CGSULIT

SC850
All Makes Scanner
Diagnostic Tool

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One-Year Limited Warranty

Subject to the conditions of this limited warranty, Shenzhen Sunite Technology Co., Ltd ("CGSULIT") 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, CGSULIT 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 CGSULIT 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 CGSULIT 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 CGSULIT, 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 CGSULIT.

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

4 CGSULIT 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:

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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) CGSULIT will repair the Product under the limited warranty within 30 days after receipt of the product. If CGSULIT cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, CGSULIT 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, CGSULIT' normal service policies shall apply and the customer will be responsible for all shipping charges.

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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 equipments while the ignition is on or the engine is running.

Table of Contents

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
- Beep Set
- 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 **CGSULIT** 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

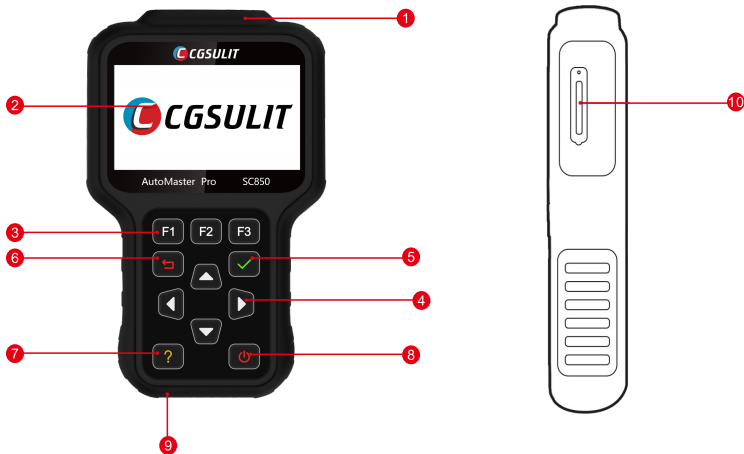This section illustrates external features, ports and connectors of the scanner.

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 **ENTER 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 **Power Switch** – press and hold for 5 seconds for emergency reboots.
9 **USB Port** – provides USB power connection between the scanner and PC/laptop.
10 **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 **Diagnostic Cable** - provides connection between the scanner and a vehicle.
2 **USB Cable** - provides connection between the scanner and a computer to update and print data.
3 **Warranty Card** - A warranty card is required if you need any repair or replacement from us.
4 **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 5V USB power
Dimensions: (L*W*H**)**: 199.50*120.40*38.00mm
Weight: 0.41 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.

- **History** - Leads to screen for last test vehicle.
- **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.
- **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.
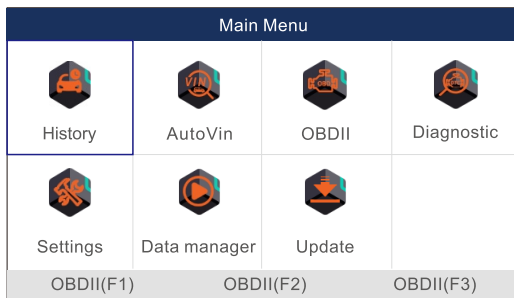- **Update** - leads to screen for updating the scanner.

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**.
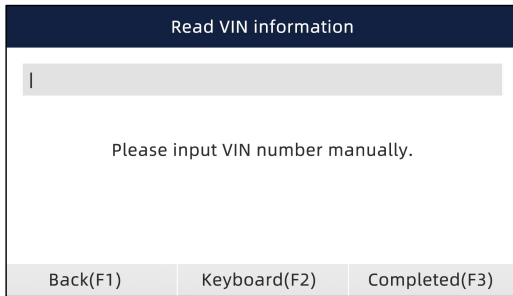
Figure 3-2 Sample Input Text Screen

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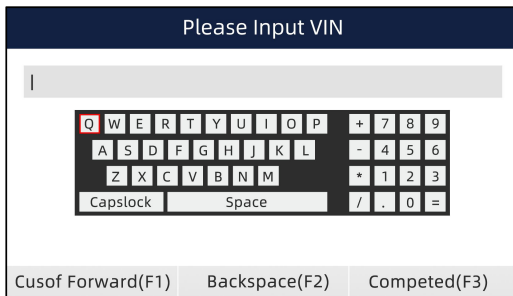

Figure 3-3 Sample Numeric Keyboard Screen

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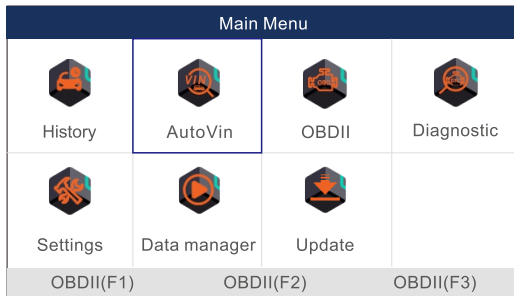1. Scroll with the arrow keys to highlight **Auto VIN** from the main menu and press the **ENTER** key.

