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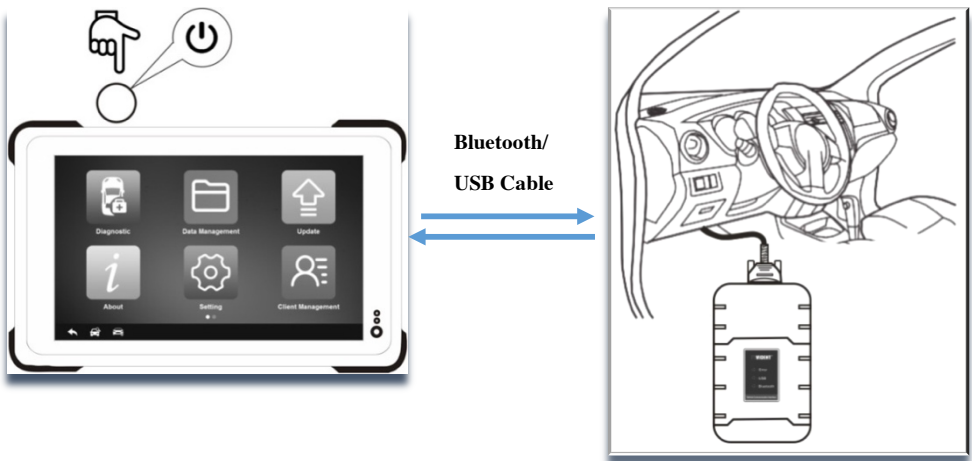
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# 1 Introduction

## 1.1 Product Profile

Through simple Bluetooth communication between VCI connector and iSmart900 handset, this windows 10 based diagnostic system provides professional diagnosis on more than 80 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 iSmart900 works.



## 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



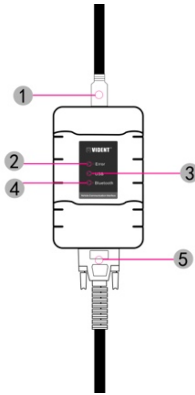
1. Scan Button – (Scanning is not available on this device) .
2. Lock/Power Button –Turns the device on & off with long press, or locks the screen with short press
3. Volume Up
4. Volume Down
5. Front-Facing Camera
6. Headset jack
7. HDMI (high-definition multimedia interface) Port
8. Micro USB port
9. USB 2.0 port
10. SIM card tray
11. TF card tray
12. DC/AC power jack

### 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:

USB cable

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.

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**IMPORTANT**

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

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## 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)	Item	Qty(pc)
DB15 Data Cable	1pc	OBDII Adapter	1pc
AC/DC External Power Adapter	1pc	AC/DC External Power Cord	1pc
Audi 4 Pin Adapter	1pc	Mercedes Benz 38 Pin Adapter	1pc
Clip Cable	1pc	Cigarette Lighter	1pc
Toyota 22 Pin Adapter	1pc	Fiat 3 Pin Adapter	1pc
GM/Daewoo 12 Pin Adapter	1pc	Honda 3 Pin Adapter	1pc
Kia 20 Pin Adapter	1pc	Mitsubishi 12+16 Pin Adapter	1pc
Nissan 14 Pin Adapter	1pc	Toyota 17 Pin Adapter	1pc
BMW 20 Pin Adapter	1pc		

Table 1-1

## 1.5 Technical Specifications

<b>Operating System</b>	Windows 10 Home
<b>Processor</b>	Intel Baytrail-T(Quad-core ),Z3735F, 1.33Ghz-1.92GHz
<b>Memory</b>	2 GB RAM & 32 GB ROM
<b>Display</b>	8.0" 800*1280 IPS LCD touch screen
<b>Connectivity</b>	WIFI 802.11(a/b/g/n) frequency 2.4G+5.8G dual band WIFI, Bluetooth 4.0
	TF card slot: support SDHC/SDXC, maximum 128G
	USB Interface: USB 2.0
	HDMI: 1.4a Type C
<b>3G Frequency</b>	WCDMA(900/2100MHz) ,GSM (900/1800MHz) ,HSDPA 7.2Mbps, HSUPA 5.7Mbps,LGA interface
<b>GPS</b>	U-blox NEO-7,support GLONASS,QZSS,GPS; Capture sensitivity: -160 dBm; Cool Start Time: <30 seconds, Hot start time: <28 seconds, frequency: 0.25 Hz ~10 MHz
<b>Touch Panel</b>	Multi-points Capacitive, G+G, Rigidity: above 7H-Anti-scratch, TP thickness: 1.1mm, COF, support handwriting
<b>G-sensor</b>	Gravity acceleration sensor
<b>Camera (rear)</b>	Front:2.0MP, with indicator light; Rear: 5:0MP
<b>Audio Output/Input</b>	⌀ 3.5mm standard earphone jack; output resistance 2.2kΩ
<b>Power and Battery</b>	3.7V/8500mAh polymer li-ion battery,
<b>Input Voltage</b>	DC/12 V (9-35 V)
<b>Operating Temperature</b>	-10 to 50°C (14 to 131°F)
<b>Storage Temperature</b>	-30 to 70°C (-4 to 158°F)
<b>IP Rating</b>	IP65
<b>Dimensions (W x H x D)</b>	240mm(21.26")*390mm(15.35") *130mm(5.11")
<b>Net Weight</b>	NW: 5.73 kg

Table 1-2

## 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 6~8 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 10 minutes and then turn it on.

#### 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 tool 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 the tool on.

\*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 down.

To power off the scanner:

1. Click the windows icon on the left corner of the screen.
2. Select **Power** and select the **Shut Down** option to power the scanner off.

### 2.2.3 Lock & unlock the screen

When it is ON, press the **Power** button once to lock the screen.

The system will lock the screen automatically after the tool remains idle over the preset standby time.

