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Disclaimer of Warranties and Limitation of Liabilities

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Autel reserves the right to make changes at any time without notice. While information of this manual has been carefully checked for accuracy, no guarantee is given for the completeness and accuracy of the contents, including but not limited to the product specifications, functions, and illustrations.

Autel will not be liable for any direct, special, incidental, indirect damages or any economic consequential damages (including lost profits).

IMPORTANT

Before operating or maintaining this unit, please read this manual carefully, paying extra attention to the safety warnings and precautions.

For Services and Support:

http://pro.autel.com
www.autel.com

1-855-288-3587/1-855-AUTELUS (North America)
0086-755-8614 7779 (China)

support@autel.com

For details, please refer to the *Service and Support* section 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.
- Don’t connect or disconnect any test equipment while the 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.

CONTENTS

1 Using This Manual

This manual contains device usage instructions.

Some illustrations shown in this manual may contain modules and optional equipment that are not included in your system. Contact your sales representative for availability of other modules and optional tools or accessories.

Conventions

The following conventions are used.

Bold Text

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

Example:

- Tap **OK**.

Notes and Important Messages

Notes

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

Example:

NOTE
New batteries reach full capacity after approximately 3 to 5 charging and discharging cycles.

Important

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

Example:

IMPORTANT

Keep the cable away from heat, oil, sharp edges and moving parts. Replace damaged cables immediately.

Hyperlink

Hyperlinks or links that take you to other related articles, procedures, and illustrations are active in electronic documents. Blue italic text indicates a selectable hyperlink and blue underlined text indicates a website link or an email address link.

Illustrations

Illustrations used in this manual are samples, and the actual testing screen may vary for each vehicle being tested. Observe the menu titles and on-screen instructions to make correct option selection.

2 Using the Scan Tool

Tool Description

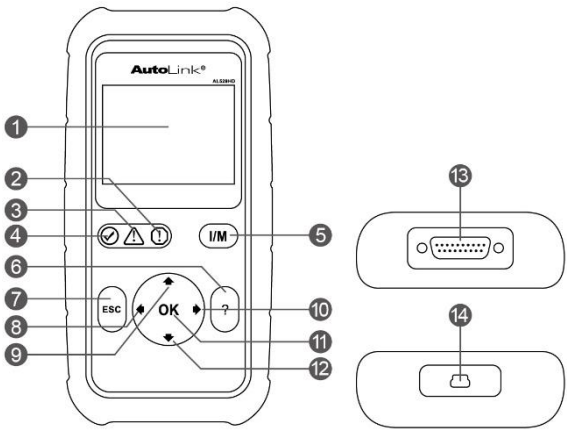


Figure 2-1 ***Product View***

1) **LCD DISPLAY** – displays menus and test results.
2) ⓘ **RED LED** – indicates there is a problem in one or more of the vehicle's systems. The red LED is also used to show that DTCs are present. DTCs are shown on the Scan Tool's display. In this case, the MIL on the vehicle's instrument panel will light steady on.
3) ⚠ **YELLOW LED** – indicates there is a possible problem. A "Pending" DTC is present and/or some of the vehicle's emission monitors have not run their diagnostic testing.
4) ✓ **GREEN LED** – indicates that engine systems are running normally (The number of monitors on the vehicle which are active and performing their diagnostic testing is in the allowed limit, and no DTCs are present).
5) (I/M) **ONE-CLICK I/M READINESS KEY** – quick-checks State Emissions readiness and drive cycle verification.
6) (?) **HELP BUTTON** – provides help information and Code Breaker function.

7) **ESC BUTTON** – cancels a selection (or action) from a menu or returns to the previous screen.

8) **LEFT SCROLL BUTTON** – when look up DTC definitions, moves to previous character and views additional information on previous screens if DTC definition covers more than one screen; deselect all marked PID data when viewing or recording customized live data list; views previous frames of recorded data when playing back live data. It is also used to update DTC library when pressed.

9) **UP SCROLL BUTTON** – moves up through menu and submenu items in menu mode. When more than one screen of data is retrieved, moves up through the current screen to the previous screens for additional data.