Figure 4-1 Sample Main Menu Screen

2. Select **Automatic VIN Acquisition** from the menu, and press the **ENTER** key.
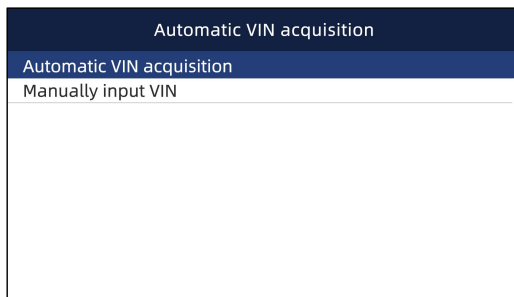
Figure 4-2 Sample VIN Reading Screen

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.
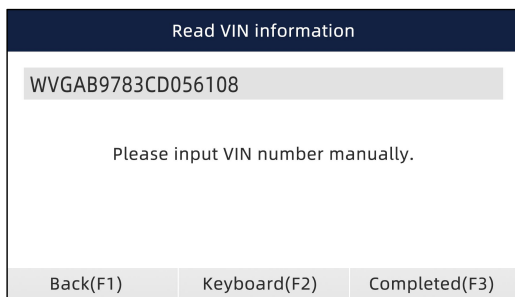

Figure 4-4 Sample Manual VIN Entry Screen

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.
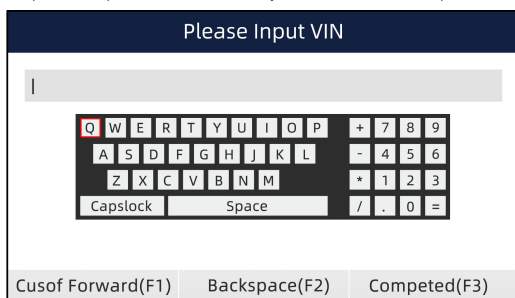

Figure 4-5 Sample Manual Entry Screen

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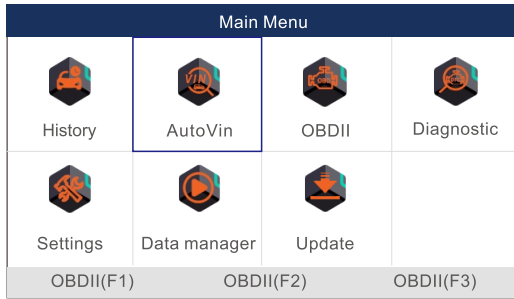1. Scroll with the arrow keys to highlight **Auto VIN** from the main menu and press the **ENTER** key.

Main Menu			
History	AutoVin	OBDII	Diagnostic
Settings	Data manager	Update	
OBDII(F1)	OBDII(F2)		OBDII(F3)

Figure 4-6 Sample Main Menu Screen

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

Automatic VIN acquisition
Automatic VIN acquisition
Manually input VIN
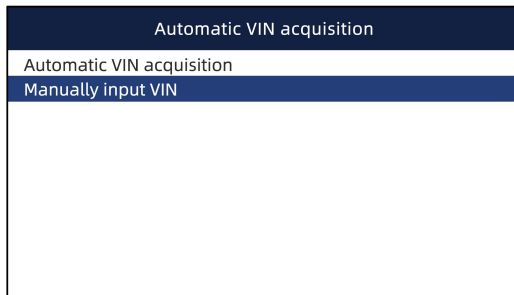
Figure 4-7 Sample VIN Reading Screen

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

Please Input VIN

Q	W	E	R	T	Y	U	I	O	P		+	7	8	9
A	S	D	F	G	H	J	K	L			-	4	5	6
Z	X	C	V	B	N	M					*	1	2	3
Capslock		Space									/	.	0	=

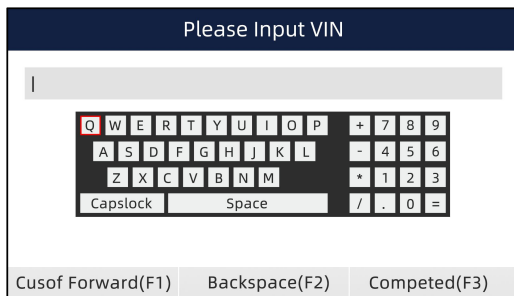| Cusof Forward(F1) | Backspace(F2) | Competed(F3) |

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.
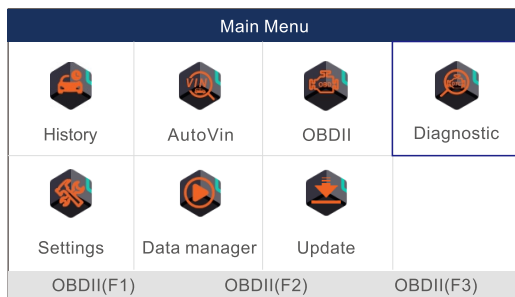

