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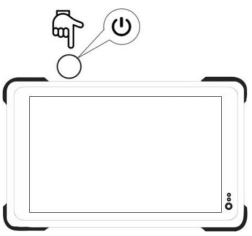
1.Introduction

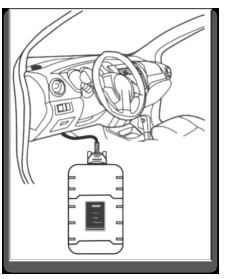
1.1Product Profile

Through simple Bluetooth communication between VCI connector and iSmart handset, this Android based diagnostic system provides professional diagnosis on more than 100 American, Asian and European vehicle makes. It has access to a vast range of controllers (ABS, airbags, instrument cluster, etc.), live sensor data, and system/component-level bi-directional controls to get the job done faster and with a greater degree of accuracy and prevent dreaded “comeback”. In addition, it has access to the most commonly required service and programming functionality.

Below is a diagram showing how iSmart scan tool works.



Bluetooth/
USB cable



1. 2 Product Features

• Full diagnostic functionality – Complete capabilities for codes, live data, freeze frame, functional tests, ECU information, adaptation, matching, and coding for dozens of vehicle systems

• Automatic VIN identification – automatically identify the VIN for fast diagnose.

• System Detection – detects only the systems that are specific to your vehicle and reads for errors, meaning you haven't got to spend time looking through data that might not be relevant

• One-Touch Full Vehicle Code Scan & Clear —quickly checks and clears codes for all available modules on the vehicle

• Record / Playback/Print live data

• Study and compare mode of Live data — real-time data can be compared against known good measurements

• Service functionalities —Direct Access to the most common required special functionalities such as oil service, EPB, ABS&SRS, BCM/SIR setting, DPF regeneration, throttle body alignment, steering angle sensor calibration, battery configuration, etc.

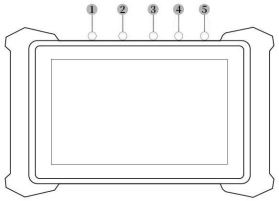
• Interactive Data Logging sessions and remote control —enable direct contact with Vident Technical Support for first-hand bugs troubleshooting

1. 3 Tool Descriptions

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

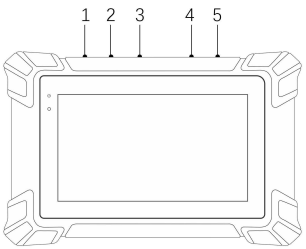
1.3.1 Windows Tablet

(1)iSmart810 IM & iSmart810 IM Pro



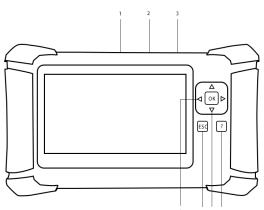
1.DC/AC power jack
2.HDMI Port
3.Micro USB port
4.TF card tray
5.Lock/Power Button –Turns the device on & off with long press, or locks the screen with short press

(2)iSmart800Pro IM



1.DC/AC power jack
2.TF Card Port
3.DB15 Port
4.Type-C Port
5.Lock/Power Button –Turns the device on & off with long press, or locks the screen with short press

(3)iSmart808Pro IM



1.Diagnostic Connector
2.Micro USB Port
3.Turn On/Off Button
4.Selection Keys
5.ESC Key
6.OK Key
7.HELP Key

1.3.2 Vehicle Communication Interface (Only applied to 12V vehicles)

The vehicle communication interface (VCI) is used to connect to a vehicle's diagnostic connector (DLC) via OBDII extension cable to read ECU data and send it to the Tablet. It communicates with the tablet in two ways:

1.USB cable

2.Bluetooth communication

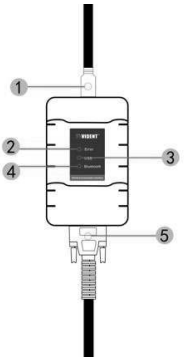
1.USB connector port – provides connection between VCI and the tablet via USB cable.

2.Error indicator- illuminates when error occurs while communicating with the tablet.

3.USB indicator – illuminates when the VCI get connected with the tablet via USB cable.

4.Bluetooth indicator – illuminates when the VCI get connected with the tablet via Diagnostic cable.

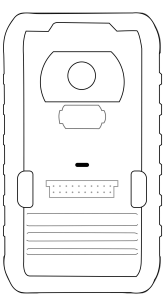
5.Diagnostic Port - provides connection between VCI and the vehicle.



IMPORTANT

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

1.3.3 VP001 Adapter



Read & Write supported list of EEPROM types:

TYPE	MAKE	SERIES	MODEL
EEPROM RW	MICROCHIP(ATMEL)	24CXX Series	AT24C01
	MICROCHIP(ATMEL)		AT24C02
	MICROCHIP(ATMEL)		AT24C04
	MICROCHIP(ATMEL)		AT24C08
	MICROCHIP(ATMEL)		AT24C16
	MICROCHIP(ATMEL)		AT24C32
	MICROCHIP(ATMEL)		AT24C64
	MICROCHIP(ATMEL)		AT24C128
	MICROCHIP(ATMEL)		AT24C256

TYPE	MAKE	SERIES	MODEL
EEPROM RW	MICROCHIP(ATMEL)	93CXX Series	AT93C46
	MICROCHIP(ATMEL)		AT93C56
	MICROCHIP(ATMEL)		AT93C57
	MICROCHIP(ATMEL)		AT93C66
	MICROCHIP(ATMEL)		At93LC66A
	MICROCHIP(ATMEL)		AT93C76
	MICROCHIP(ATMEL)		AT93C86
	MICROCHIP(ATMEL)	25CXX Series	25010
	MICROCHIP(ATMEL)		25020
	MICROCHIP(ATMEL)		25040
	MICROCHIP(ATMEL)		25080
	MICROCHIP(ATMEL)		25160
	MICROCHIP(ATMEL)		25320
	MICROCHIP(ATMEL)		25640
	MICROCHIP(ATMEL)		25128
	MICROCHIP(ATMEL)		25256
	ST	95CXX Series	95010
	ST		95020
	ST		95040
	ST		95080
	ST		95160
	ST		95320
	ST		95640
	ST		95128
	ST		95256
PIC/FREESCALE		TianJin FAW	VITA V5-PIC16F688
			N5-HC9S12G48
			N7-HC9S12G48

1.4 Accessories

This section lists the accessories that go with the scanner. The accessories may vary as per different region. If you find any of the following items missing from your package, contact your local dealer for assistance.

Item	Qty (PC)	iSmart800Pro IM	iSmart808Pro IM	iSmart810 IM	IMiSmart810 IM Pro
Main Unit	1	√	√	√	√
Diagnostic Cable	1	√	√	√	√
VCI Box	1	√	x	√	√
User Manual	1	√	√	√	√
Power Adapter	1	√	√	√	√
KIA-20 Adapter	1	x	x	x	√
OBDII-16 Adapter	1	x	x	x	√
MAZDA-17 Adapter	1	x	x	x	√
HONDA-3 Adapter	1	x	x	x	√
HYUNDAI-10 Adapter	1	x	x	x	√
Anti-theft Induction Coil	1	x	x	x	√
Multi-functional Jumper	1	x	x	x	√
Vp001 Programmer Unit	1	x	x	x	√
Vb001 & Vb002	1	x	√	x	√
Vw001	1	x	x	x	√
Vw002	1	x	x	x	√
Vw003	1	x	x	x	x
Vt001	1	x	√	x	√
VRT100	1	x	x	x	√
Smart Card	1	x	x	x	√

1.5 Technical Specifications for Tablet

(1)For iSmart810 IM & iSmart810 IM Pro

Operating System	Android 7.1.2
Processor	RK3288(Quad-core) , 1.8Ghz
Memory	2GB RAM & 64GB ROM
Display	8.0" 800*1280 IPS LCD touch screen
Connectivity	WIFI 802.11(a/b/g/n) frequency 2.4G+5.8G dual band WIFI, Bluetooth 4.0,
	TF card slot: support SDHC/SDXC, maxium 128G
	HDMI: 1.4a Type C
Touch Panel	Multi-points Capacitive,G+G,Rigidity: above 7H-Anti-scratch, TP thickness：1.1mm
G-sensor	Support
Camera	Rear: 5.0MP, with indicator light;
Power and Battery	8500mAh polymer li-ion battery
Input Voltage	DC/12 V 2A
Operating Temperature	0 ~ 40°C
StorageTemperature	-20 ~ 60°C

(2)For iSmart800Pro IM

Operating System	Android 7.1.2
Processor	Cortex-A7, 1.4GHz
Memory	1GB RAM & 72GB ROM
Display	7” 1024*600 IPS LCD touch screen
Connectivity	WIFI 802.11(a/b/g/n) frequency 2.4G+5.8G dual band WIFI
	TF card slot: support SDHC/SDXC, maximum 128G
	Type C Interface
G-sensor	Gravity acceleration sensor
Power and Battery	7200mAh polymer li-ion battery,
Size	246*156*32mm
Input Voltage	DC/12V 2A
Operating Temperature	0 to 40°C
StorageTemperature	-20 to 60°C

(3)For iSmart808Pro IM

Operating System	Vident OS
Memory	2GB RAM & 32GB ROM
Display	7” 1280*800 IPS LCD touch screen
Input Voltage	DC/12V 2A
Size	275*164*26mm
Operating Temperature	0 to 40°C
StorageTemperature	-20 to 60°C

2. Getting Started

This section describes how to power on/down the scanner, provides brief introductions of applications loaded on the scanner and display screen layout of the scan tool.