10) **RIGHT SCROLL BUTTON** – when look up DTC definitions, moves to next character and view additional information on next screens if DTC definition covers more than one screen; selects/deselects PID data when viewing or recording customized live data list, and views next frames of data when playing back live data.

11) **OK BUTTON** – confirms a selection (or action) from a menu.

12) **DOWN SCROLL BUTTON** – moves down through menu and submenu items in menu mode. When more than one screen of data is retrieved, moves down through the current screen to next screens for additional data.

13) **OBD II CONNECTOR** – connects the scan tool to the vehicle's Data Link Connector (DLC).

14) **USB CONNECTOR** – connects the scan tool to the PC for printing and upgrading.

Specifications

Table 2-1 *Specifications*

Item	Description
Display	2.8-inch LCD (320x240 dpi)
Connectivity	USB mini 2.0 OBD II DB15
Operating Temp.	0℃ to 60 ℃ (32℉ to 140℉)

Item	Description
Storage Temp.	-20℃ to 70 ℃ (-1℉ to 158℉)
External Power	8.0 to 18.0V power provided via vehicle battery
Dimensions (LxWxH)	183 mm (7.2”) x 91 mm (3.58”) x 33 mm (1.3”)
Weight	237 g (0.522 lb.)

Accessories Included

1) **User Manual** – instructions on tool operations.
2) **Quick Guide** – instructions on tool registration and update.
3) **OBD II Cable** – provides power to tool and communicates between tool and vehicle.
4) **USB Cable** – used to upgrade the scan tool, and to print retrieved data.

Navigation Characters

Characters used to help navigate the scan tool are:

1) **$** – identifies the control module number from which data is retrieved. Indicates the Test ID in On-Board Mon. Test.
2) **?** – indicates help or code breaker information is available.
3) **G** – indicates graphic viewing is available.

Keyboard

No solvents such as alcohol are allowed to clean the keypad or display. Use a mild nonabrasive detergent and a soft cotton cloth. Do not soak the keypad as the keypad is not waterproof.

Power

The scan tool is powered via the vehicle Data Link Connector (DLC). Follow the steps below to turn on the scan tool:

1) Connect the OBD II Cable to scan tool.
2) Find DLC on vehicle.

- *A plastic DLC cover may be found for some vehicles and you need to remove it before plugging the OBD II cable.*

3) Plug OBD II cable to the vehicle's DLC.

DTC Lookup

The **DTC Lookup** function is used to search for definitions of DTCs stored in the DTC library and for code breaker information.

1) From **Main Screen**, use the **UP/DOWN** scroll button and **LEFT/RIGHT** scroll button to select **DTC Lookup** and press the **OK** button.

Figure 2-2 ***Main Menu***

2) From **DTC Lookup** screen, use the **LEFT/RIGHT** button to move to the desired character, use the **UP/DOWN** button to change selected digit/character and press the **OK** button to confirm.

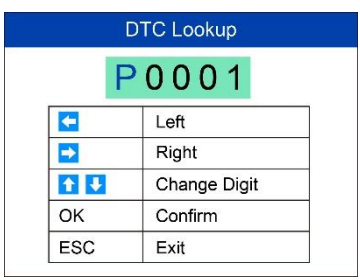


Figure 2-3 ***Sample DTC Lookup Screen***

3) View the DTC definition on screen. When DTC definition covers more than one screen, use the **LEFT/RIGHT** button or **UP/DOWN** button to view additional information on previous/next screens.

- If retrieved DTCs contain any manufacturer specific codes, the AutoVIN function embedded in this tool will automatically display the definition of the code.
- If definition could not be found, the scan tool displays "**Please refer to vehicle service manual!**"
- For code breaker information, you need to press the "**?**" **Help** button.

In the **Code Breaker** screen, there are three options to assist user to understand DTC more: **System Description** and **Quick Check** to read detailed description of DTCs, **General Notes** to view helpful repair information of DTCs.