Figure 4-9 Sample Main Menu Screen

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.
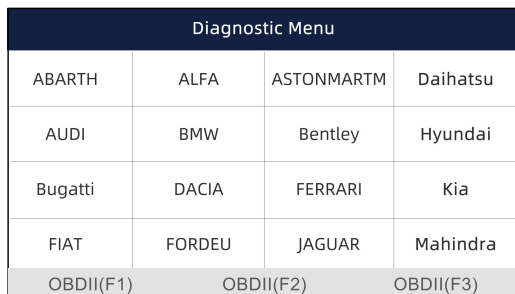

Figure 4-11 Sample Vehicle Selection Screen

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

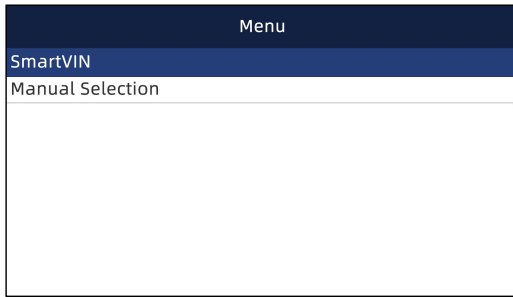| Menu |
|---|
| SmartVIN |
| Manual Selection |
| |
| |
| |
| |
| |

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.
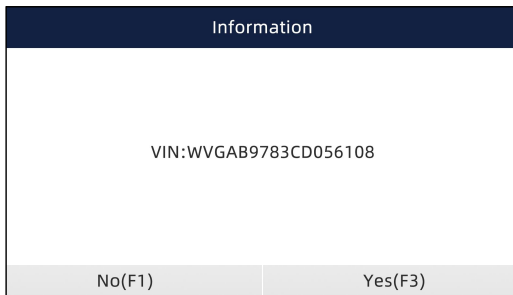
Information
VIN:WVGAB9783CD056108
No(F1)   Yes(F3)

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.
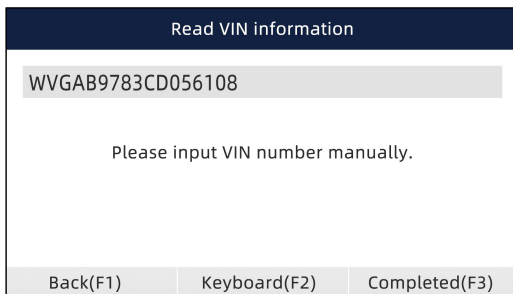
Read VIN information
WVGAB9783CD056108
Please input VIN number manually.
Back(F1)   Keyboard(F2)   Completed(F3)

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.
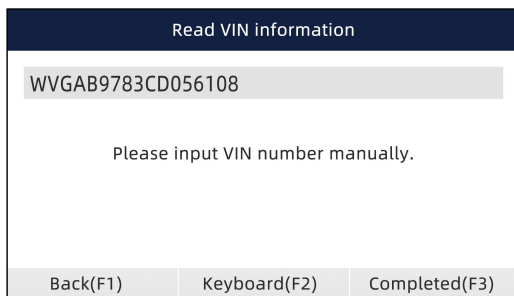
Read VIN information
WVGAB9783CD056108
Please input VIN number manually.
Back(F1)   Keyboard(F2)   Completed(F3)

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 Unit

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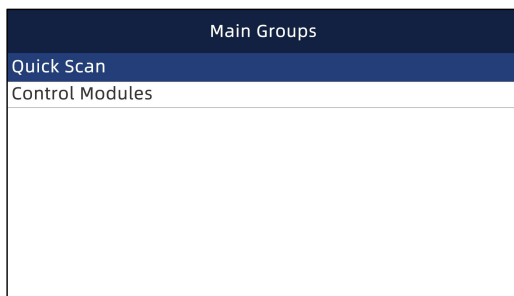1. Scroll with the arrow keys to highlight **Quick Scan** from the menu and press **ENTER** to start.

Main Groups
Quick Scan
Control Modules

Figure 5-1 Sample Quick Scan Screen

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

Quick Scan		
Success: 2		2/4
1 Engine (Control System)		Fault I 5
2 Airbag(Airbag control)		Fault I 3
Erase(F1)	Pause(F2)	Report(F3)

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: 4		4/4
1 Engine (Control System)		Fault I 5
2 Airbag(Airbag control)		Fault I 3
3 AT(Transmission)		Fault I 4
4 ABS		Fault I 8
Erase(F1)	Pause(F2)	Report(F3)

.