2.1 Powering up the Scanner The unit operates on any of the following sources:

- Internal Battery Pack
- 12V AC/DC Power Supply

2.1.1 Internal Battery Pack

The tablet scanner can be powered with the internal rechargeable battery. The fully charged battery is capable of providing power for 8~10 hours of continuous operation. If the battery remains unused for a long period of time or the battery is completely discharged, it is normal that the tool will not power on while being charged. Please charge it for a period of 5 minutes and then turn on it.

2.1.2 12V AC/DC Power Supply

The scan tool can also be powered from a wall socket using the AC/DC power supply. The AC/DC power supply also powers the internal battery pack charging.

To connect to wall plug:

1.Connect the 12V power adapter to scanner and plug it to the wall socket.

2. Press the power switch of the scan tool to power it on; meanwhile the scanner starts charging automatically also.

2.2 Power on/off the Scanner

2.2.1 Power on

Press the Power button on the top side of the tablet for 5 seconds to turn on the scan tool.

Note: If it is the first time you have used this tool or the tool remains idle for a long period of time, the tool could fail to turn on. Please charge the tool for a minimum of 5 minutes and attempt to turn on again.

2.2.2 Power off

All vehicle communication must be terminated before shutting down the scanner. Forcing a shut down while communicating may lead to ECM problems on some vehicles. Exit the Diagnostic application before powering off.

To power off the scanner

(1)Press Power button for seconds and select the Power Off option to power off the scanner.

2.2.3 Lock & unlock the screen

When it is ON, press the Power button to lock the screen. The system will lock the screen automatically after the tool remains idle over the preset standby time.

NOTE

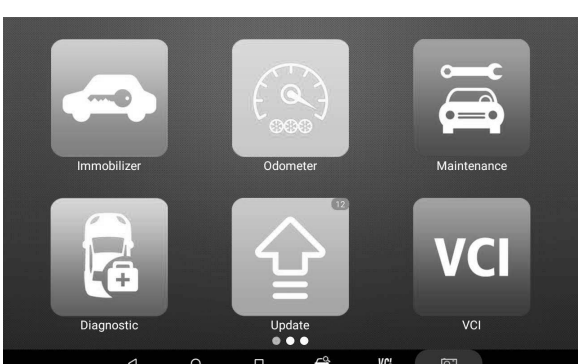
In case of emergency, press and hold the Power button for 5 seconds to force shutdown.

2.2.4 Reboot System

In case of system crash, press and hold the Power button for 10 seconds to reboot the system.

2.3 Screen Layout of Home Screen

When the scan tool boots up, press the iSmart desktop icon to launch the diagnostic application.

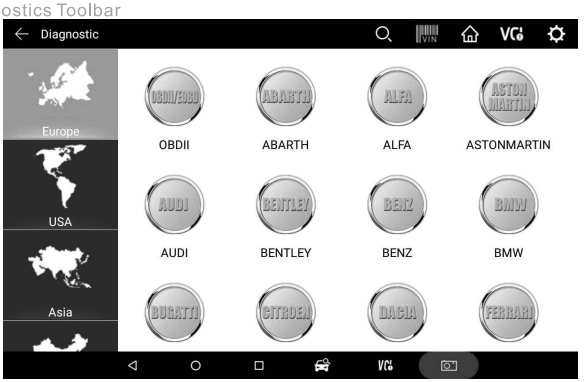


2.3.1 Application Buttons

This section briefly introduces the applications that are preloaded into the scanner:

Name	Button	Description
Immobilizer		This icon is direct to key programming software in the scanner
Odometer		This icon is direct to mileage correction software in the scanner.
Maintenance		Common required special service functions such as ABS bleed, AFS, Ajuste Fuel,BRT,DPF,EPB,Gear Box, Gear Learn, Immobilizer,Injector, Odometer, Oil Reset, SAS,Sun Roof, Suspension,TPMS,TPS
Diagnostics		Configure the unit to operate as a diagnostic tool
Update		leads to screens for registration and updating of the scanner and managing your scanner serial numbers and sending us feedback about the scanner.
VCI		This icon is to do VCI box connection and see the conditions of VCI box.
Remote Control		leads to the application TeamViewer for remote control when you need any support from Vident support team
Setting		leads to screens for adjusting default settings to meet your own preference and view information about the scanner.
Data management		leads to screens for saved screenshots and pictures and playing back recorded live data stream, as well as stored logging data and uninstallation of software.
Technical Data		This icon is to visit third party website, which can see all vehicle repair data and diagrams there from third party website.
About		leads to screen of product information such as serial number and password, which is required for product registration.
Oscilloscope		This icon is connected to oscilloscope, which could help workshop repair vehicles.
Videoscope		This icon is connected to videoscope, which could help workshop repair vehicles.

2.3.2 Diagnostics Toolbar



Name	Button	Description
Home		Returns to Windows desktop
Back		Returns to the previous screen
Screenshot		Captures the screens of errors or faults.
VCI		The tick icon at the bottom right corner indicates the Display Tablet is communicating with the VCI device, while a white icon indicates the connection has not built yet
Search		Search vehicle brand or model
Setting		leads to screens for adjusting default settings to meet your own preference and view information about the scanner.
Data Logging		Records the communication data between the scan tool and the vehicle under test to help with troubleshooting of diagnostic failures. The logs can be saved and upload to our server via internet.
VIN AutoReading		Reading the VIN of the car under testing automatically

3 Diagnostic Operations

This section illustrates how to use the scanner to read and clear diagnostic trouble codes, view live data readings and ECU information on controllers installed, preform special functions such as active test and coding, and perform vehicle services and maintenances on more than 80 vehicle brands.

3.1 Establish Vehicle Communication

TTo connect the scanner with the vehicle under testing, you need to

1.Connect the VCI device to the vehicle's DLC with the diagnostic cable.

2.Connect the VCI device to the tablet via Bluetooth communication or USB cable.

Launch the diagnostic software, Check the VCI icon at the button of the main screen. if there is a green tick icon at the lower right corner of the VCI icon VCI , the diagnostic platform is ready to start vehicle diagnosis.

3.1.1 Vehicle Connection

The method used to connect the diagnostic connector to a vehicle's DLC depends on the vehicle's configuration as follows:

- A vehicle equipped with an OBD II management system supplies both communication and 12V power through a standardized DLC.
- A vehicle not equipped with an OBD II management system supplies communication through a DLC connection, and in some cases supplies 12V power through the cigarette lighter receptacle or a connection to the vehicle battery.

Connect to OBDII vehicles

(1)Find location of the DLC.

(2)Connect the VCI with the diagnostic cable provided. Connect the diagnostic cable with the OBDII connector. Insert the OBDII connector into the vehicle's DLC.

Connect to NON-OBDII vehicles

This type of connection requires both the VCI device and a required OBD I adapter for the specific vehicle being serviced.

(1)Locate the required OBD I adapter and connect its 16-pin jack to the diagnostic cable.

(2)Connect the attached OBD I adapter to the vehicle's DLC.

(3)The VCI can be powered from the cigarette lighter when necessary.

(4)Plug the DC power connector of the cigarette lighter into the DC power supply input port on the VCI.

(3)Connect the male connector of the cigarette lighter into the vehicle's cigarette lighter receptacle.