4) To view previous or next DTC in the built-in DTC library, use the **LEFT/RIGHT** button.
5) To enter another DTC, press the **ESC** button to return to previous screen.
6) To exit to **Main Screen**, press the **ESC** button.

System Setup

The scan tool allows you to make the following adjustments and settings:

1) **Language**: Selects the desired language.
2) **Configure Monitors**: Sets the monitors you want to test.
3) **Unit of measure**: Sets the unit of measure to English or Metric.
4) **Key Beep Set**: Turns on/off beep.
5) **Status Beep Set**: Turns on/off the I/M Readiness Status beep.
6) **Tool Self-test**: Checks if the LCD display, LED lamps and keyboard are working normally.
7) **Update Mode**: Accesses the Update Mode.
8) **Vehicle Info Show Set**: Turn on/off the Vehicle Info display.

- *Settings of the unit will remain until change to the existing settings is made.*

To enter the Setup menu

From the **Main Screen**: Use the **UP/DOWN** scroll button and **LEFT/RIGHT** scroll button to select **Setup**, and press the **OK** button. Follow the instructions to make adjustments and settings as described in the above setup options.

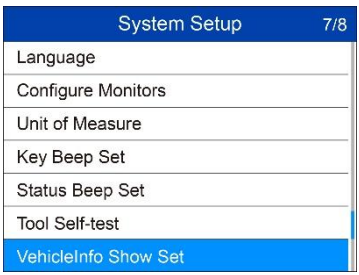


Figure 2-4 *Sample System Setup Screen*

Language

- *English is the default language.*

1) From **System Setup** screen, use the **UP/DOWN** scroll button to select **Language**, and press the **OK** button.
2) Use the **UP/DOWN** scroll button to select the desired language and press the **OK** button to save your selection and return to previous screen.

Figure 2-5 *Sample Language Screen*

Configure Monitors

From **System Setup** screen, use the **UP/DOWN** scroll button to select **Configure Monitors**, and press the **OK** button.

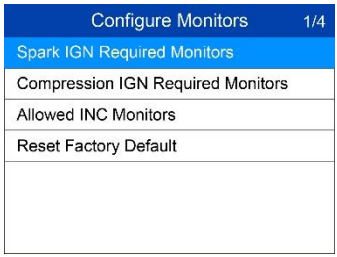


Figure 2-6 *Sample Configure Monitors Screen*

In this menu, you could configure the monitors required to test spark ignition and compression ignition, the number of monitors to pass diagnosis, and restore the default settings.

Spark IGN Required Monitors

From **Configure Monitors** screen, use the **UP/DOWN** scroll button to select **Spark IGN Required Monitors**, and press the **OK** button.

The monitors for spark ignition engines list as below.

Table 2-2

Spark IGN Required Monitors			
√	MIS	√	EVAP
√	FUEL	√	AIR
√	CCM	√	O2S
√	CAT	√	HTR
√	HCAT	√	EGR

Compression IGN Required Monitors

From **Configure Monitors** screen, use the **UP/DOWN** scroll button to select **Compression IGN Required Monitors**, and press the **OK** button.

The monitors for compression ignition engines list as below.

Table 2-3

Compression IGN Required Monitors			
√	MIS	√	BP
√	FUEL	√	EGS
√	CCM	√	PM
√	HCCAT	√	EGR
√	NCAT		

Allowed INC Monitors

From **Configure Monitors** screen, use the **UP/DOWN** scroll button to select **Allowed INC Monitors**, and press the **OK** button.

Emissions tests vary depending on the geographic or regional area in which the vehicle is registered. So the scan tool provides a more flexible way to meet different standards, which allows the user to select 0, 1, 2, or 3 “not complete” monitors in test.

Reset Factory Default

From **Configure Monitors** screen, use the **UP/DOWN** scroll button to select **Reset Factory Default**, and press the **OK** button.

It will restore the default configuration settings in the **Configure Monitors** menu, and delete any customized settings. In this case, **Spark IGN Required Monitors** and **Compression IGN Required Monitors** will include all the available monitors, and the **Allowed INC Monitors** will be set to 1.