Figure 5-3 Sample Quick Scan Screen

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	Throtle/Pedal Pos Sensor A Cro.LHigh Input–Active/static
PO22200	Throttle/Pedal Position Sensor/ switch BLow nput =Actve/state Ib
P308700	Supply relay for engne componentElectrical malfunction in orout–Passive/Sporadic
P201400	Intake Manifold Runner Postion
Save(F1)	

Figure 5-4 Sample Report 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.
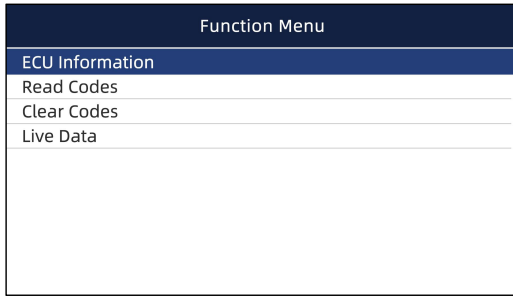
Function Menu
ECU Information
Read Codes
Clear Codes
Live Data

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.
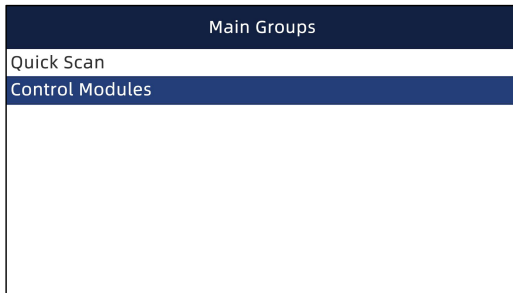
Main Groups
Quick Scan
Control Modules

Figure 5-6 Sample Control Modules Screen

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

Control Module
Powertrain
Body
Chassis
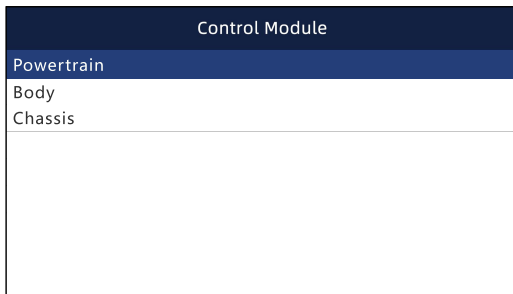
Figure 5-7 Sample Control Modules Screen

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.

Function Menu
ECU Information
Read Codes
Clear Codes
Live Data

Figure 5-8 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 5-9 Sample ECU Information Screen

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

Function Menu
ECU Information
Read Codes
Clear Codes
Live Data

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.

Trouble Codes		
ID	Status	Description
B1651	Active	Crash recorded in driversideairbag (Replace SRSCM)
B1490 ★	History	OCS(Occupantclassification system) defet
B1388 ★?	Active	STPS(Seat track positiomsensor)- Driver open orshort to battery
Save(F1)		Freeze Frame(F2)

Figure 5-11 Sample Code Screen

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

Live Data		
Name	Value	Unit
Artbag firing condition(1 st stage)-Driver	NO FIRE	
Airbag firimg condtion(2nd stage) Dnver	NO FIRE	
Arbag firng condition(1ststage)-Passenger	NO FIRE	
Airbag fring condition(2ndstage)-	NO FIRE	
Save(F1)		

Figure 5-12 Freeze Frame 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.

Function Menu
ECU Information
Read Codes
Clear Codes
Live Data

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.

Clear Codes	
DTCs and freeze data wil be cleared! Are you sure to continue?	
No(F1)	Yes(F3)
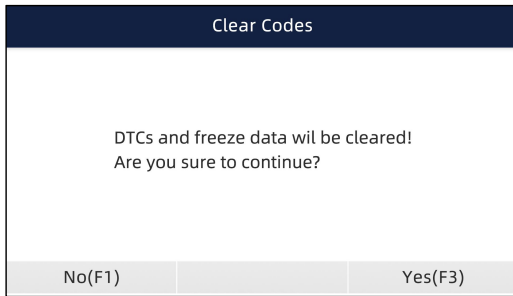
Figure 5-14 Sample Clear Codes Screen

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 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.

Function Menu
ECU Information
Read Codes
Clear Codes
Live Data
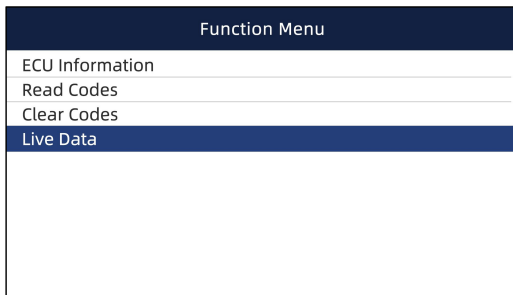
Figure 5-15 Sample Function Menu Screen

2. Select the **Complete List** from the menu and press the **ENTER** key to display the data screen.
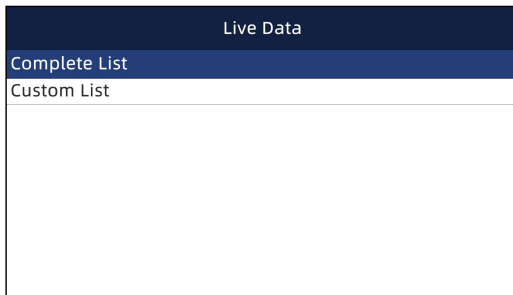
Figure 5-16 Sample Live Data Menu Screen