3.1.2 VCI Connection

The VCI (Vehicle Communication Interface) can be connected with the tablet via wireless Bluetooth or USB cable.

Bluetooth Communication

By default, the Vehicle Communication Interface(VCI) is connected with the tablet by Bluetooth. If you find the Bluetooth indicator on the VCI is not in green and there is no green tick on the VCI icon VCI in the software, it indicates the VCI has not been connected with the tablet Bluetooth.

To set Bluetooth connection, please make sure the VCI is connected with the data link

connect(DLC) in the car.

(1)Slide the right side of screen and the action center would pop up. Check if the Bluetooth icon is in blue. If not, click it. When it turns blue, check if the Bluetooth indicator on your VCI turns green. If not, repeat the above steps.

(2)If there is no Bluetooth icon in the action center, click the Connect icon in the action center. The name of your VCI, eg. VD0001 would appear in the device list. Select it to pair. If not work, repeat the above steps. The iSmart VCI and tablet will usually automatically connect anytime the two devices are in range of each other with Bluetooth turned on. The working range of the Bluetooth communication is about 70～80 meters.

USB Cable Communication

Connect the standard 2.0 USB end of the USB cable with the table and the other end with the VCI.A green tick would display at the bottom right corner of the VCI icon  indicates the Tablet is communicating with the VCI device.

3.1.3 No communication troubleshooting

• If the tablet is not connected to the VCI, the error indicator in the VCI would display. Please do the following check-ups:

• Check if the VCI is powered up.

• In case of Bluetooth connection, check if the Bluetooth device is paired correctly. Check if the name of the paired Bluetooth device is same to that on the VCI sticker.

• If during the diagnosis process, the communication is suddenly interrupted due to the loss of signal, check if there is any object that causes signal interruption.

• Check if the VCI device is properly positioned.

• Try standing closer to the VCI device to obtain more stable signals and faster communication speed.

• In case of Bluetooth connection, check the cable connection between the Tablet and the VCI device.

• Check if the connection indicator on the VCI device is illuminated for Bluetooth or USB.

3.2 Vehicle Identification

Typically the scanner identifies a vehicle by any of the following methods:

• Automatic VIN acquisition

• Manual VIN entry

• Manual vehicle selection

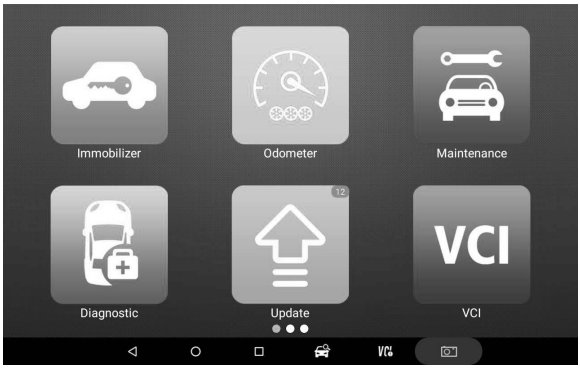
> *NOTE*
>
> *Not all identification options listed above are applicable to all vehicles. Available options may vary by vehicle manufacturer.*

3.2.1 Automatic VIN Acquisition

The iSmart diagnostic system features the latest VIN-based Auto VIN Scan function to identify CAN vehicles in just one touch, which allows the technician to quickly detect vehicles, scan all the diagnosable ECUs on every vehicle and run diagnostics on the selected system.

To identify a vehicle automatic VIN acquisition:

(1)Tap Diagnostic from the Home screen of the iSmart application.



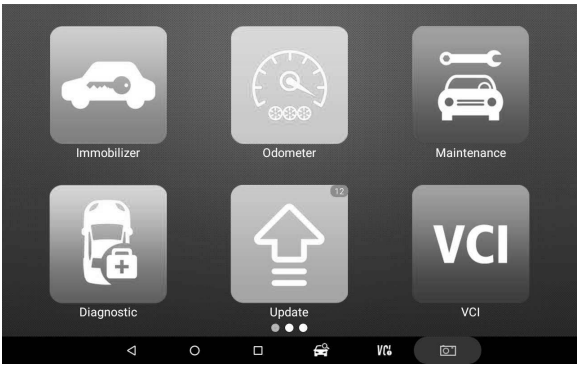
(2) Tap the VIN Auto Reading button on the right top of the screen. The scanner starts VIN scanning. Once the test vehicle is successfully identified, the system will guide you to the Vehicle Diagnostics screen directly.

(3)In some cases when users have selected the vehicle brand instead of performing Auto VIN Reading in the first place, the system still provides an option for vehicle VIN scan.

3.2.2 Manual VIN Entry

For some vehicles that do not support the Auto VIN Reading, iSmart supports Manual VIN Entry by manually inputting a 17-digit VIN code. To identify a vehicle by manual VIN entry:

1. Tap Diagnostic from the home screen of the iSmart application.



2. Tap the VIN Auto Reading button. Select Manual Input.

3.Tap the input box and enter the correct VIN.

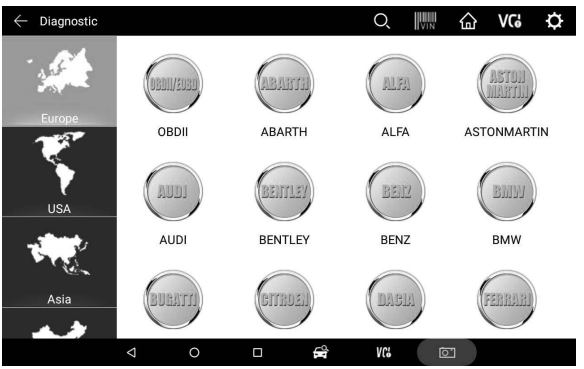
3.2.3 Manual Vehicle Selection

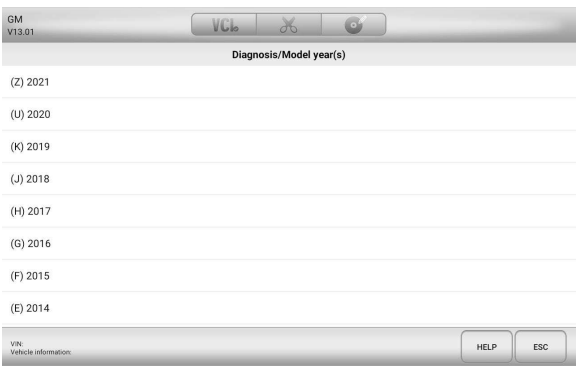
When the vehicle's VIN is not automatically retrievable through the vehicle's ECU, or the specific VIN is unknown, you can identify the vehicle by Manual Vehicle Selection according to certain VIN characters, such as model year, and engine type.

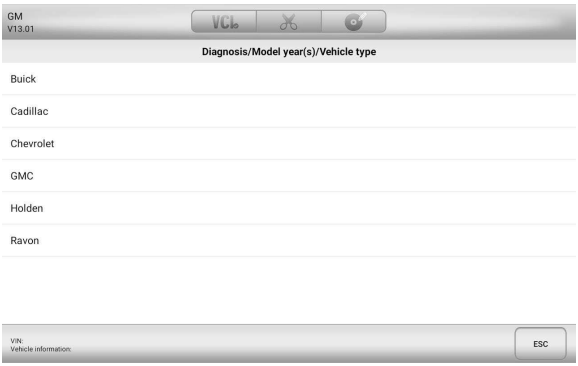
To identify a vehicle by manual vehicle selection:

1.Tap Diagnostics and select the vehicle manufacturer.

2.On each screen that appears, select the correct option and then tap the OK button. Do this until the complete vehicle information is entered and the menu of controller selection displays.







3.3 System Selection

After identified the vehicle, a menu for selecting system to test displays. Menu options typically include:

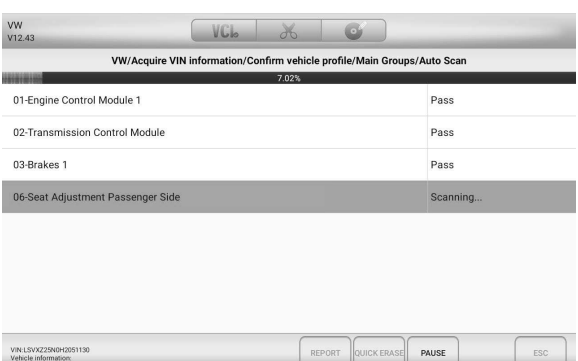
- Auto Scan
- Control Unit

3.3.1 Auto Scan

Auto Scan performs an automatic system test to determine which control modules are installed on the vehicle and obtain diagnostic trouble codes (DTCs) overview. Depending on the number of control modules, it may take a few minutes to complete the test.