The tool will display an information message to ask for your confirmation. Select **Yes** to proceed and **No** to exit without change.

Unit of Measure

- *Metric is the default measurement unit.*

1) From **System Setup** screen, use the **UP/DOWN** scroll button to select **Unit of Measure** and press the **OK** button.
2) From **Unit of Measure** screen, use the **UP/DOWN** scroll button to select the desired unit of measurement.

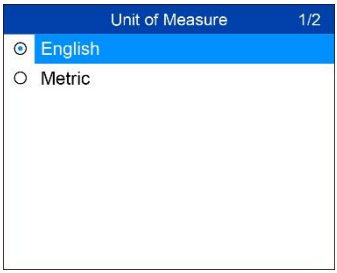


Figure 2-7 ***Sample Unit of Measure Screen***

3) Press the **OK** button to save your selection and return to previous menu.

Key Beep Set

This function allows you to turn on/off the build-in speaker for key pressing.

- *The default setting is Beep On.*

1) From **System Setup** screen, use the **UP/DOWN** scroll button to select **Key Beep Set** and press the **OK** button.
2) From **Key Beep Set** menu, use the **UP/DOWN** scroll button to select **Beep ON** or **Beep OFF** to turn on/off the beep.

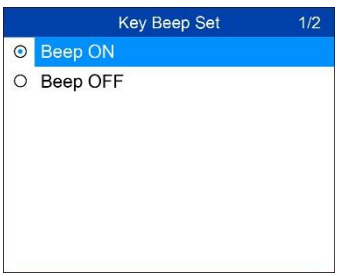


Figure 2-8 ***Sample Key Beep Set Screen***

3) Press the **OK** button to save your selection and return to previous menu.

Status Beep Set

- *The default setting is Beep On.*

This function allows you to turn on/off the build-in speaker for the LEDs in diagnostic testing. Different audio tone corresponds to different LED lamp. This function is invaluable when performing diagnostics alone, or working in bright areas where LED illumination alone is not sufficient.

1) From **System Setup** screen, use the **UP/DOWN** scroll button to select **Status Beep Set** and press the **OK** button.

2) From **Status Beep Set** menu, use the **UP/DOWN** scroll button to select **Beep ON** or **Beep OFF** to turn on/off the beep.

Figure 2-9 ***Sample Status Beep Set Screen***

3) Press the **OK** button to save your selection and return to previous menu.

Tool Self-test

The Tool Self-test function checks if the display, LED lamps and keyboard are working properly.

Display test

The **Display Test** function checks if the LCD display is working normally.

1) From **System Setup** screen, use the **UP/DOWN** scroll button to select **Tool Self-tes**t, and press the **OK** button.

2) Select **Display Test** from **Tool Self-test** menu and press the **OK** button to start test.

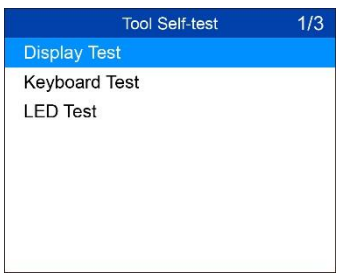


Figure 2-10 ***Sample Tool Self-test Screen***

3) Look for missing spots in the red, green, blue, black and white LCD display.

4) When completed, press the **ESC** button to exit.

Keyboard Test

The **Keyboard Test** function verifies if the keys are functioning properly.

1) Use the **UP/DOWN** scroll button to select **Keyboard Test** from the **Tool Self-test** menu, and then press the **OK** button.

2) Press any key to start test. When you press a key, the key name should be observed on the display. If the key name does not show up, then the key is not functioning properly.

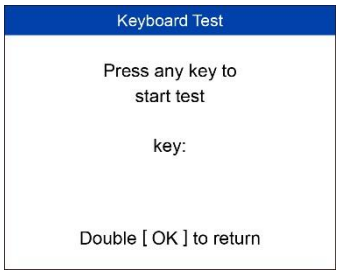


Figure 2-11 *Sample Keyboard Test Screen*

3) Double press **ESC** to return to previous menu.