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#### NOTE

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

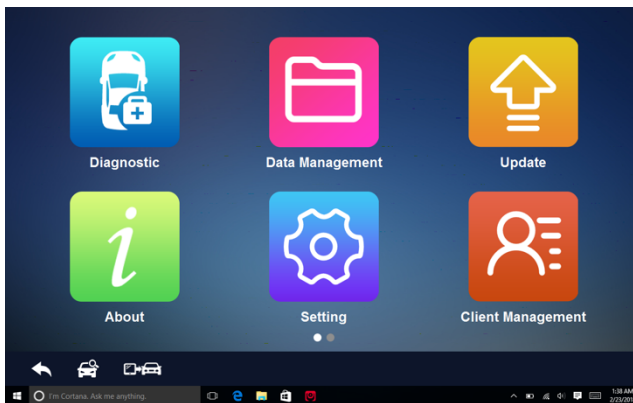
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### 2.2.4 Reboot System

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 iSmart900 desktop icon twice 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
Diagnostics		Configure the unit to operate as a diagnostic tool










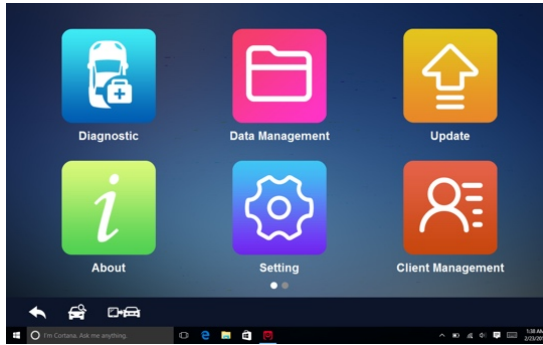




Data management		leads to screens for saved screenshots and pictures and playing back recorded live data stream, as well as stored logging data.
Update		leads to screens for registration and updating of the scanner and managing your scanner serial numbers and sending us feedbacks about the scanner.
About		leads to screen of product information such as serial number and password, which is required for product registration.
Setting		leads to screens for adjusting default settings to meet your own preference and view information about the scanner.
Client Management		leads to screens for logging and managing the client information of the workshop.
Remote Control		leads to the application TeamViewer for remote control when you need any support from Vident support team
Support Ticket		Leads to screen to submit product feedback or raise a complaint.

Table 2-1 Title Bar

## 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
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 Auto Reading		Reading the VIN of the car under testing automatically


Table 2-2 Title Bar

## 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, perform special functions such as actuation and coding, and perform vehicle services and maintenances on more than 80 vehicle brands.

### 3.1 Establish Vehicle Communication

To 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.
- 3.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  , 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. Locate 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.
5. 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  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 iSmart900 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

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### NOTE

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

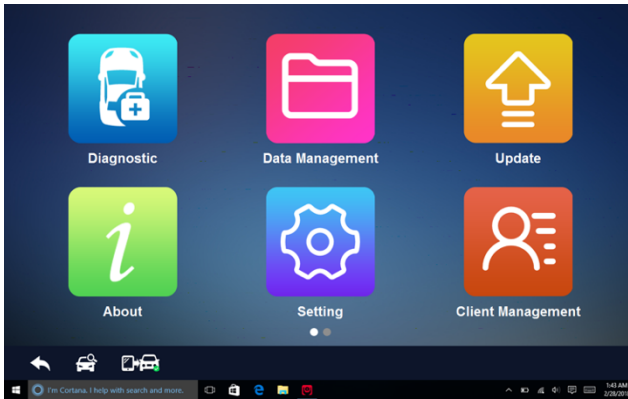
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### 3.2.1 Automatic VIN Acquisition

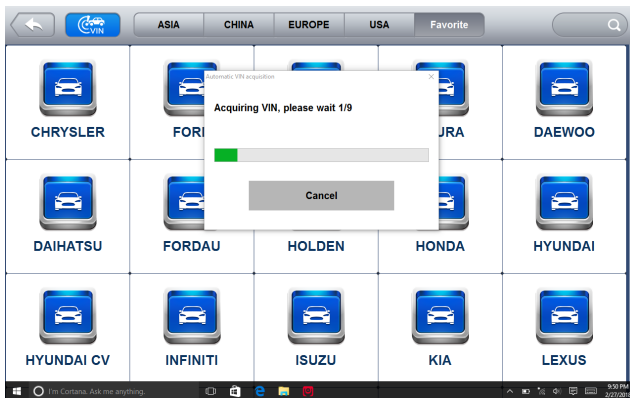
The iSmart900 diagnostic system features the latest VIN-based Auto VIN Scan function to identify CAN vehicles in just one touch, which allows the technician to quickly detect vehicles, scan all the diagnosable ECUs on every vehicle and run diagnostics on the selected system.

To identify a vehicle automatic VIN acquisition:

1. Tap **Diagnostic** from the Home screen of the iSmart900 application.



2. Tap the **VIN Auto Reading** button  on the left 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.



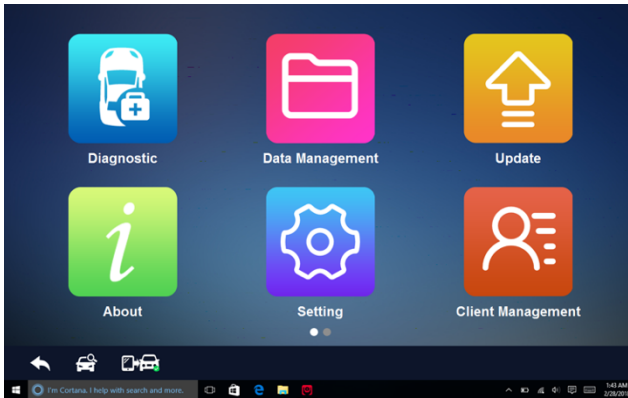
3. In some cases when users have selected the vehicle brand instead of performing **Auto VIN Reading** in the first place, the system still provides an option for vehicle VIN scan.

### 3.2.2 Manual VIN Entry

For some vehicles that do not support the Auto VIN Reading, iSmart900 supports Manual VIN Entry by manually inputting a 17-digit VIN code.

To identify a vehicle by manual VIN entry:

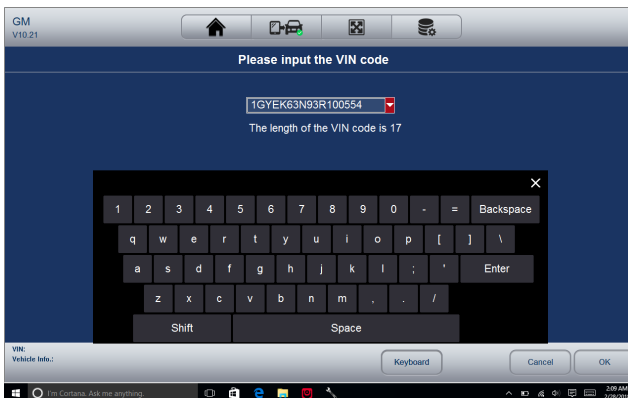
1. Tap **Diagnostic** from the home screen of the iSmart900 application.