To perform an automatic system scan:

1.Click Auto Scan from the diagnostic menu. The system would start scanning the control modules.



2.To pause the scan, tap the Pause button on the screen.

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

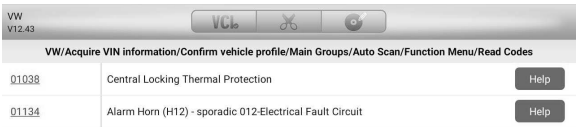
-!-: Indicates that the scanned system may not support the code reading function, or there is a communication error between the tester and the control system.

?-?-: Indicates that the vehicle control system has been detected, but the tester cannot accurately locate it.

Fault | #: Indicates there is/are detected fault code(s) present; “#” indicates the number of the detected faults.

Pass | No Fault: Indicates the system has passed the scanning process and no fault has been detected.

4.If there is diagnostic trouble code(s) detected in a control unit, tap the Report button on the screen to view details of code information.

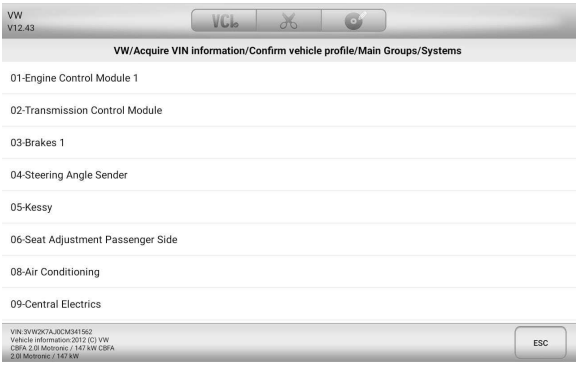


5.Or tap Quick Erase button to clear them.

3.3.2 Control Unit

This option allows you to manually locate a required control system for testing through a series of choices. Simply follow the menu driven procedure, and make proper selection each time; the program will guide you to the diagnostic function menu after a few choices you've made. To select a system for testing:

1.Select Control Unit from the menu and a controller menu displays.



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

3.4 Diagnostic Operations

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

- Read Codes
- Erase Codes
- ECU Information
- Live Data

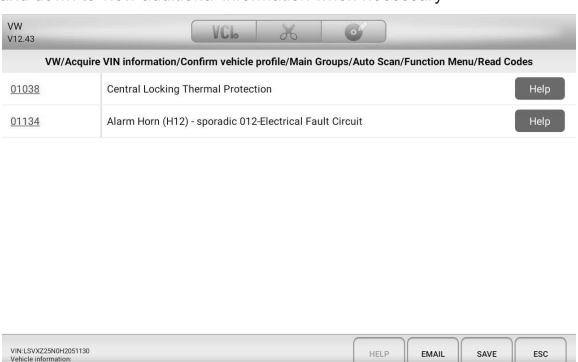
> *NOTE*
>
> *Not all function options listed above are applicable to all vehicles. Available options may vary by the year, model, and make of the test vehicle. A 'The selected mode is not supported!'message displays if the option is not applicable to the vehicle under test.*

3.4.1 Read Codes

Read Codes menu lets you read trouble codes found in the control unit. To read codes from a vehicle:

1. Select Read Codes from the Diagnostic Function menu. A code list including code number and its description displays.

2. Slide up and down to view additional information when necessary.



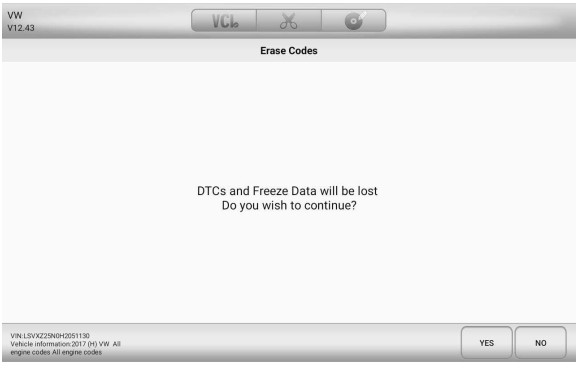
3. Select Save to store DTC information, and tap Print to print the code information. Or use the ESC button to exit.

3.4.2 Erase Codes

After reading the retrieved codes from the vehicle and certain repairs have been carried out, you can erase the codes from the vehicle using this function. Before performing this function, make sure the vehicle's ignition key is in the ON (RUN) position with the engine off. To clear codes:

1. Select Erase Codes from Select Diagnostic Function menu.

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



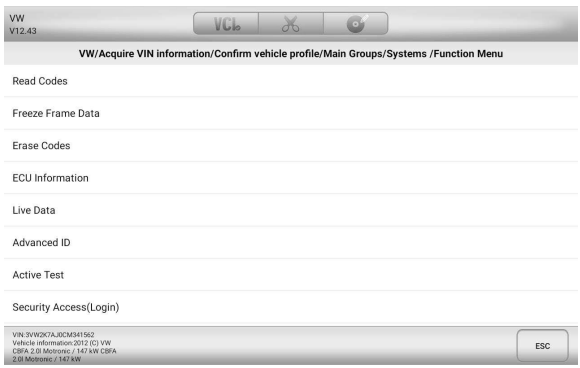
3.Return to Read codes to recheck. If any codes remain, repeat the above steps.

3.4.3 ECU Information

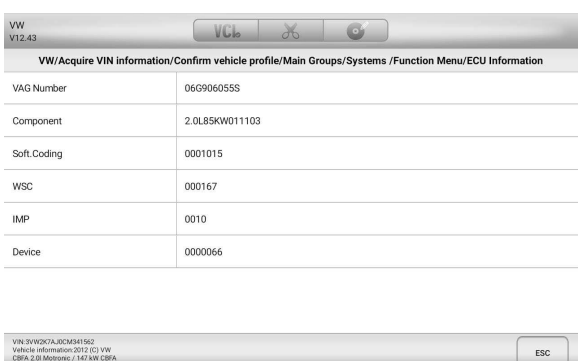
ECU Information screen displays the identification data of the control module under test, such as the control module identification string and the control module coding.

To read ECU information:

1. Select ECU Information from Select Diagnostic Function menu.



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



3.Click function key Save to store ECU information, and click Print to print the information.
Or use the ESC button to exit.

3.4.4 Live Data Live

Live Data menu lets you view real time PID data in text, graph and gauge formats, learn good sensor data and compare them with faulty data, and record live data from a selected vehicle electronic control module. Menu options typically include:

- All Data
- Custom List

3.4.4.1 Data stream

Mode All Data menu lets you view all live PID data from a selected control module. The diagnostic system allows you to view live data information in 6 different types of display modes.

• Text Mode - this is the default mode which displays the parameters in texts.

• Graph Mode - displays the parameters in waveform graphs, giving you the 'real picture' of what's going on in the vehicle. You could view up to 4 parameter graphs simultaneously and easily find and zoom in on a particular string of data.

• Merged Graph Mode - merges multiple PID plots into one coordinate to how they affect each other, providing you with the most comprehensive and functional look at live data possible.

• Gauge Mode - displays the parameters in the form of an analog meter.

• Study Mode - to learn good live sensor data values during idle, KEKO, acceleration, deceleration, part load and heavy load on each vehicle comes into your shop and records them for future reference.

• Comparison Mode–to compare the faulty sensor and parameter readings to the good readings, and you will be alarmed when a faulty sensor reading is detected.

NOTE

• Study and Comparison modes are available for viewing of parameter readings in text mode ONLY.

• In case no learned value is stored in the scan tool, the Comparison Mode will not be available.

Functional Buttons:

To Top: to move a data line to the top of Data List screen

Page Down: to move a data line to the bottom of the list.

Record: To record live data to memory of the scanner for offline review, just tab the button Record, and tap Stop to stop recording at any time.

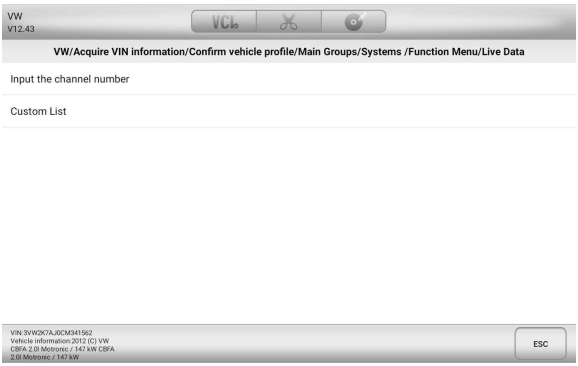
Print: To save the data to PDF format and/or print out. Replay: to replay the recorded data.