LED Test

The **LED Test** function verifies if the I/M Readiness LED indicator lamps are functioning properly.

1) Use the **UP/DOWN** scroll button to select **LED Test** from the **Tool Self-test** menu, and then press the **OK** button.

2) In the **LED Test** menu, use the **UP/DOWN** scroll button to select one or more LED lamps to check. The LED should turn on or off according to the selected commands.

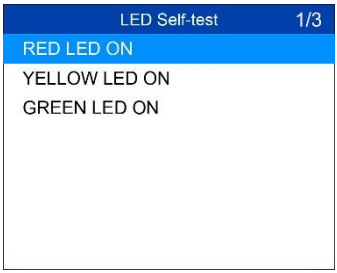


Figure 2-12 *Sample LED Self-test Screen*

3) When completed, press the **ESC** button to exit.

Update Mode

This function allows you to update the scan tool software through a Windows-based computer.

- *To update your scan tool, you need the following items.*

  AutoLink® AL529

  A Windows-based computer or laptop with USB ports

  A USB cable

Register the Tool

You would update the scan tool **ONLY** after you had registered the tool on our website: www.autel.com. Then you could download software, update online, retrieve information and get warranty service.

NOTE
Prior to registration, please confirm your network is working properly.

1. Visit the website http://pro.autel.com.
2. If you already have an Autel account, Sign In with your account ID and password.
3. If you are a new member to Autel, click on the **Create Autel ID** button on the left side to create an ID.
4. Enter the required information in the input fields, and click the **Get Verification Code** button to get a verification code for email validation.
5. The online system will automatically send a verification code to the

registered email address. Input the code in the Verification code field and complete other required fields. Read through Autel's Terms and Conditions and click on Agree, and then click **Create Autel ID** at the bottom. A product registration screen will display.

6. The device's serial number and password is located in the *About* section of the Settings application on the tool.
7. Select your product model, enter the product serial number and password on the Product Registration screen, and click **Submit** to complete the registration procedure.

Update Procedure

Autel frequently releases software updates that you can download. The Update feature makes it very easy to determine and get exactly what you need.

Connect the device with a Windows-based computer using the included USB cable.

Follow the update procedure to finish updating.

1. Download the **Maxi PC Suite** from www.autel.com > *Support & Updates* > *Firmware & Downloads* > *Update Client*, and install to your Windows-based computer.
2. Run the **Maxi PC Suite**. Wait for the Log In window to pop up.

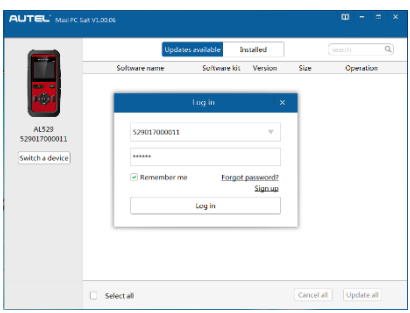


Figure 2-13 *Sample Log In Window*

3. Connect the scan tool to your computer through the USB cable provided.
4. From **System Setup** screen in scan tool, select **Update Mode**, and press the **OK** button.

5. Enter your Autel ID and password and wait for the Update window to display. If you forget your password, you may click the [**Forget Password?**] to link to our website and find your password back. Or you may click **Sign up** to create an Autel ID to continue.
6. Select the product type and serial number, click **OK** to continue.
7. In the **Update** window, select the items you want to install. Usually, all available updates should be installed.

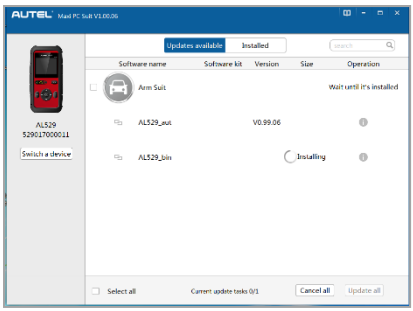


Figure 2-14 *Sample Update Window*

Generally, there are two ways to update programs:

Batch Update

1. Select the programs that you would update by clicking on the check boxes next to those items. Then click the **Update All** button on the right bottom of screen Click the **Clear All** button will reselect the items you want to update.
2. Or, click on the **Select All** checkbox on the left bottom of screen and all updatable items will be selected automatically. Then click the **Update All** button on the right side of screen.
3. When the downloading is completed, the downloaded programs will be installed automatically. The new version will replace the old version.