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



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



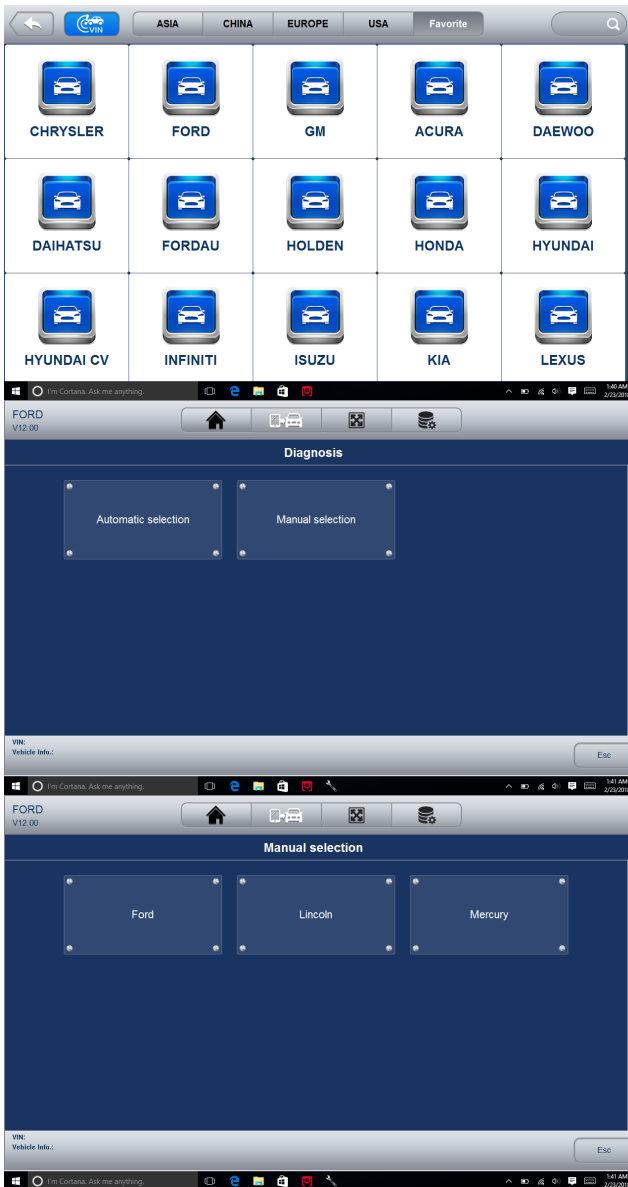
### 3.2.3 Manual Vehicle Selection

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.

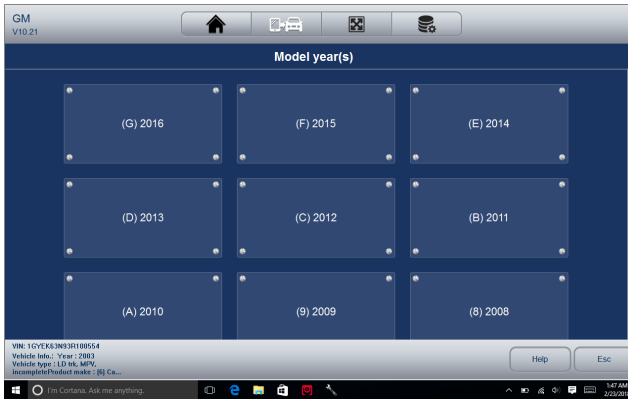
To identify a vehicle by manual vehicle selection:

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:

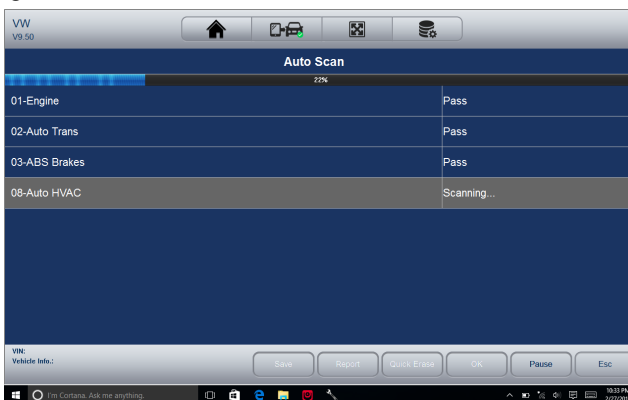
- Auto Scan
- Control Unit

#### 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.



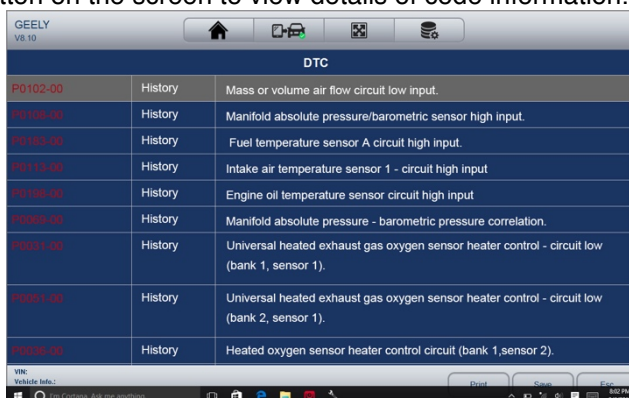
-!-: Indicates that the scanned system may not support the code reading function, or there is a communication error between the tester and the control system.

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

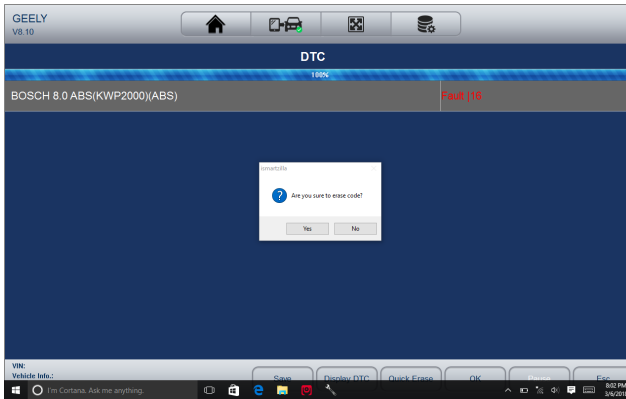
Fault I #: Indicates there is/are detected fault code(s) present; “#” indicates the number of the detected faults.

Pass I 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.