Help: tips on how to use this function.

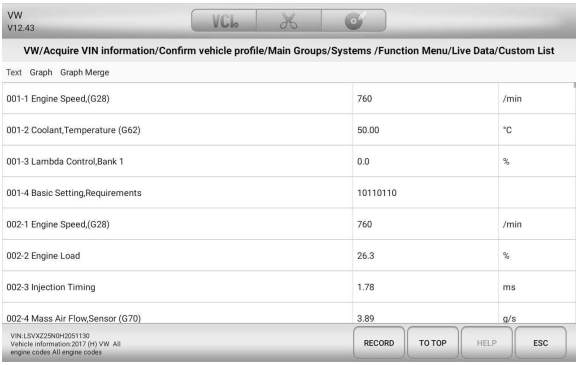
3.4.4.2 All Data

To view all live PID data:

1. Tap Live Data from Select Diagnostic Function menu to display the live data menu.

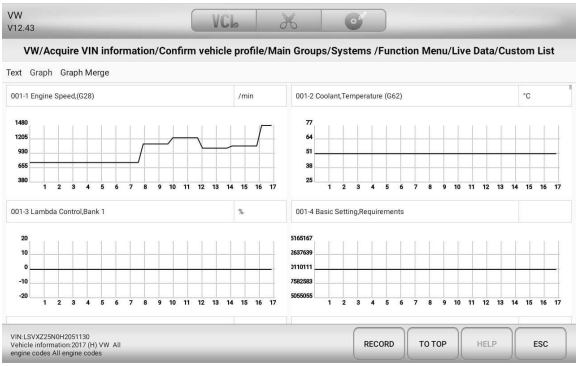


2.Tap All Data from the menu to display the data stream screen. All readings will be displayed in text format by default.

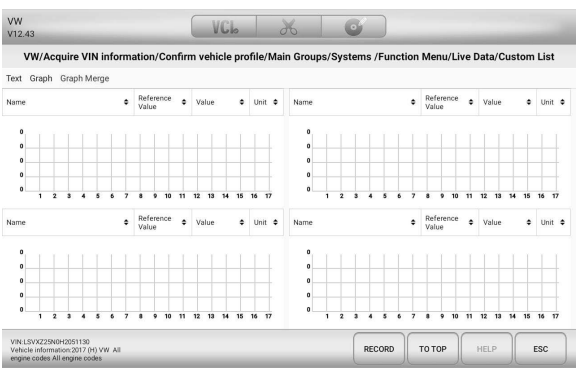


3.Swipe the screen up and down or use the PAGE UP and PAGE DOWN button to view additional information when necessary.

4.To view live PID in graph format, select Graph, and 4 PID plots display. To view another PID plot, tap the name of a plot and a list of available PIDs display. Select one from the dropdown box and the plot changes to the newly selected PID. To view the plots with more details, use the Zoom in button; instead, use the Zoom out button.



5.To see how the PIDs affect each other, select the Graph Merge tab to merge them into one coordinate for easy and intuitive diagnosis.



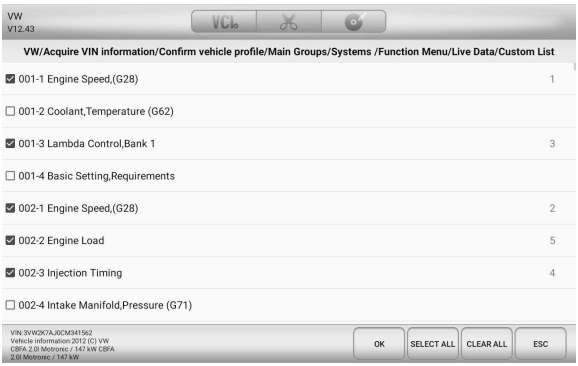
3.4.4.3 Custom Data List

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

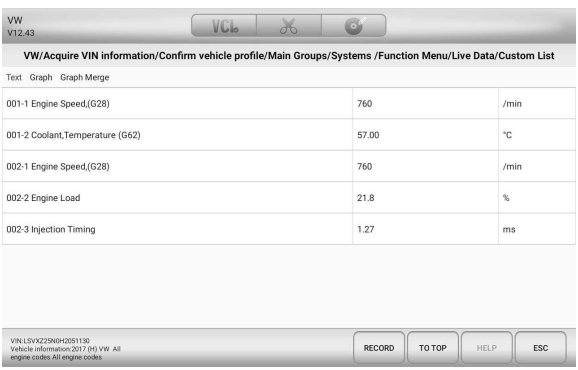
To create a custom data list:

1. Tap Custom List from the menu to display all available parameters from the selected control module.

2. The custom data stream selection screen displays. Tap the lines you wish to select.



3.Tap the OK button to complete the selection, and all selected parameters display.



4.Select Graph, Graph Merge, and Gauge separately to view the parameter in other formats.

3.4.4.4 Study And Comparison Mode of Live Data

The scanner is able to learns and records good live sensor data values, compares with the faulty sensor and parameter readings to the good readings and warns the technician of the faulty sensor data.

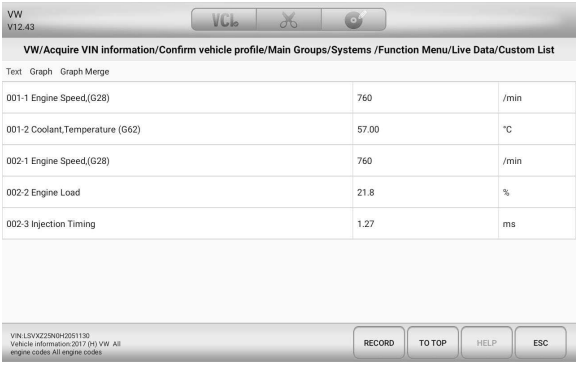
To learn and record good sensor value:

1. Connect the scanner to a vehicle that in good shape.

2. Select live data> All Data to display all available parameters from the selected control module. Select Study Mode, and a dropdown list of working conditions display.

3.Select one condition from the list to start studying the good data. When it finishes, tap this condition again to exit studying.

4. The good reference data would be saved and you can compare the live data on any other car with it for comparison.



4 Bi-directional Test Operations

iSmart allows you to use the scan tool temporarily activate or control a vehicle system or component. With iSmart, the check of electronic components such as switches, sensors, relays, & actuators is made a simple task. It allows you to recalibrate, adapt or configure certain components after making repairs or replacement. It gives you the ability to 'flash' a control unit with new program data. Provided that a module can be re-coded, the iSmart allows for the coding and programming of a replacement control module or changing previously stored incorrect coding as expensive factory tools do. In addition, it lets you recode the transponder in a mechanical key or key fob. When a key for a modern vehicle is replaced, the new unit will often turn the mechanical switch but fail to initialize the system or start the vehicle. If this occurs, it is typically because the transponder inside the key has not been coded to that particular system.

4.1 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 outputs commands to the ECU in order to drive the actuators. This test determines the integrity of the system or parts by reading the engine ECU data, or by monitoring the operation of the actuators, such as switching a solenoid, relay, or switch, between two operating states. 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. Selecting Active Test opens a menu of test options that varies by make and model. Selecting a menu option activates the test. Follow all screen instructions while performing tests. The content and pattern of the on-screen information vary according to the type of test being performed.

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.

To start a test:

1. Select Active Test from the menu and a list of available options displays.

2.Select an option to start the test and follow on-screen instructions to make proper selections and operations to complete the tests.

3. To exit the test, tap the ESC button or the Close button at the top right of the screen.

NOTE:

• 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.

4.2 Adaptation

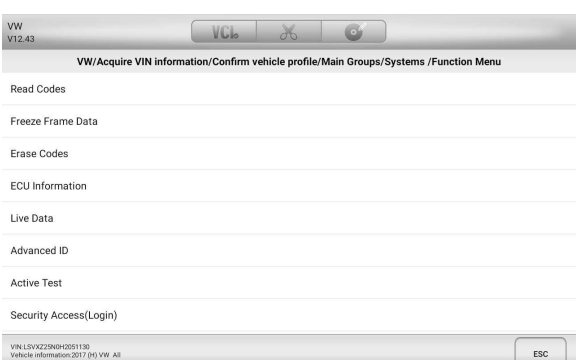
Adaptation menu let you change adaptation values from the control module and allows you to alter certain values and/or settings in control modules that support it.