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.
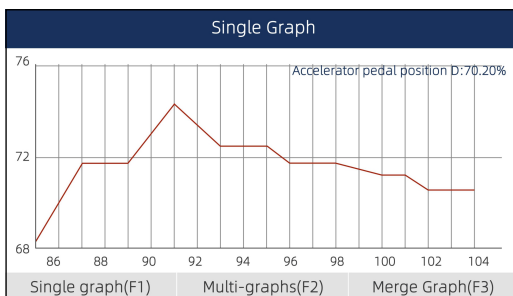
Figure 5-18 Sample PID Graph Screen

5. Press the function key **Multi-graphs** to display two PID graphs in one screen. Press **Single graph** to view one plot.
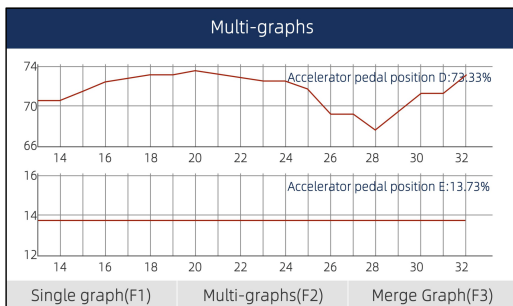
Figure 5-19 Sample Two PID Graph Screen

6. Press the function key **Merge Graph** to display two PID plots in one coordinate to check how they affect each other.
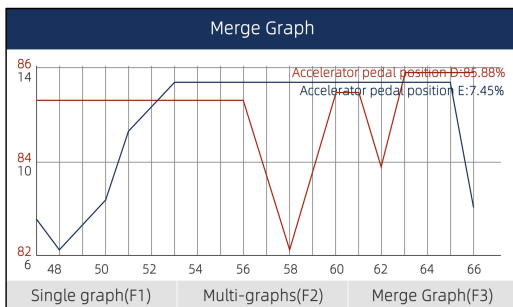
Figure 5-20 Sample Merge Graph Screen

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

5.2.4.2 Custom Data 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.
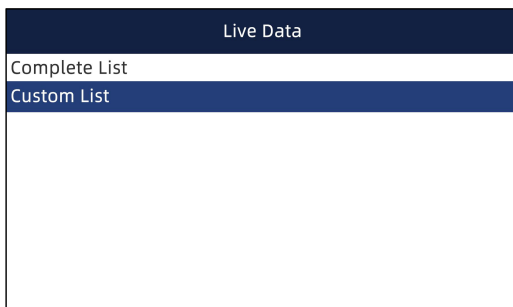
Figure 5-21 Sample Live Data Menu Screen

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.

Custom list		
■ Steering angle sensor-1(ESP only)		11
■ Steering angle sensor-2(ESP only)		12
■ Steering angle sensor-NESP only)		13
■ G-Sensor longitudinal		14
■ G-Sensor lateral		15
■ ABS warning lamp		16
☐ EBD warning lamp		17
Select ALl(F1)	Deselect(F2)	OK(F3)

Figure 5-22 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(ESP only)	LOW	
Pause(F1)	Graph(F2)	Save(F3)

Figure 5-23 Sample Live Data Screen

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
- Beep Set
- 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:
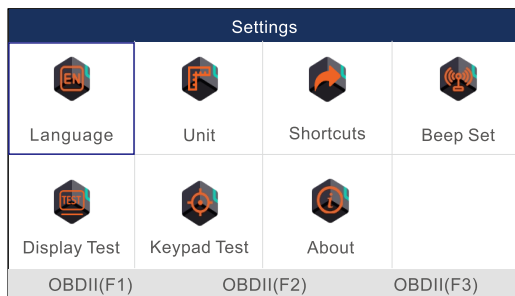1. Scroll with the arrow keys to highlight **Language** from Settings menu and press **ENTER** key.

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.

Settings			
Language	Unit	Shortcuts	Beep Set
Display Test	Keypad Test	About	
OBDII(F1)	OBDII(F2)		OBDII(F3)
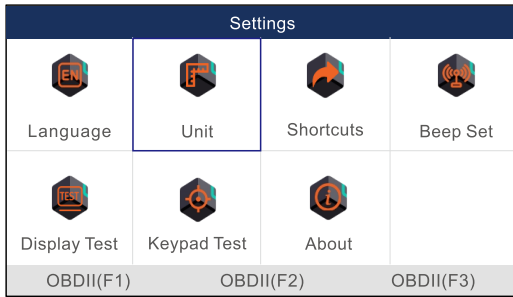
Figure 7-3 Sample Settings Screen

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

Unit	
Metric	☐
Imperial	☑
OBDII(F1)	OBDII(F2) OBDII(F3)
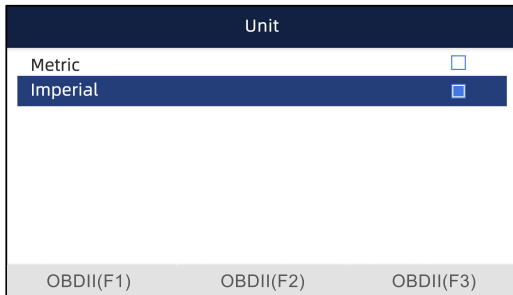
Figure 7-4 Sample Unit Selection Screen

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 screen with available shortcut keys displays.