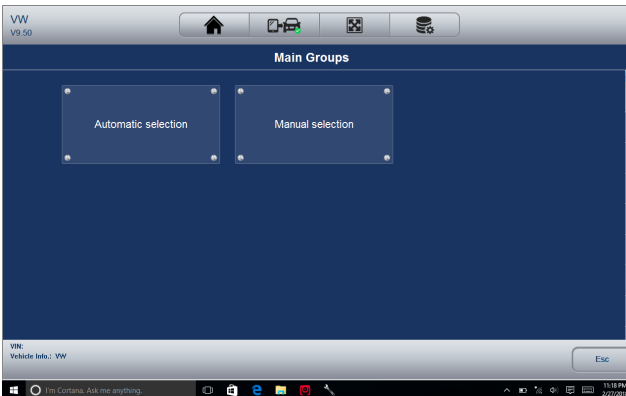


### 3.3.2 Control Unit

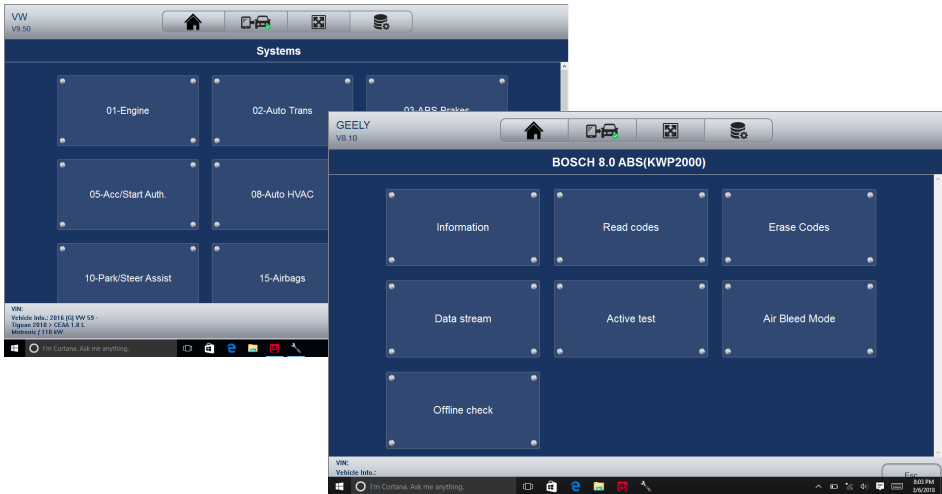
This option allows you to manually locate a required control system for testing through a series of choices. Simply follow the menu driven procedure, and make proper selection each time; the program will guide you to the diagnostic function menu after a few choices you've made.

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

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#### 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.



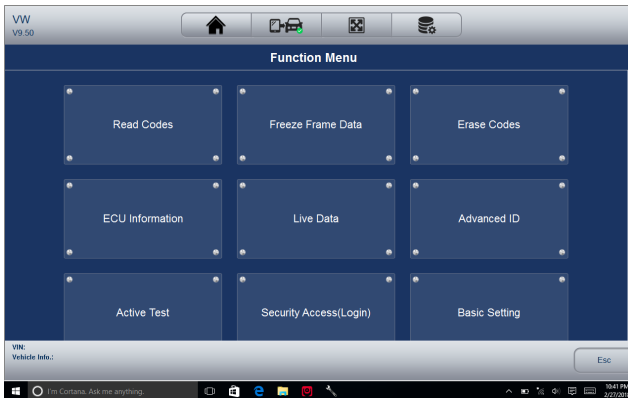
- Slide up and down to view additional information when necessary.
- Select **Save** to store DTC information, and tap **Print** to print the code information. Or use the **ESC** button to exit.

### 3.4.2 Erase Codes

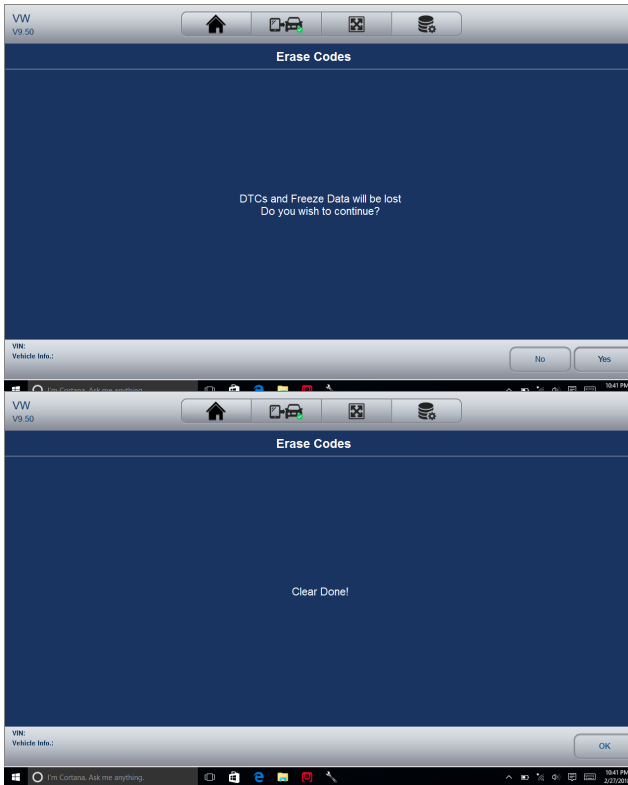
After reading the retrieved codes from the vehicle and certain repairs have been carried out, you can erase the codes from the vehicle using this function. Before performing this function, make sure the vehicle's ignition key is in the ON (RUN) position with the engine off.

To clear codes:

- Select **Erase Codes** from Select Diagnostic Function menu.



- 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

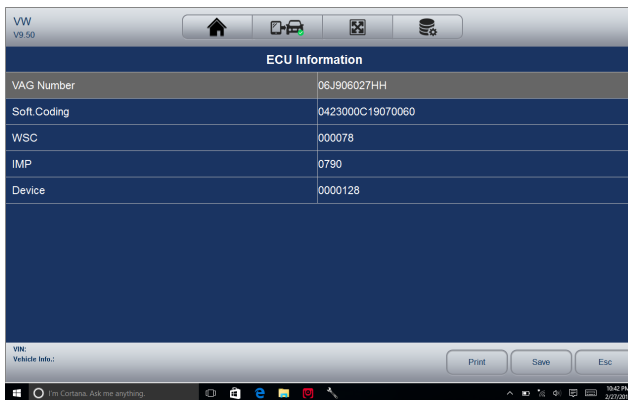
ECU Information screen displays the identification data of the control module under test, such as the control module identification string and the control module coding.

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 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 Datastream 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 tap 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.

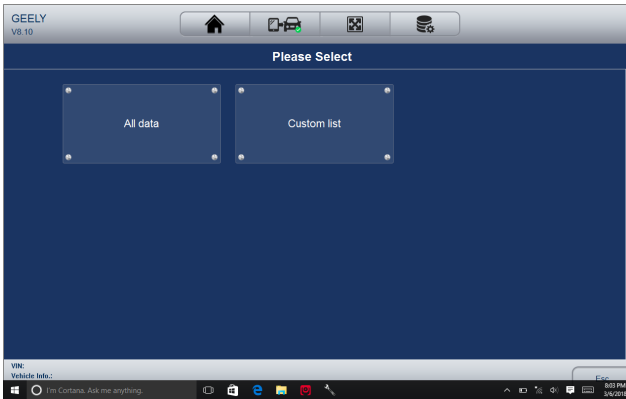
Help: tips on how to use this function.