NOTE:

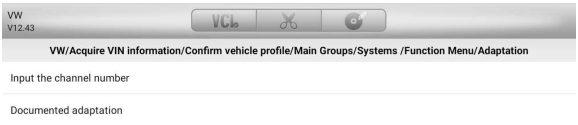
You should refer to the Service Manual for your particular car before attempting to use the Adaptation function.

To set an adaptation:

1. Select Adaptation from Function Menu and tap the ENTER key



2. Follow on-screen instructions to make proper selections and operations to complete the tests.



3. To exit the test, tap the Close button at the top right of the screen.

4.3 Coding and Programming

iSmart allows for the coding and programming of a replacement control module or changing previously stored incorrect coding. Coding also known as Teach-in Program or Component Adaptation. It is the process of selecting and activating one program for a specific vehicle from a set of programs that the factory installed in the control module. This allows one control module to be used for different models, countries, and emission applications. Programming is the process of taking a blank control module and then adding the correct vehicle program to memory.

5 Service and Maintenance Operations

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

- Oil Light Reset
- BRT(Battery matching)
- EPB Service
- ABS Bleed
- DPF Regeneration
- TPS(Throttle body alignment)
- Steering Angle Sensor Calibration
- TPMS Adaptation
- Immobilizer
- Injector Coding
- Gear Learning
- Suspension Match
- Sunroof Initialization
- Gearbox Match
- Ajuste Fuel
- Odometer calibration
- AFS (Adaptive Front Lighting System)
- Airbag
- Clutch
- Change Tire
- Evap Test
- EGR Test
- Prime Fuel Pump
- Change Language
- Seat Match
- TCM Oil Reset
- Turbo
- Windows & Door
- • •

(Above options probably expand in the future.Please update the software from time to time)

Service and maintenance functionalities can be found under the main Maintenance menu. But in most of the case, they are under the specific control module.

5.1 Oil Light Reset

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

Oil service reset methods are determined by the vehicle being tested. Typically there are three methods:

- Oil Reset With One Button
- Manual Reset
- Auto Reset

5.1.1 Oil Reset With One Button

To do Oil Reset With One Button on a 2016 VW passenger car:

1.Slide the screen to tap Oil Life Reset from the diagnostic menu. Select the type of reset applicable to your car and tap the function key OK to continue or Cancel key to return to the Oil Reset menu.

2.Follow on-screen instructions and send a command to reset oil service. A screen with 'Success' message displays once the lamp has been reset. Tap any key to return.

5.1.2 Manual Reset

Almost all Asian vehicles and most American and European vehicles have mechanical oil service indicator reset. The service tool does not have to communicate with the vehicle being tested, but guides you to complete the service manually by providing step-by-step on-screen instructions.

When Manual Reset is selected and the vehicle being tested identified, a procedure opens on the screen. Slide the screen to read the entire procedure and performing the necessary steps as directed by the on-screen instructions. The exact order of the test operation steps may vary depending on the test vehicle. Be sure to follow all on-screen instructions.

This manual reset procedure can be interrupted and aborted if the ignition key position is changed.

To do oil reset manually:

1.Select Engine Control Module and follow the on-screen menu to select Oil Interval Reset.

2.The following procedure screen displays.

3.Follow all on-screen instructions to perform the manual mechanical reset.

4.Tap OK key to return.

5.1.3 Auto Reset

Auto Reset is a bi-directional communication procedure directed by the service tool. The service tool displays guides for you through the process. A number of instructions that require a response to continue display, including an option to clear any stored codes once the interval has been reset. Follow the on-screen instructions.

5.2 Battery matching

Use the car diagnostic device to reset the car battery monitoring unit to clear original fault information about insufficient battery electric quantity, and match the battery again and monitor battery based on current battery information.

Battery matching must be performed in the following cases: a) Main battery is replaced. Battery matching must be performed to clear original electric quantity insufficiency information and prevent the related control module from detecting false information. If the related control module detects false information, it will invalidate some electric auxiliary functions, such as automatic start&stop function, sunroof without one-key trigger function, power window without automatic function. b) Battery monitoring sensor. Battery matching is performed to re-match the control module and motoring sensor to detect battery electric quantity use information more accurately, which can avoid the instrument panel displaying false information.

5.3 Electronic Parking Brake (EPB) Service

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

Some tests display a command to the operator. For example, if 'Pressing Brake Pedal' displays, the operator has to press and hold the brake pedal and then continue. Actual tests vary by vehicle manufacturer, year, make. Typical special test options include:

• Deactivate/Activate SBC/EPB systems – allows to deactivate brakes for further service or maintenance work on brake systems or activate brakes when service or maintenance work on brake systems are completed.

• Adaptation on Audi A8 – allows to set new pad thickness of rear brakes calipers after changing brake discs & pads on Audi A8 models.

• Replace hydraulic brake systems fluid/bleed brake system on Mercedes SBC vehicles – allows to change brake fluid/bleed brake system.

• Perform service reset and service position on BMW EPB vehicles – allows to do the CBS reset and CBS correction for front brake and rear brake.

• Perform activation/service work on Volvo PBM vehicles – allows to perform installation check, applying parking brake, releasing parking brake, activating service mode and exiting service mode. • Reset memory on Toyota EPB vehicles – allows to clear the learned memory of the EPB ECU. Perform brake cable replacement and electric parking brake replacement – allows to fit in or remove the brake cable safely, adjust brake cable's tension and calibrate the electric parking brake replacement.

• Save and write clutch pedal programming on Renault EPB vehicles – allows to save clutch pedal programming on Renault vehicles fitted with manual gearbox. After this command is activated, the tool allows to "flash" the electric parking brake unit with the saved clutch data.

• Perform control function and reset function on Opel EPB vehicles – allows to apply/release park brake cable service, provide park brake cable service replacement procedures and calibrate the parking brake systems after brake service.

• Sensor calibration on Honda EPB vehicles – allows to program the current output value of each sensor into the electric parking brake unit.

• Provides parking brake unjam procedure and perform longitudinal accelerometer calibration on Land Rover EPB vehicles – allows to drive the electronic park brake so it is unjamed in the releasing direction and then drive it into mounting position or the latching position; also allows to perform longitudinal accelerometer calibration.

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

5.4 ABS bleeding

When the ABS contains air, the ABS bleeding function must be performed to bleed the brake system to restore ABS brake sensitivity.

If the ABS computer, ABS pump, brake master cylinder, brake cylinder, brake line, or brake fluid is replaced, the ABS bleeding function must be performed to bleed the ABS.

5.5 Diesel Particulate Filter (DPF) Regeneration

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

5.6 TPS(Throttle body alignment)

Use the car decoder to initialize the throttle actuation element so that the ECU learning value is returned to the initial status to more accurately regulate throttle (or idle motor) operations to control intake air quantity.

Throttle matching must be performed in the following cases: a) The ECU is replaced and the ECU does not yet store throttle working features. b) The ECU is disconnected and the ECU memory is lost. c) The throttle assembly is replaced. d) The intake passage is replaced or removed, which affects idle speed control by ECU and throttle body. e) The throttle is cleaned. Although the idle throttle potentiometer features are not changed, with the same throttle opening, the intake quantity has changed and idle speed control features have changed.

5.7 Steering Angle Sensor (SAS) Calibration

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

5.8 TPMS Adaptation

TPMS Service menu allows you to check the tire sensor IDs from the vehicle ECU and to perform TPMS programming and reset after tires and/or TPM sensors are replaced and/or tires are rotated.

5.9 Immobilizer

To prevent the car being used by unauthorized keys, the anti-theft key matching function must be performed so that the immobilizer control system on the car identifies and authorizes remote control keys to normally use the car.

When the ignition switch key, ignition switch, combined instrument panel, ECU, BCM, or remote control battery is replaced, anti-theft key matching must be performed.

5.10 Injector Coding

Write injector actual code or rewrite code in the ECU to the injector code of the corresponding cylinder so as to more accurately control or correct cylinder injection quantity.

After the ECU or injector is replaced, injector code of each cylinder must be confirmed or re-coded so that the cylinder can better identify injectors to accurately control fuel injection.