Settings			
Language	Unit	Shortcuts	Beep Set
Display Test	Keypad Test	About	
OBDII(F1)	OBDII(F2)		OBDII(F3)
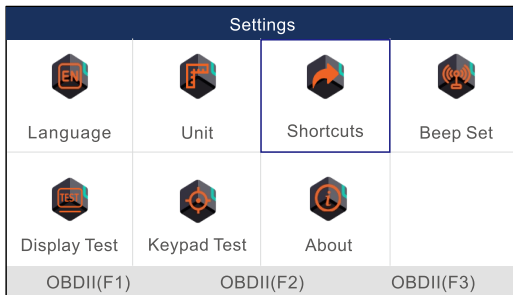
Figure 7-5 Sample Settings screen

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

Shortcuts
Edit ShortCuts F1 Function
Edit ShortCuts F2 Function
Edit ShortCuts F3 Function

| OBDII(F1) | OBDII(F2) | OBDII(F3) |

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.

Diagnostic Menu			
ABARTH	ALFA	ASTONMARTM	Daihatsu
AUDI	BMW	Bentley	Hyundai
Bugatti	DACIA	FERRARI	Kia
FIAT	FORDEU	JAGUAR	Mahindra
OBDII(F1)	OBDII(F2)		OBDII(F3)

Figure 7-7 Sample Shortcuts Screen

7.4 Configure Beeper

Selecting **Beep Set** opens a dialog box that allows you to turn on/off the beeper.

To turn on/off the beeper:
1. Scroll with the arrow keys to highlight **Beep Set** from Settings menu and press **ENTER** key.

Settings			
Language	Unit	Shortcuts	Beep Set
Display Test	Keypad Test	About	
OBDII(F1)	OBDII(F2)		OBDII(F3)

Figure 7-8 Sample Settings Screen

2. Press the up and down arrow key select an item and press the **ENTER** key to save and return.
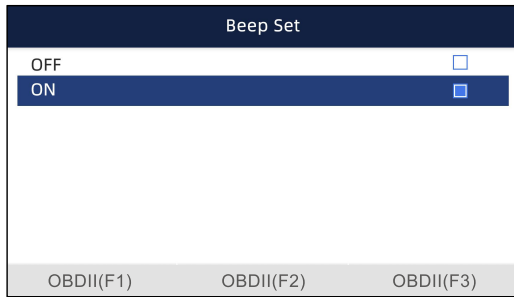
Figure 7-9 Sample Beeper On/Off Screen

7.5 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.
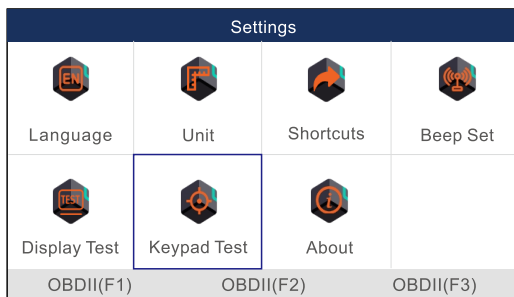

Figure 7-10 Sample LCD Test Screen

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

7.6 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.

Settings			
Language	Unit	Shortcuts	Beep Set
Display Test	Keypad Test	About	
OBDII(F1)	OBDII(F2)		OBDII(F3)

Figure 7-11 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.
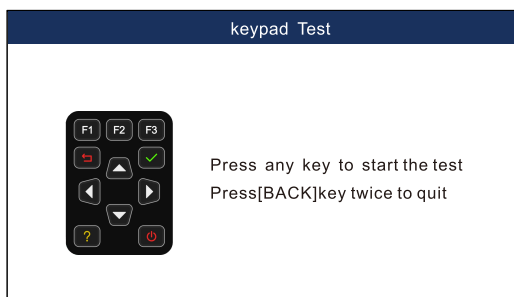
keypad Test
Press any key to start the test Press[BACK]key twice to quit

Figure 7-12 Sample Keypad Test Screen

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

7.7 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.
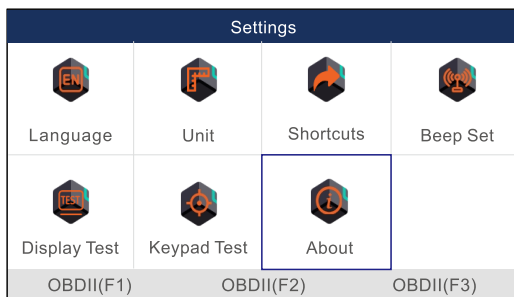
Settings			
Language	Unit	Shortcuts	Beep Set
Display Test	Keypad Test	About	
OBDII(F1)	OBDII(F2)		OBDII(F3)

Figure 7-13 Sample Settings Screen

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

About	
Home Version	V1.10.002
BOOT Version	V2.04.007
Serial Number	S850220100001
Copyright	Copyright(C)2021 Sunite Technology Co., Ltd.All rights reserved
OBDII(F1)	OBDII(F2)	OBDII(F3)

Figure 7-14 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.