#### 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.

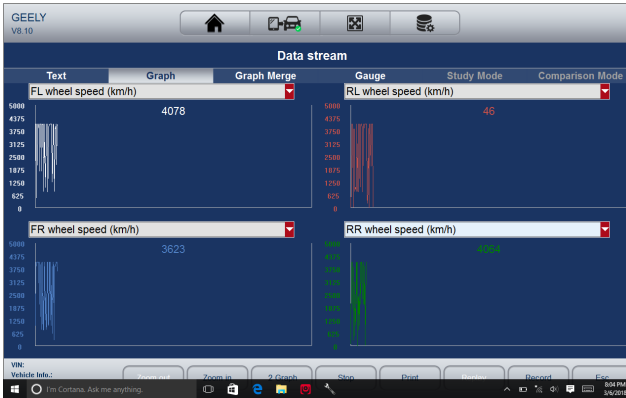




2. Tap **All Data** from the menu to display the data stream screen. All readings will be displayed in text format by default.

Name	Text	Graph	Graph Merge	Gauge	Preference	Value	Study Mode	Comparison Mode
Numbers of DTCs					0.127	0		
Fuel system 1 status						-		
Fuel System 2 status						-		
Calculated Load Value					0.100	0.0		%
Engine Coolant Temperature					0.130	29		°C
Short Term Fuel Trim - Bank 1					-100.99.22	0.0		%
Long Term Fuel Trim - Bank 1					-100.99.22	0.0		%
Intake Manifold Absolute Pressure					0.255	100.0		kPa
Engine RPM					0.7000	0		rpm
Vehicle Speed Sensor					0.240	0		km/h

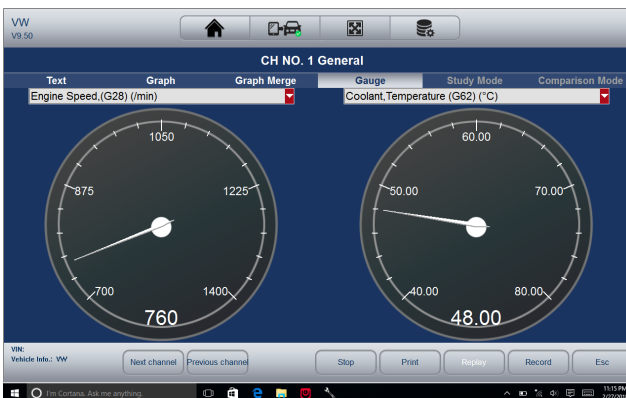
3. Swipe the screen up and down or use the **PAGE UP** and **PAGE DOWN** button to view additional information when necessary.
4. To view live PID in graph format, select **Graph**, and 4 PID plots display. To view another PID plot, tap the name of a plot and a list of available PIDs display. Select 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.



6. To view parameters in the form of an analog meter, select **Gauge** .



### 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 learn 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.

- 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.



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

iSmart900 allows you to use the scan tool temporarily activate or control a vehicle system or component. With iSmart900, 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 iSmart900 allows for the coding and programing 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.

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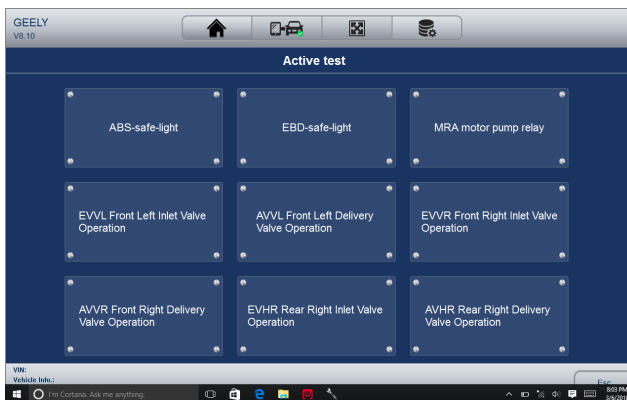
### IMPORTANT

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

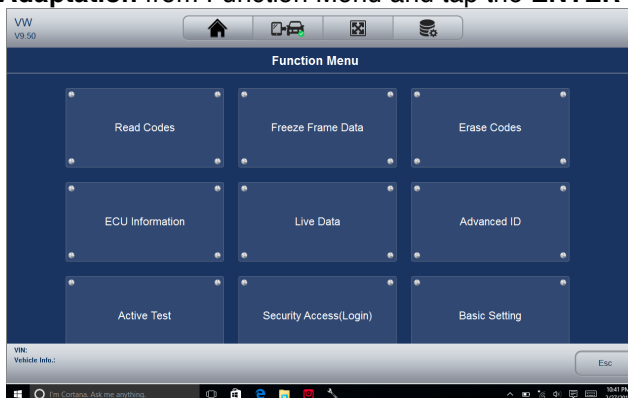
Adaptation menu let you change adaptation values from the control module and allows you to alter certain values and/or settings in control modules that support it.

**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

iSmart900 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

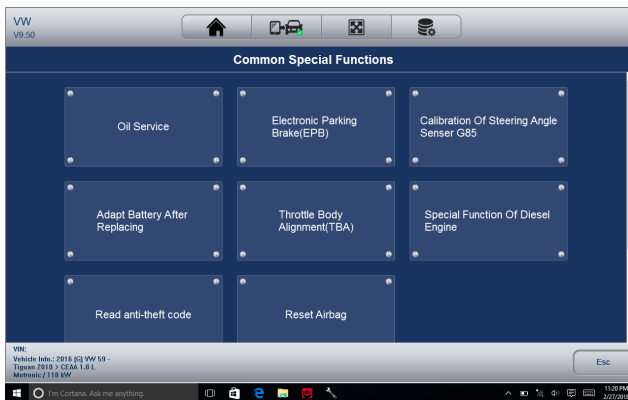
This section gives brief instructions of the most commonly required service and maintenance operations. Typical service operation screens are a series

of menu driven executive commands. Follow on-screen instructions to complete the operation.