5.11 Gear Learning

Crankshaft position sensor adaptive learning. The crankshaft position sensor learns crankshaft tooth machining tolerance and save to the computer to more accurately diagnose engine misfires. If tooth learning is not performed for a car equipped with Delphi engine, the MIL turns on after the engine is started. The diagnostic device detects the DTC P1336 'tooth not learned'. In this case, you must use the diagnostic device to perform tooth learning for the car. After tooth learning is successful, the MIL turns off.

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

5.12 Suspension Match

This function is used to adjust car body height.

When the car body height sensor and control module in the air suspension system are replaced or the car level is incorrect, perform this function to adjust the car body height sensor for horizontal calibration.

5.13 Sunroof Initialization

This function is used to set sunroof lockup close, close on rainy days, slide/tilt sunroof memory function, outside temperature threshold, etc.

5.14 Gearbox Match

This function is used to learn the gearbox to improve shift quality.

After the gearbox is dismounted or repaired (after battery powered off for some car series), shift delay or impact is caused. In this case, perform this function to make the gearbox compensate automatically according to driving conditions so as to reach more comfortable and ideal shift quality.

5.15 Ajuste Fuel

Adjust fuel gauge if fuel type is changed.

5.16 Odometer calibration

Instrument panel mileage calibration is used to copy, write, or rewrite mileages. That is, use the car diagnostic computer and data line to copy, write, or rewrite chip data on the instrument panel to make the instrument panel display actual mileages.

Usually, when the vehicle speed sensor is damaged or the mileage is incorrect due to instrument panel faults, you must perform mileage calibration after maintenance.

5.17 AFS (Adaptive Front Lighting System)

This function is used to initialize the adaptive headlight system. The adaptive headlight system determines whether to automatically turn on the headlight according to ambient light intensity, monitors driving speed and body posture, and adjusts the headlight lighting angle.

5.18 Airbag

This function is used to reset the airbag system when the airbag ECU replaced.

5.19 Clutch Adaptation

Importance of clutch pedal free-play. Anything less than the correct amount of free play will result in clutch slip, because the pressure plate will be unable to exert its full pressure on the friction plate, clutch linkage adjustment to compensate for clutch wear.

5.20 Change Tire

The vehicle's computer calculates your vehicle's speed based on the diameter of the stock tires. After changing the tire size, the vehicle's computer doesn't know how fast your vehicle is running, which will affect speedometer accuracy or transmission shift time. This routine is to recalibrate speedometer after changing the tire size.

5.21 Evap Test

The EVAP system monitor checks for fuel vapor leaks by performing either a pressure or vacuum test on the fuel system. This routine is will create a positive pressure in the tank to determine if there are any leaks in the fuel system.

5.22 EGR Test

This function is used to learn the EGR (Exhaust Gas Recirculation) value after it is cleaned or replaced.

5.23 Prime Fuel Pump

The program can detect the Prime Fuel Pump function. Air often gets into the fuel line when a diesel vehicle change fuel or assembly fuel system. This causes a vehicle to have problems starting, forcing you to “prime” the fuel system to remove the air.

5.24 Change Language

This routine is to change language displayed in the instrument.

5.25 Seat Match

A memory seat is essentially an electrically-adjustable car seat which can be moved into pre-set positions at the push of button. As a result of the removal of the DCC fuse, the “driving position memory” function of the driver and passenger side seat will be inoperative due to the loss of seat position memory stored in the seat ECU. The seat (position control) ECU may need to be initialized if the seat memory settings can't be recorded.

5.26 TCM Oil Reset

This program can be executed to transmission control module oil counter reset.

5.27 Turbo

This routine is required if the secondary turbo charger is replaced. This will learn the offset values for the turbine shut-off valve.

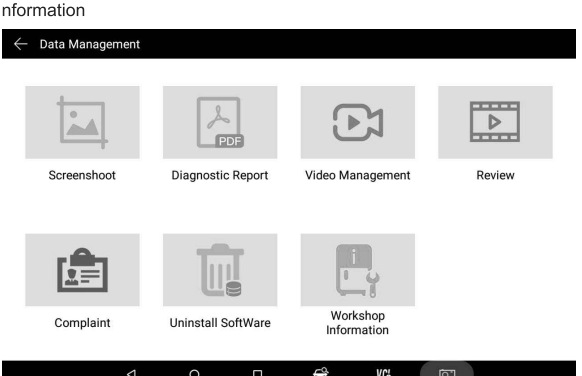
5.28 Windows & Door

When replacing door glass and after battery replacement on certain year, make, model vehicles special steps need to be taken in order to properly replace and reprogram the vehicle so the electric windows work properly, the door window glass position can be learned by executing this routine, which enables pinch protection and one touch up function.

6 Data Management Operations

Data Management menu let you review stored screenshots, playback saved fault codes, live data and ECU info. and manage recorded/stored data. Typical menu options include:

- Screenshot
- Video Management
- Complaint
- Workshop Information
- Diagnostic Report
- Review
- Uninstall Software



6.1Screenshot

Tap the Screenshot button at the title bar of the screen, all the screenshot pictures will be saved into Screenshot menu. The users can scan and manage the pictures in this icon.

To review the screenshot:

1.Select the Data Management icon from the Home screen of the diagnostic application.

2.All available pictures will be displayed one by one automatically.

3.To delete a picture, tap button Delete and answer Yes to delete. Or tap Delete All to delete all the pictures.

6.2 Diagnostic Report

This section is to help users to record diagnostic history, when the user finished vehicle diagnostics and saved the diagnostic report, can view all diagnostic data in this section.

6.3 Video Management

This section is to help the user find and watch vehicle maintenance videos online, which allows to link all websites.

6.4 Review

The Review option leads to screens for review saved fault codes, live data and ECU info. Playing back a recording is just like using the scan tool on a live vehicle. It let you review live data in text, graph and graph merging format.

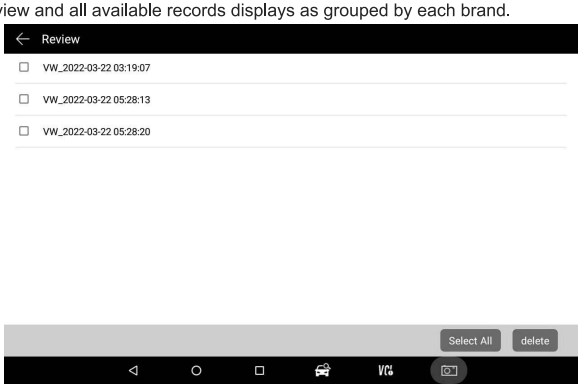
6.4.1 How to record data?

1.Tap the Record button from the functional button bar in the lower side when performing a test.

2.Tap the Stop button when finish recording.

6.4.2. To Review data:

1. Select Data Management from the Home screen of the diagnostic application.
2. Tap Review and all available records displays as grouped by each brand.



3.Tap a record once and tap the OK button or tap the record twice to review. All recorded parameters display in text format by default.

4.To view parameter graphs, tap the Graph tab. And to merge the graphs, tap Graph Merging.

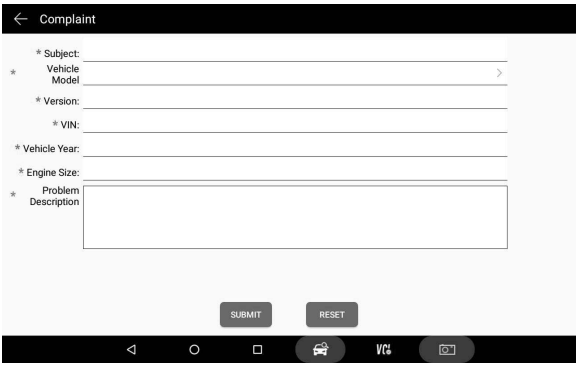
5.To move forward or reverse back of the playing, just drag the progress bar forward or reverse. To stop the playing of live data, tap the Pause button.

6.To exit playback, press the Back button.

7.To delete a record, tap a record to select and then click the Delete button. Answer Yes to delete or answer No to quit.

6.5 Complaint

This section is to record all vehicle information and send feedback to Vident server, which can upload diagnostic problems to help Vident team come up with diagnostic solutions in the earliest time. Customer get diagnostic solutions with downloading latest vehicle software.



6.6 Uninstall Software

After click this icon, undesired software can be uninstalled.