Single Update

1. Find out the desired updating item and click the **Update** button in the same line.
2. When the downloading is completed, the downloaded program will be installed automatically. The new version will replace the old version.

View or Delete Programs

To view the list of installed programs or to delete an installed program, please follow these steps:

1. Click on the **Installed** tag entry and the page will show the list of programs installed.
2. Select the program(s) that you would delete.
   - ✧ **Batch delete**: Select the programs that you would delete by clicking on the check boxes to the left of those items. Then click the **Uninstall All** button on the right bottom of screen.
   - ✧ **Single delete**: Click the **Uninstall** button in the line of your would-be-deleted program.
3. A window asking "**Are you sure to uninstall the software?**" will pop up for your confirmation.

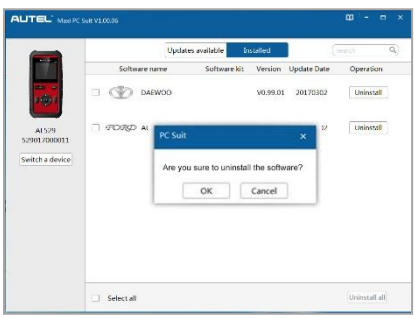


Figure 2-15 ***Sample Delete Window***

- Click on **OK** to delete the program(s) selected, or on **Cancel** to quit the action.
- The deleted program will automatically add to the end of program list in the Update page in case you would like to install again.

In the search box on the right top corner of the screen, you can enter any words to search the software you desired, and this function works for both Update Available column and Installed column.

Vehicle Info Show Set

This function allows you to turn on/off the Vehicle Info display when entering the test vehicle through OBDII function.

- *The default setting is Show On.*

4) From **System Setup** screen, use the **UP/DOWN** scroll button to select **Vehicle Info Show Set** and press the **OK** button.

5) From **Vehicle Info Show Set** menu, use the **UP/DOWN** scroll button to select **Show ON** or **Beep OFF** to turn on/off the Vehicle Info screen.

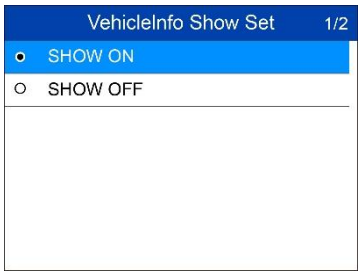


Figure 2-16 ***Sample Key Beep Set Screen***

6) Press the **OK** button to save your selection and return to previous menu.

About

The **About** function allows viewing of some important information such as serial number and software version number of the scanner.

1) From **Main Screen**, use the **UP/DOWN** scroll button and **LEFT/RIGHT** scroll button to select **About** and press the **OK** button; wait for the **About** screen to appear.

2) View tool information on screen.

Figure 2-17 ***Sample About Screen***

Vehicle Coverage

The AutoLink® AL529 OBDII/EOBD Scanner is specially designed to work with all OBD II compliant vehicles, including those equipped with next-generation protocol -- Control Area Network (CAN). It is required by EPA that all 1996 and newer vehicles (cars and light trucks) sold in the United States must be OBD II compliant and this includes all Domestic, Asian and European vehicles.

A small number of 1994 and 1995 model year gasoline vehicles are OBD II compliant. To verify if a 1994 or 1995 vehicle is OBD II compliant, check the Vehicle Emissions Control Information (VECI) Label which is located under the hood or by the radiator of most vehicles. If the vehicle is OBD II compliant, the label will designate “OBD II Certified”. Additionally, government regulations mandate that all OBD II compliant vehicles must have a “common” sixteen-pin Data Link Connector (DLC).

