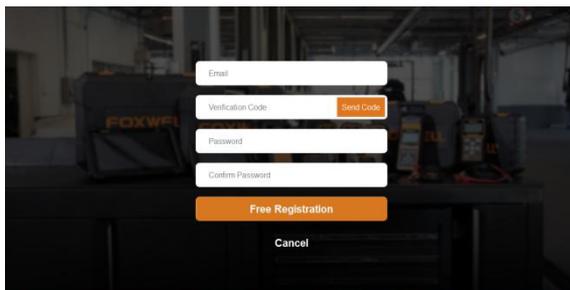


Figure 8-12 Sample Register Screen

5. A **Registered account is successful** message will appear if you registered successfully.

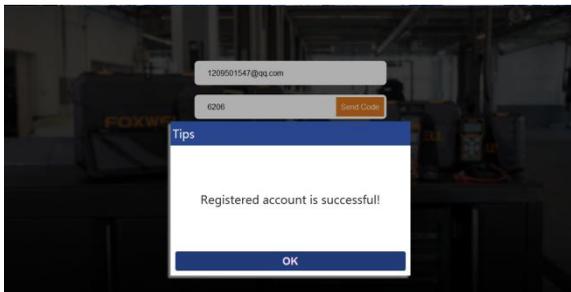


Figure 8-13 Sample Registration Success Screen

6. Click OK. It skips to the login page automatically. You can input your FOXWELL ID and Password to sign in.

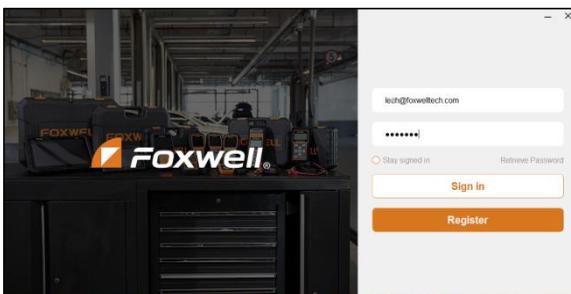


Figure 8-14 Sample Sign in Screen

## 8.2 Register Your Scanner

To register a scanner , you can either register on [www.foxwelltech.us](http://www.foxwelltech.us) or by the update PC application FoxAssist.

### 8.2.1 Register Through Website

1. Open [www.foxwelltech.us](http://www.foxwelltech.us) main page and click **Sign in**. Input your FOXWELL ID/registered email and password.

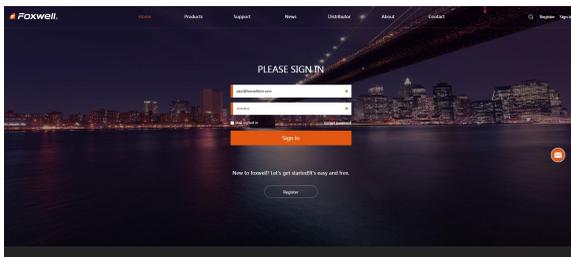


Figure 8-15 Sample Sign in Screen

- When log in successfully, the **Member Center** will show as below. This platform enables you to review the registered products, register new products, modify personal information or reset the password.

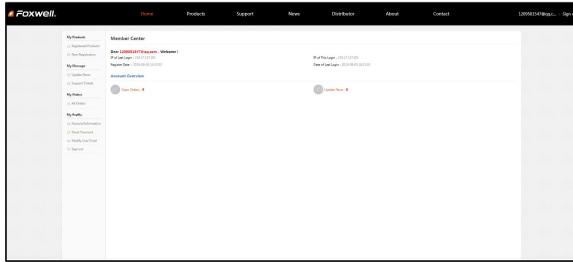


Figure 8-16 Sample Member Center Screen

- To register a product, please click **My Products>New Registration**. Input correct serial number and click the **Submit** button to complete product registration. Please repeat the process if you have more products.

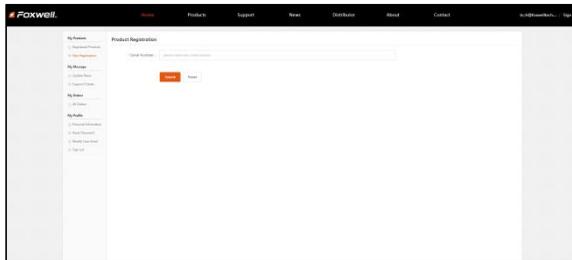


Figure 8-17 Sample New Product Registration Screen

### NOTE

To check the serial number of a device, please boot it up, and select **Setting>About**. The serial number is right on the **About** page. You can also find the serial number on the back of main unit or Warranty Card.