6.7 Workshop Information

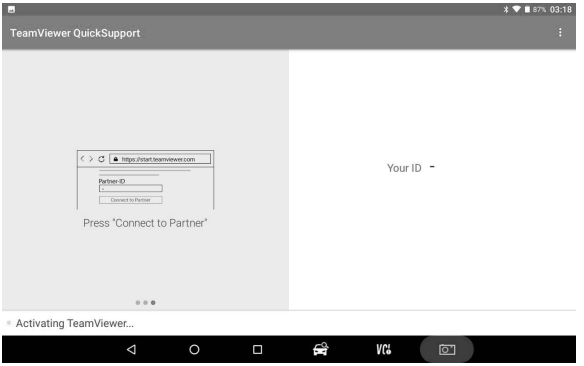
This section is to accomplish the scan tool owner's workshop information in this screen, from this page we can see the owner of scan tools.

7 Remote Control

Remote Control enables you to start TeamViewer for remote control when you need any supports from Vident technical support team. If you need Vident support team to remote control your iSmart , please do as follow:

1.Email support@videntech.com with a brief description of the problem you've got and reserve the time for remote control operation.

2.Click the Remote Control icon on the main menu to start TeamViewer.



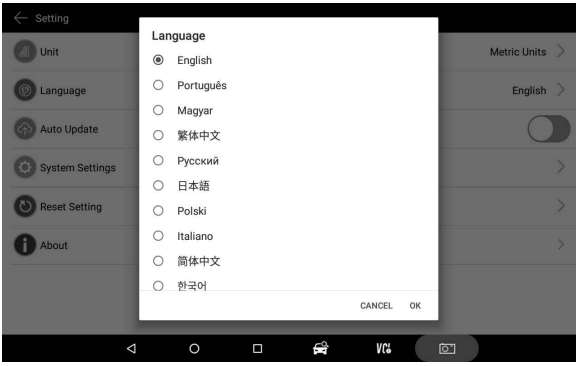
3. Send your ID and password to us to let our team to take control your tablet. Make sure the Display Tablet is connected to the Internet before launching the Remote Control application, so that the Display Tablet is accessible to receive remote support from the third party.

8 Setting

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

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

- Language
- Display Mode
- Unit
- User Information
- Reset Setting



8.1 Language

Select 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.Select Setting from the Home screen of the diagnostic application and select Language. Then all available language options display.

2.Select your local language.

8.2 Display Mode

Selecting Display Mode opens a screen that allows you to toggle the display mode between full-screen view and display with Windows tool bar. The scan tool is set to display with full-screen view by default.

To configure display mode:

1.Select Setting from the Home screen of the diagnostic application.

2.Tap Display Mode and available modes display.

3.Select a display mode.

8.3 Unit

Selecting Unit opens a dialog box that allows you to choose between British customary or metric units of measure.

To change the unit setup:

1.Select Setting from the Home screen of the diagnostic application.

2.Tap Unit and available unit system display.

3.Select a unit system.

8.4 User Information

Selecting User Information option opens a screen to input and manage your workshop information. Your workshop information will be displayed on your test reports that are presented to your customers.

To input your workshop information:

1.Select Setting from the Home screen of the diagnostic application.

2.Tap User Information option.

3.Input your workshop name, phone and fax number and email address with the keypad.

8.5 Reset Setting

Selecting Reset Setting option lets you to reset your scan tool to factory defaults. This option will also clear the workshop information.

To reset your scan tool to factory defaults:

1.Select Setting from the Home screen of the diagnostic application.

2.Select Reset Setting option.

3.Tap the Reset button. The scan tool reboots automatically and the reset is completed.

> *NOTE*
>
> *It is suggested that the Save button not be pressed until you have finished all setups. The scanner will reboot automatically when the button is pressed.*

9 About

Selecting About option opens a screen that show information about your scan tool, such as serial number and register password which may be required for product registration. To view the About page, please make sure the device is powered either by the AC/DC power supply or the vehicle through the Vehicle Communication Interface. Otherwise, the serial number and password won't be shown.

To view information of your scan tool:

1.Connect the VCI with the tablet with Bluetooth or USB cable. Verify the VCI connection by checking if there is a green tick on the VCI icon on the home screen.

2.Tap the About icon.

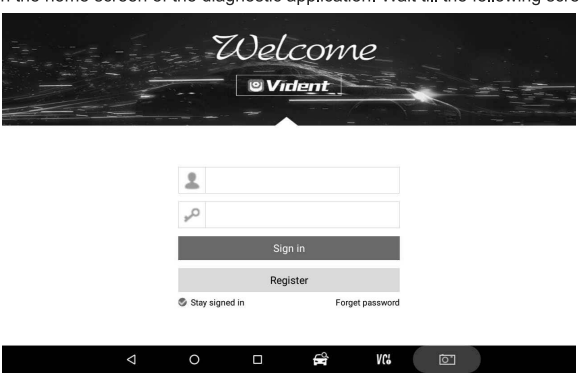
3.A screen with detailed information of the scanner displays.

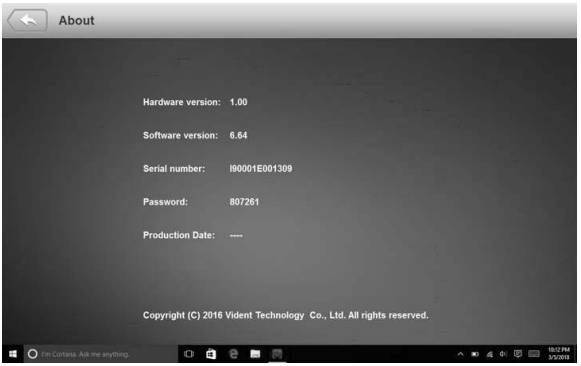
4.Tap the Back button to exit.

10 Registration and Update

1.Connect the iSmart with internet.

2.Tap Update on the home screen of the diagnostic application. Wait till the following screen displays.





4.Tap the Back button to exit.

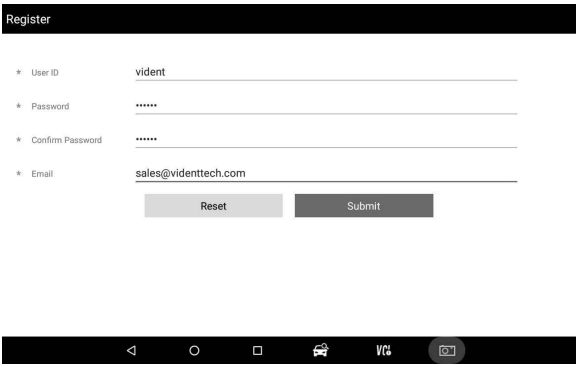
11 Registration and Update

1.Connect the iSmart with internet.

2.Tap Update on the home screen of the diagnostic application. Wait till the following screen displays.

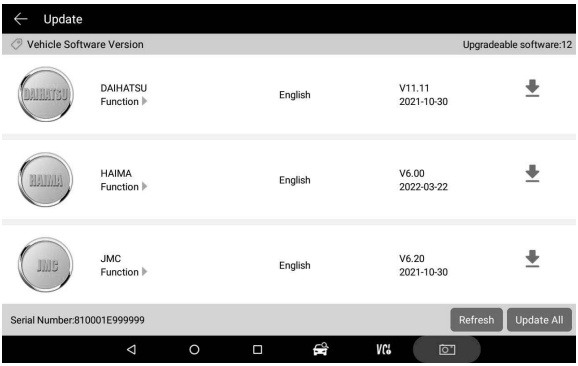
3. Tap Register.

4. Fill out the registration form and tap Register to submit.



5.When registration is finished, the screen will turn to Update page automatically, don't need input username and password.

6.All available updates would display. Tap update all or Tap the download icon to install updates.



7. When update done, there will be no available update items on the screen.

General Notice

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 code reader. 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 Precautions and Warnings

iSmart Series IMMO Automotive Diagnostic System_V1.00To prevent personal injury or damage to vehicles and/or the scan tool, read this instruction manual first and observe the following safety precautions at a minimum whenever working on a vehicle:

Always perform automotive testing in a safe environment. Wear safety eye protection that meets ANSI standards. Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts. Operate the vehicle in a well-ventilated work area: Exhaust gases are poisonous. Put blocks in front of the drive wheels and never leave the vehicle unattended while running tests.

Use extreme caution when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.

Put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission) and make sure the parking brake is engaged.

Keep a fire extinguisher suitable for gasoline/chemical/ electrical fires nearby. Ignition is on or the engine is running.

Keep the scan tool dry, clean, free from oil/water or grease. Use a mild detergent on a clean cloth to clean the outside of the scan tool, when necessary.