For your vehicle to be OBD II compliant it must have a 16-pin DLC (Data Link Connector) under the dash and the Vehicle Emission Control Information Label must state that the vehicle is OBD II compliant.

Product Troubleshooting

This part describes problems that you may encounter while using the scan tool.

Vehicle Linking Error

A communication error occurs if the scan tool fails to communicate with the vehicle’s ECU (Engine Control Unit). You need to do the following to check up:

- ✓ Verify that the ignition is ON.
- ✓ Check if the scan tool’s OBD II connector is securely connected to the vehicle’s DLC.
- ✓ Verify that the vehicle is OBD2 compliant.
- ✓ Turn the ignition off and wait for about 10 seconds. Turn the ignition back to on and continue the testing.
- ✓ Verify the control module is not defective.

Operating Error

If the scan tool freezes, then an exception occurs or the vehicle's ECU (Engine Control Unit) is too slow to respond to requests. You need to do the following to reset the tool:

- ✓ Reset the scan tool.
- ✓ Turn the ignition off and wait for about 10 seconds. Turn the ignition back to on and continue the testing.

Scan tool doesn't power up

If the scan tool won't power up or operates incorrectly in any other way, you need to do the following to check up:

- ✓ Check if the scan tool's OBD II connector is securely connected to the vehicle's DLC;
- ✓ Check if the DLC pins are bent or broken. Clean the DLC pins if necessary.
- ✓ Check vehicle battery to make sure it is still good with at least 8.0 volts.

LED lamps not working

If you turn on the scan tool and perform the I/M Readiness test but the LED lamps are not working, there may be several possible causes, including bad connection and ignition off. In this case, follow these steps to check the scan tool.

- ✓ Make sure the OBD II cable is connected to the DLC securely.
- ✓ Verify the ignition key is in the KOER position.
- ✓ Run the LED Test in the System Setup menu. If the scan tool did not pass this test, there is a problem with the LED lamp. Please contact Autel Tech Support or your local selling agent.

3 Playback

The Playback function allows viewing and printing of data from last test recorded by the scan tool.

Review Data

1) Use the **UP**/**DOWN** scroll button and **LEFT**/**RIGHT** scroll button to select **Playback** from **Main Screen**, and press the **OK** button.
2) Select **Review Data**, and press the **OK** button.

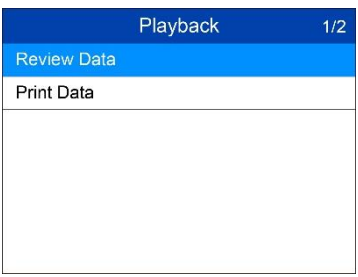


Figure 3-1 ***Sample Playback Screen***

3) Select the desired item from **Review Data** menu, and press **OK**.

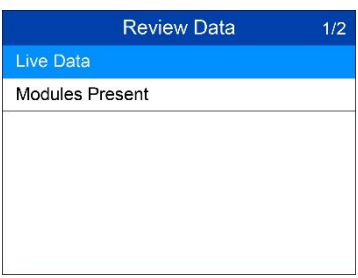


Figure 3-2 ***Sample Review Data Menu***

- If no data from previously tested vehicle is recorded, only Modules Present data containing module ID and protocol type can be viewed.
- Diagnostics results can be reviewed from this list only when any trouble code is detected in previous tests.

4) Select the Location of the test records. At most three records can be saved in three Locations. If there is only one record saved in the tool, then only one Location will display.

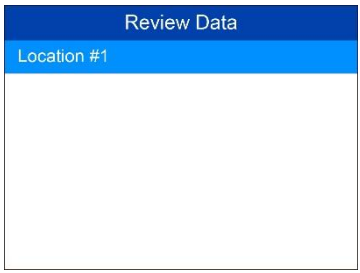


Figure 3-3 *Sample Location Selection Screen*

5) View the selected data on the screen.