## 8.2.2 Register With FoxAssist

- To register with FoxAssist:
  - Launch the PC application FoxAssist. Sign in with your Foxwell ID/ registered email and password.

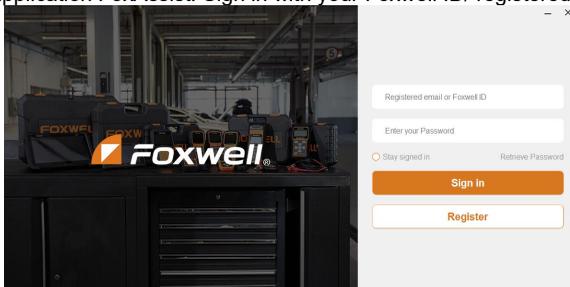


Figure 8-18 Sample Sign in Screen

- Select **Activate** and input serial number to complete product registration. If you have multiple scanners to be registered, please enter all serial numbers you wish to activate. Or you can also

connect the scanner with your PC via USB cable, choose the Update icon and press the Enter Key on the scanner, then your serial number will be automatically acquired by the FoxAssist and please click Activate to complete.

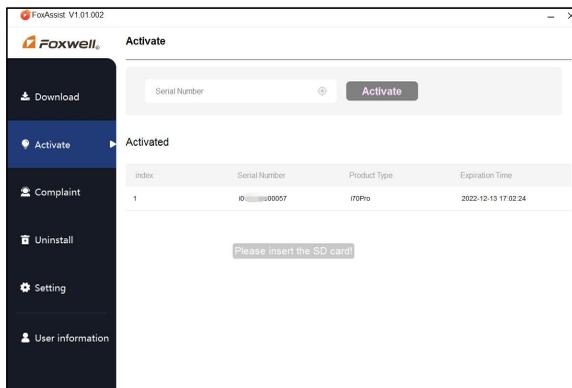


Figure 8-19 Sample New Product Activate Screen

## 8.3 Update the Scanner

To update scanner, you need the following tools:

- The scan tool
- PC application FoxAssist
- PC or laptop with USB ports
- Internet service

To be able to use update tool, PC or laptop must meet the following minimum requirements:

- **Operation System: Windows 7, Windows 8 and Windows 10.**
- **CPU: Intel PIII or better**
- **RAM: 64MB or better**
- **Hard Disk Space: 30MB or better**
- **Display: 800\*600 pixel, 16 byte true color display or better**
- **Internet Explorer 4.0 or newer**

---

### NOTE

Before updating, please make sure your network works correctly.

Before updating, please make sure you have already created a Foxwell ID.

---

▶ To update your scanner:

1. Double click the desktop icon  to launch the application.
2. Connect the scanner with your PC via USB cable.
3. Log in with your Foxwell ID and password.

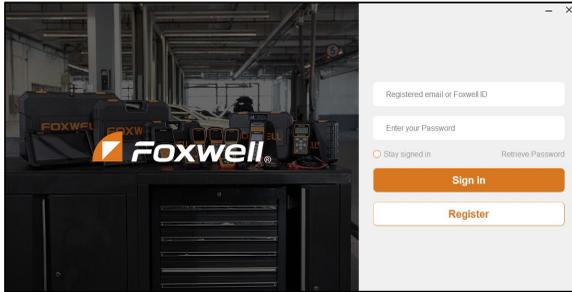


Figure 8-20 Sample Sign in FoxAssist Screen

4. You are lead to **Download** tap after you sign in, please choose the Update icon and press the Enter Key on the scanner, then all updates applicable to your scanner display.

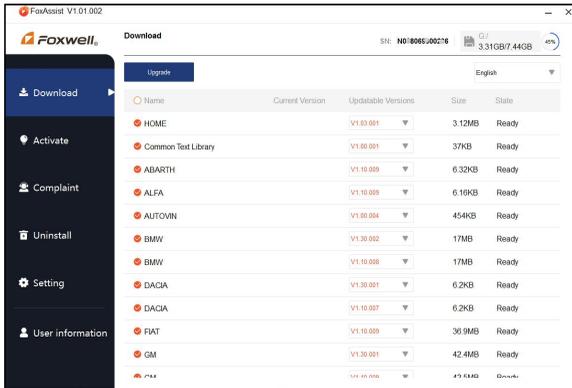


Figure 8-21 Sample Download Screen

5. Click the check box(es) in front of the software(s) you wish to update and then click the **Upgrade** button on the top of the software(s) to download.