Available service and maintenance options include:

- Oil Light Reset
- EPB Service
- TPMS Programming Service
- ABS/SRS Services
- SAS Calibration
- DPF Regeneration
- Throttle body alignment
- Steering Angle Sensor Calibration

Service and maintenance functionalities can be found under the main diagnostic 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:

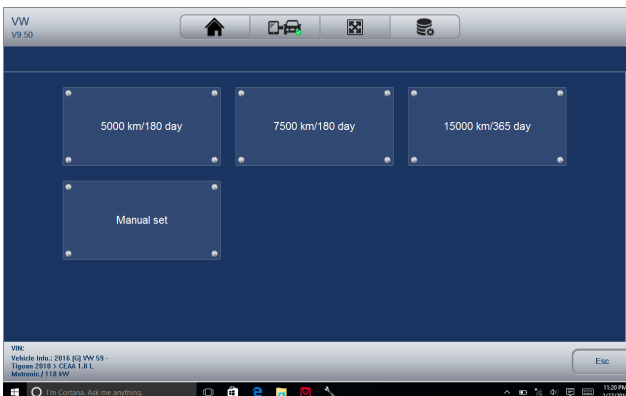
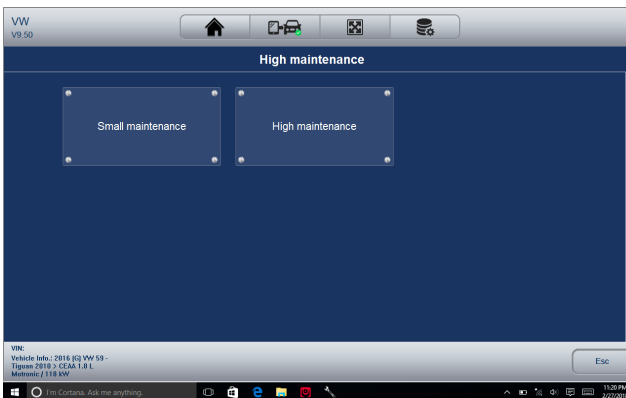
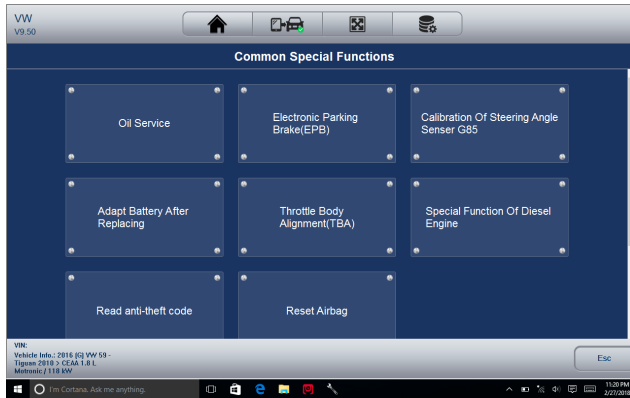
- Oil Reset With One Button
- Manual Reset
- Auto Reset

### 5.1.1 Oil Reset With One Button

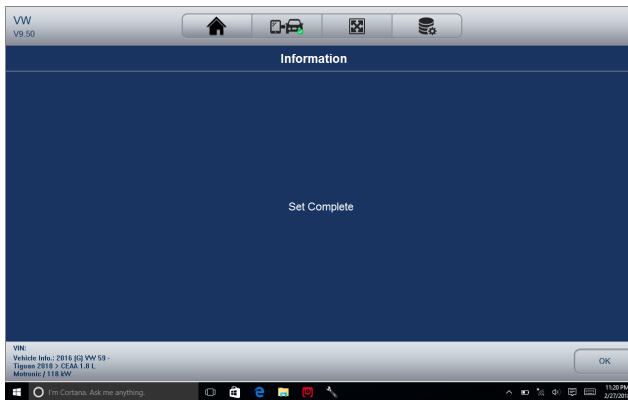
To do Oil Reset With One Button on a 2016 VW passenger car:



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 instruction 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

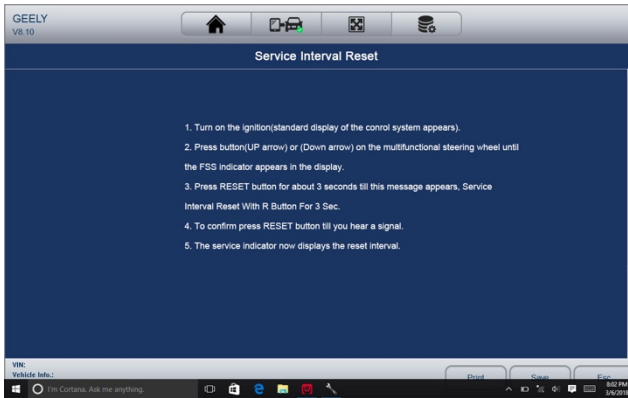
Almost all Asian vehicles and most American and European vehicles have mechanical oil service indicator reset. The service tool does not have to communicate with the vehicle being tested, but guides you to complete the service manually by providing step-by-step on-screen instructions.

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 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.

### **5.3 Tire Pressure Monitoring System (TPMS) Programming**

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.

### **5.4 ABS/Airbag Services**

ABS/Airbag Services menu let you use the scanner temporarily to activate or control anti-lock brake systems and air bags or components.

Typical test options include:

- ABS Manual Control Tests—allows to manually control the actuators in order to test ABS motors, solenoids, solenoid enable relays, EMBs, and more.
- ABS Motor Test—allows to manually control the ABS pump motor.
- ABS Version Test—displays the name of the brake system and the ABS controller version number, software ID, and sequence value.
- Actuator Tests—allows to manually control the actuators in order to test AYC valves, inlet valves, outlet valves, pump motors, and TRACS valves.
- Autobleed Test, Automated Bleed, or Service Bleed—removes air from the internal brake fluid chambers after servicing the brakes.

### **5.5 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.

### **5.6 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.

## **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:

- Browse Picture
- Playback
- Stored Data Management
- Report Management




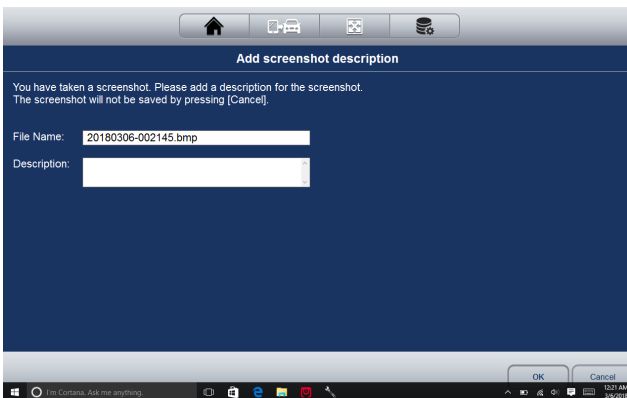
## 6.1 Browse Picture

Browse Picture option leads to screens for review of stored screenshots

### 6.1.1 How to Take a Screenshot ?

To take a screenshot:

1. Tap the Screenshot button  at the title bar of the screen to take capture the error.
2. Add a description of the error, and tap the **OK** button to save.