8.1 Update Scanner

To update scanner, you need the following tools:

- The scan tool
- PC application CGSULIT Update Assist
- 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

▶ To update your scanner:

1. Visit our website www.cgsulit.com to download CGSULIT Update Assist application installation file from product page " Download" or home menu " Download".
2. Install CGSULIT Update Assist on you Windows PC.
3. Double click the desktop icon to launch the application.
4. Connect the scanner with your PC via USB cable.
5. Please choose the Update icon and press the Enter Key on the scanner, then all updates applicable to your scanner display.
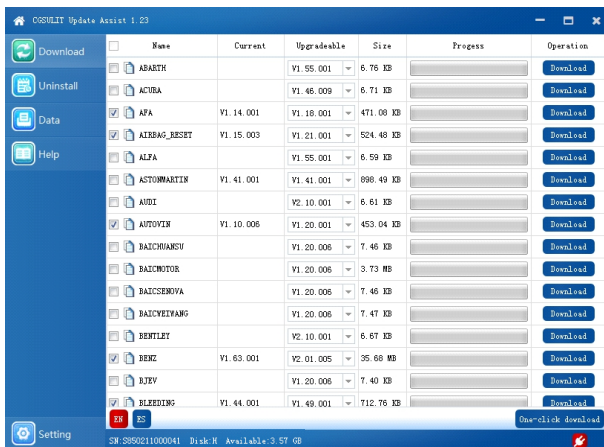
Figure 8-1 Sample Download Screen

6. Click the software language below(EN,ES) to change language, then all available updating will display. Multiple select the software you wish to update then click One-click download to update the scanner, or user can also select the specific software then click Download button to update the scanner.
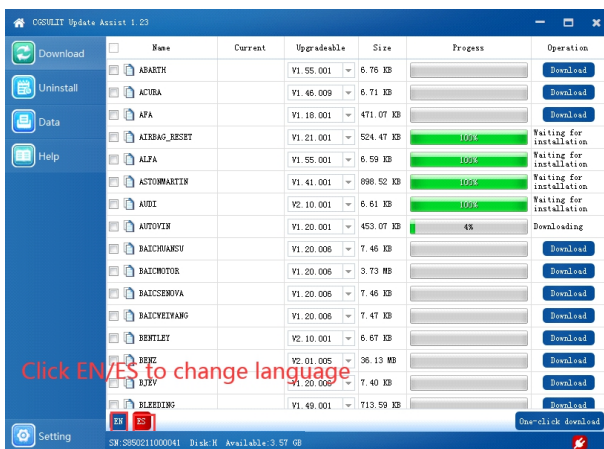

Figure 8-2 Sample change language and download Check Screen

NOTE
If the Current Status shows Downloading, please do not close the update application.

7. When the items are updated, an "Installed"message displays.
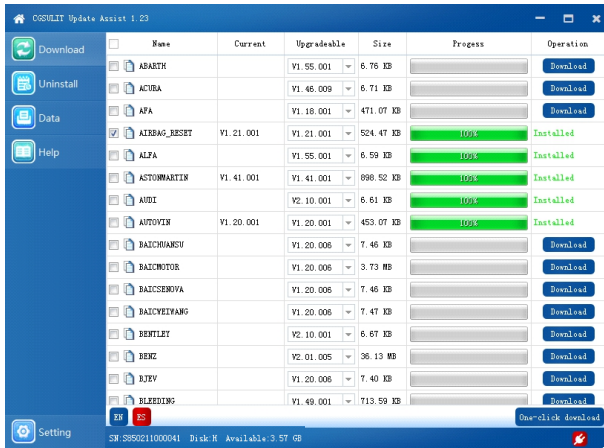
Figure 8-3 Sample Upgrade Complete Screen

NOTE

Before If "Download Failed" dialog comes up, it indicates that the software updates failed. Please check the network connection. If the problem still exists, please contact support@cgsulit.com or your local dealer for assistance.