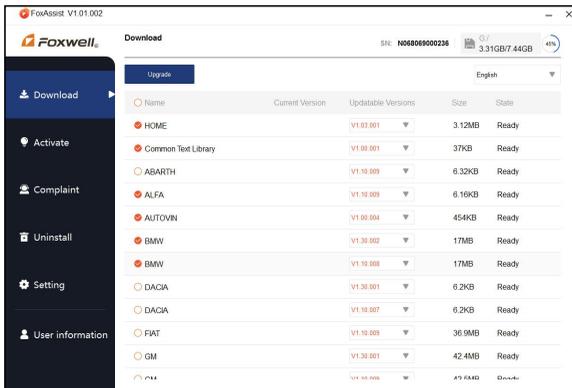


Figure 8-22 Sample Upgrade Check Screen

6. When **Upgrade** button is clicked, it begins to download. And you can check the **Current Status**. If the Current Status shows Downloading, please do not close the update application.

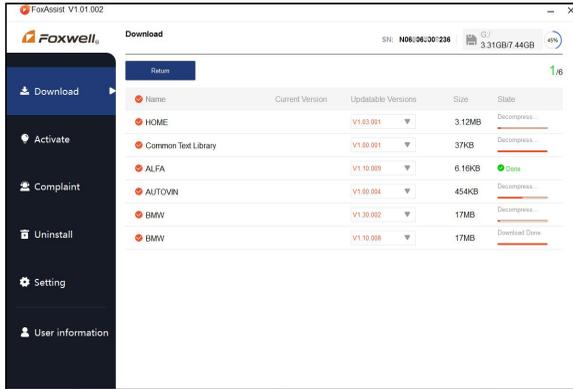


Figure 8-23 Sample Updating Screen

7. When all the items are updated, an “All software downloads are successfully installed!” message displays. Please click OK to confirm.

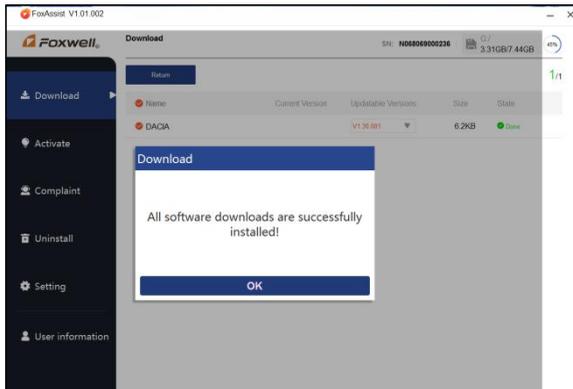


Figure 8-24 Sample Update Completed Screen

8. Please click **Return** to review all the software status.

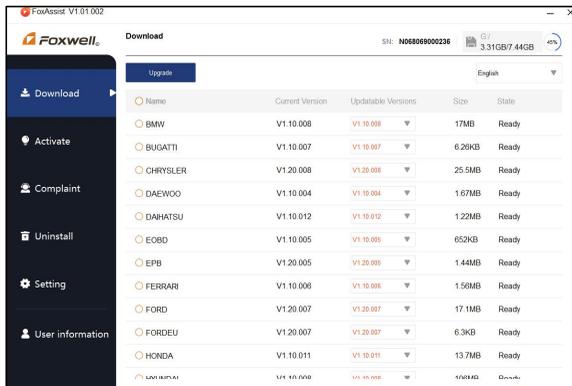
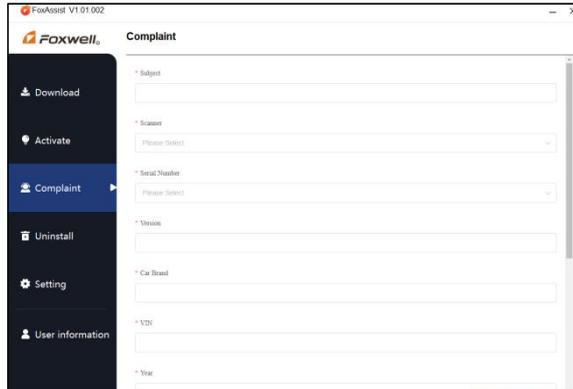


Figure 8-25 Sample Software Management Screen

## NOTE

If “Update Failed” dialog comes up, it indicates that the software updates failed. Please check the network connection. If the problem still exists, please contact [support@foxwelltech.com](mailto:support@foxwelltech.com) or your local dealer for assistance.