### 6.1.2 Review Screenshot

To review the screenshot:

1. Select the **Data Management** icon from the Home screen of the diagnostic application.
2. Tap **Browse Picture** and all available pictures will be displayed one by one automatically.



3. To stop the auto display, just tap the **Pause** button. Use **Next** or **Previous** button to review the pictures one by one.
4. To delete a picture, tap button **Delete** and answer **Yes** to delete. Or tap **Delete All** to delete all the pictures.

## 6.2 Playback Data

The Playback 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.

## 6.2.1 How to record data ?

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



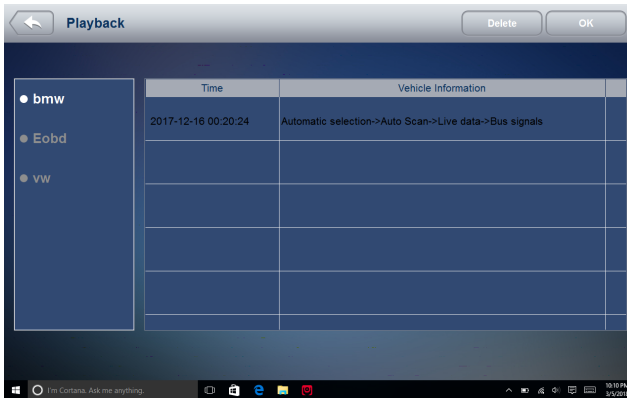
2. Tap the Stop button when finish recording.



## 6.2.2. To Playback data:

1. Select **Data Management** from the Home screen of the diagnostic application.
2. Tap **Playback** 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.

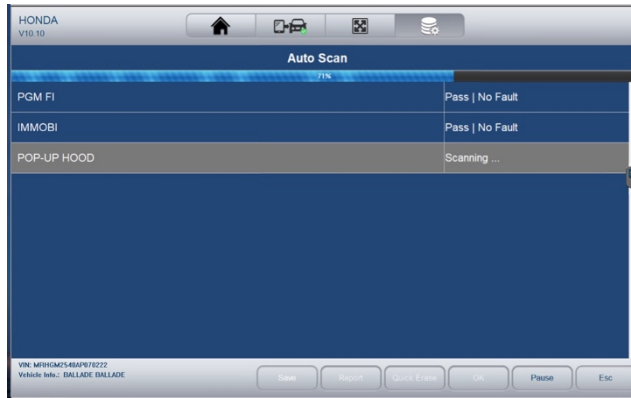
## 6.3 Data Logging & Stored Data Management

The logging icon  on the upper right side of the diagnostic screen whenever as long as the scanner is communicating with the vehicle. Just click it to record the communication data between the scan tool and the vehicle

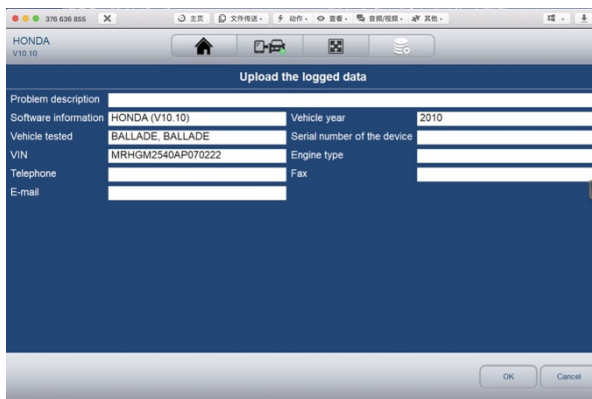
under test to help with troubleshooting of diagnostic failures. The logs could be saved to the scanner and sent to our server via internet.

To log data:

Tap the logging button while performing a test

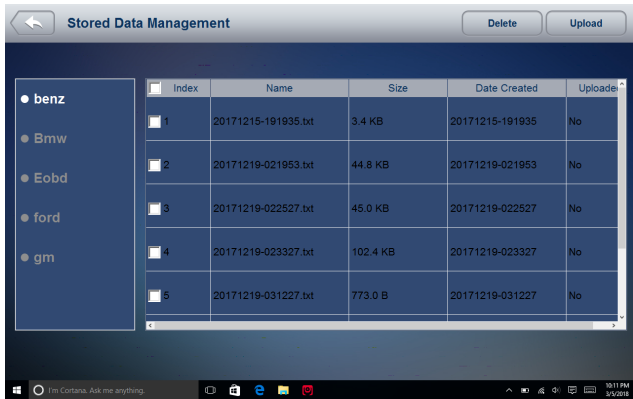


To stop recording, please re-click the icon. Fill in the form and tap OK to upload the data to Vident server if you need any assistance from Vident support team. Or tap Cancel to exit data upload. The data would be saved whether the data is upload or not.



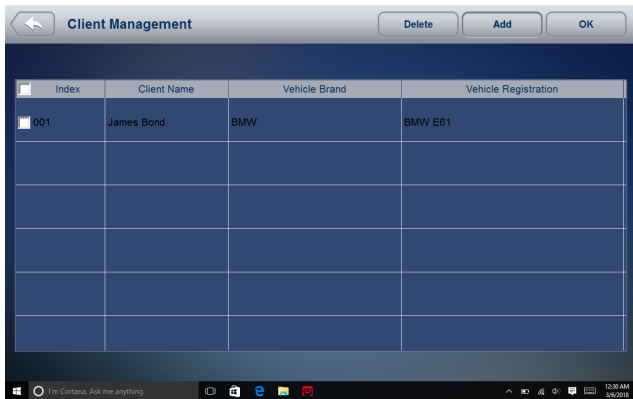
Manage the logs:

Select **Stored Data Management** from **Data Management** and click the Upload button to send them to our server.



## 7 Client Management

The Client Management allows every workshop to record and manage their clients' vehicle information. When the plate and VIN of a vehicle is recorded, iSmart900 will recognize the car automatically so technicians do not have to make a lot of selections to identify the car. It makes it much easier for technicians to determine the car configurations and helps them focus on servicing the car.