8.2 Uninstall the Software

Click "Uninstall" button ,then select the items that you need to uninstall. Then click "Uninstall" button at the lower right corner of the page to uninstall the software.
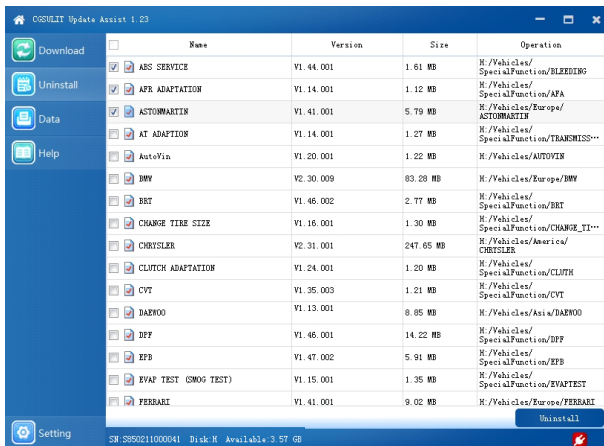
Figure 8-4 Sample Uninstall Screen

8.3 Data Print

Click "Data" button ,then it will show you the all datas that you saved .select the items that you want to print.
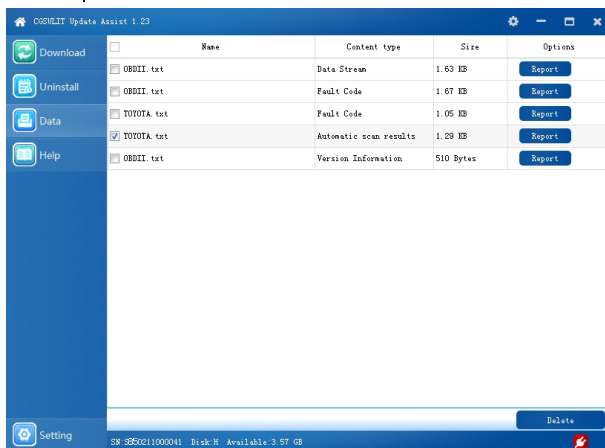

Figure 8-5 Sample Data print Screen

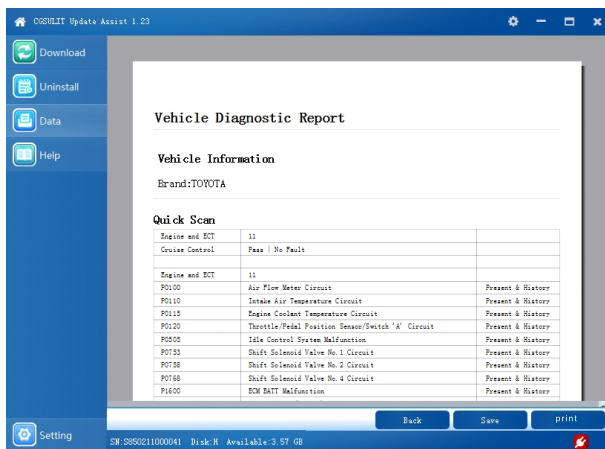Then click Print button to print the data.

Figure 8-6 Sample Data print Screen

NOTE
Your PC need to connect the printer.

8.4 Check Help

Please click Help button to check the device user manual.

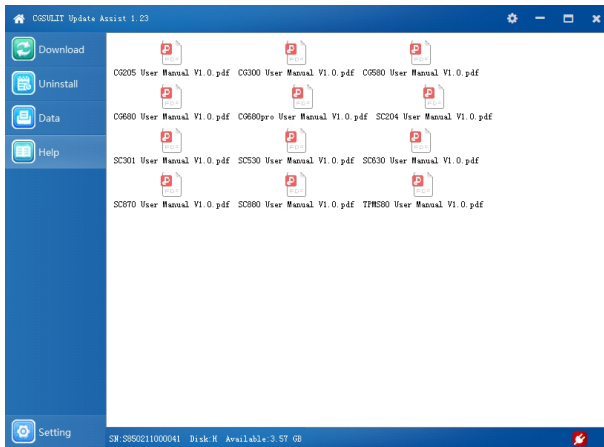

Figure 8-7 Sample Help Screen

8.5 Setting Function

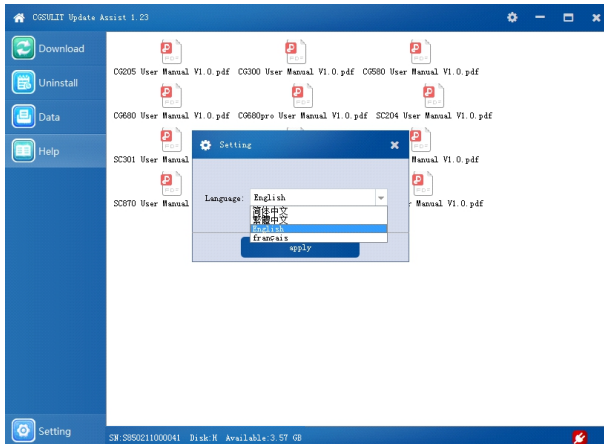Please dick Setting to change the update tool language.

Figure 8-8 Sample Setting Screen

SC850 User's Manual_English _V1.0.0

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E-mail: support@cgsulit.com