9. Should you have any questions regarding the product, please click **Complaint**, fill in all required information and click **Submit** to send us your issue.

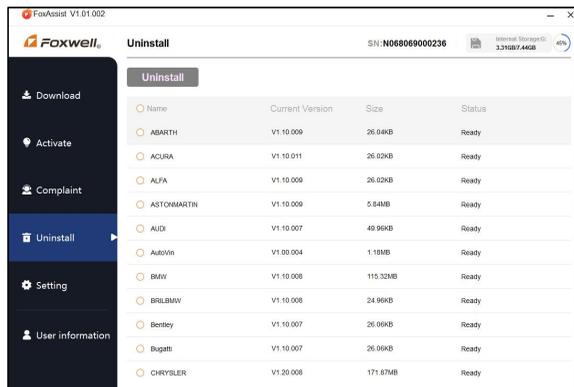


The screenshot shows the 'Complaint' form in the Foxwell V1.01.002 application. The form has a dark sidebar on the left with navigation options: Download, Activate, Complaint (selected), Uninstall, Setting, and User information. The main content area contains the following fields:

- Subject:
- Scanner:
- Serial Number:
- Version:
- Car Brand:
- VIN:
- Year:

Figure 8-26 Sample Complaint Screen

10. To uninstall a software or all software, select them on the **Uninstall** tab and click the **Uninstall** button. And the uninstalled items can be found in the **Uninstall** screen.



The screenshot shows the 'Uninstall' screen in the Foxwell V1.01.002 application. The screen displays a table of software items with columns for Name, Current Version, Size, and Status. A sidebar on the left contains navigation options: Download, Activate, Complaint, Uninstall (selected), Setting, and User information. The table contains the following data:

Name	Current Version	Size	Status
ABARTH	V1.10.009	26.04KB	Ready
ACURA	V1.10.011	26.02KB	Ready
ALFA	V1.10.009	26.02KB	Ready
ASTONMARTIN	V1.10.009	5.84MB	Ready
AUDI	V1.10.007	49.99KB	Ready
AutoVin	V1.00.004	1.18MB	Ready
BMW	V1.10.008	115.32MB	Ready
BRILBMW	V1.10.008	24.96KB	Ready
Bentley	V1.10.007	26.06KB	Ready
Bugatti	V1.10.007	26.06KB	Ready
CHRYSLER	V1.20.008	171.67MB	Ready

Figure 8-27 Sample Software Uninstallation Screen

11. Please click **Setting** to change the update tool language.

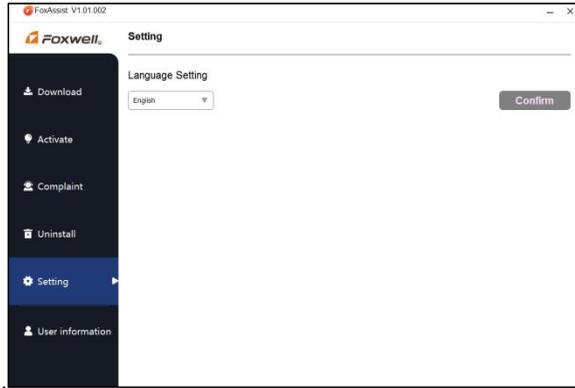


Figure 8-28 Sample FoxAssist Setting Screen

12. Please click **User Information** to view your personal information. To modify your personal information, just click the **Edit** and type in the message box and click **Confirm**. To help us provide better sales, please make sure that the telephone, email and country are correctly entered.

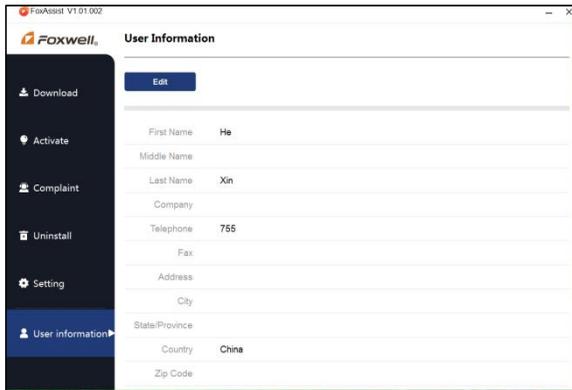


Figure 8-29 Sample User Information Screen