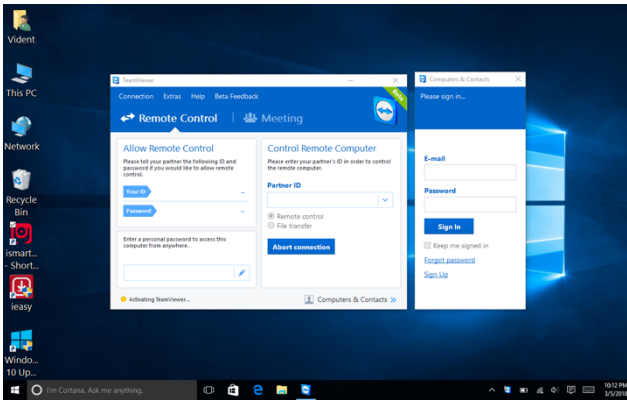


## 8 Remote Control

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 iSmart900, please do as follow:

1. Email [support@videnttech.com](mailto:support@videnttech.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.

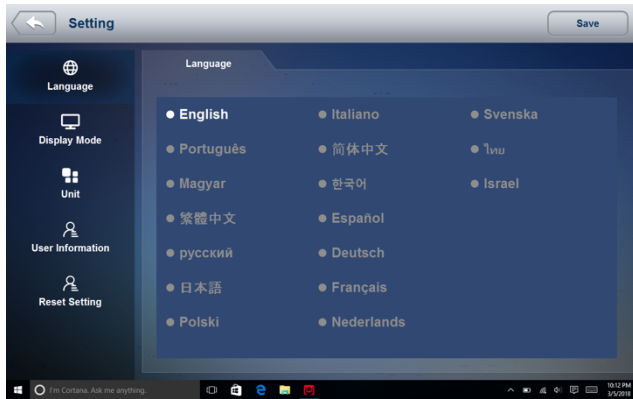
Make sure the Display Tablet is connected to the Internet before launching the Remote Control application, so that the Display Tablet is accessible to receive remote support from the third party.

## 9 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



## 9.1 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.

## 9.2 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.

## 9.3 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.

## 9.4 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.

## 9.5 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.

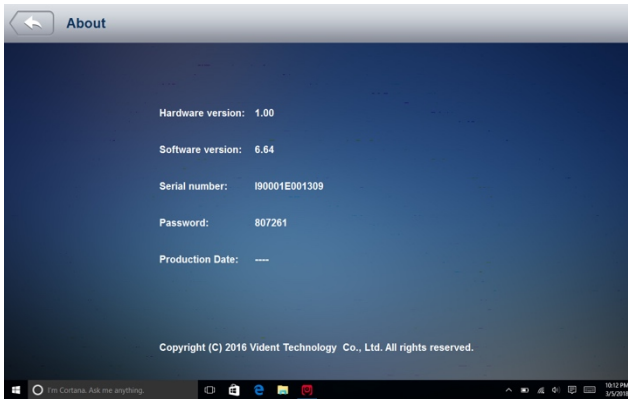
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## 10 About

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:

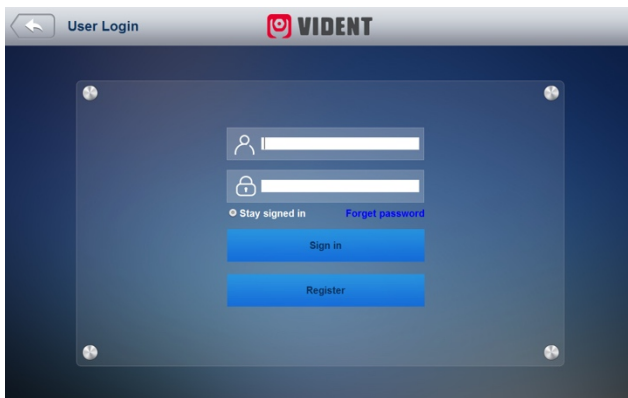
1. Connect the VCI with the tablet with Bluetooth or USB cable. Verify the VCI connection by checking if there is a green tick on the VCI icon  on the home screen.
2. Tap the **About** icon.
3. A screen with detailed information of the scanner displays.



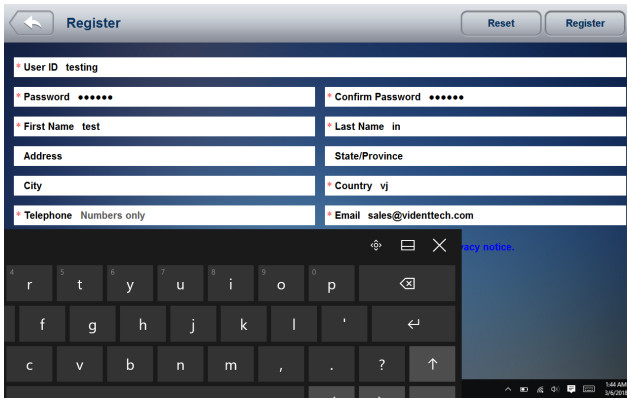
4. Tap the **Back** button to exit.

## 11 Registration and Update

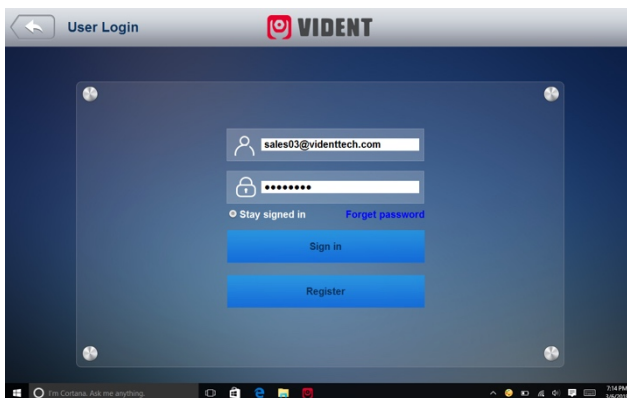
1. Connect the iSmart900 with internet.
2. Tap Update on the home screen of the diagnostic application. Wait till the following screen displays.




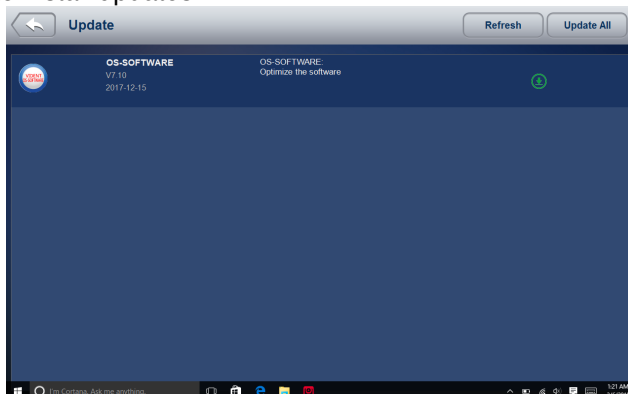
3. Tap Register.
4. Fill out the registration form and tap Register to submit.



5. When registration is finished, the initial logging screen would display. Click Log In and input your ID and Password.



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



7. When update done, the diagnostic software would restart automatically.



## 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

To 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