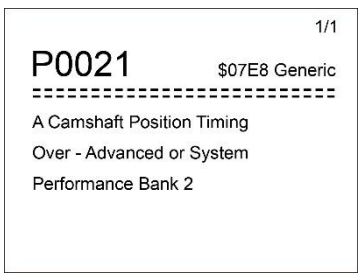


Figure 3-4 *Sample Data Screen*

NOTE

If there is no data stored for selected item, a “Not Supported or Stored No Data!” message shows on the screen.

Print Data

The **Print Data** function allows printing out DTC data recorded by the service tool by connecting the scan tool to a Windows-based PC or laptop with the USB cable supplied.

1. Download the **Maxi PC Suite** from www.autel.com and install.
2. Connect the scanner to computer with the USB cable supplied.
3. Run **Autel Printer** software on computer.

4. Select **Playback** function in Main Screen of the tool. In data menu screen, select **Print Data** and then select the data you want to print. Wait for the reviewing window to display, and then select **Print** function. The selected file will be uploaded to your computer.
5. The **Printer** will show as below.

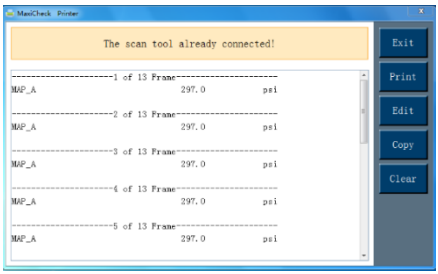


Figure 3-5 *Sample Printer Screen*

6. The selected data will display on the textbox of **Printer**. By selecting the function keys on the right, you could execute the following operations:
   - **Print** – print all data in the textbox to a printer connected to your computer.
   - **Edit** – once clicked, the software will automatically open a NOTEPAD window with all recorded data showing on.
   - **Copy** – copy all data in the textbox to the clipboard.
   - **Clear** – delete all data in the textbox.
   - **Exit** – quit the operation.
7. You are also allowed to edit, copy, and delete the data in the **Printer** window.

4 OBD II Diagnostics

When more than one vehicle control module is detected by the scan tool, you will be prompted to select the module where the data may be retrieved. The most often to be selected are the Power train Control Module [PCM] and Transmission Control Module [TCM].

CAUTION: *Don't connect or disconnect any test equipment with ignition on or engine running.*

1) Turn the ignition off.
2) Locate the vehicle's 16-pin Data Link Connector (DLC).
3) Plug the scan tool cable connector into the vehicle's DLC.
4) Turn the ignition on. Engine can be off or running.
5) Turn on the scan tool. Use the **UP/DOWN** scroll button to select **OBDII/EOBD** from the **Main Screen**.
6) Press the **OK** button to wait for the Menu to appear. With the embedded AutoVIN technology in the tool, a sequence of messages displaying the OBDII protocols will be observed on the display until the test vehicle's protocol is detected. The test vehicle information will display as below once it is done. Press **OK** to continue.

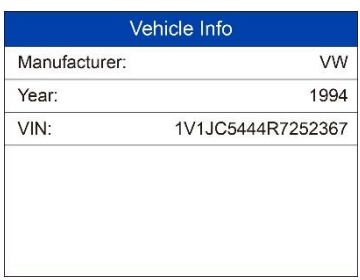


Figure 4-1 ***Sample Vehicle Info Screen***

- *If the scan tool fails to communicate with the vehicle's ECU (Engine Control Unit) more than three times, a "LINKING ERROR!" message shows up on the display.*

✓ Verify that the ignition is ON;

✓ Check if the scan tool's OBD II connector is securely connected to the vehicle's DLC;

✓ Verify that the vehicle is OBD II compliant;

✓ Turn the ignition off and wait for about 10 seconds. Turn the ignition back to on and repeat the procedure from step 5.

- *If the "LINKING ERROR" message does not go away, then there might be problems for the scan tool to communicate with the vehicle. Contact your local distributor or the manufacturer's customer service department for assistance.*

7) View a summary of system status (MIL status, DTC counts, Monitor status) on screen. Wait a few seconds or press any key to continue.

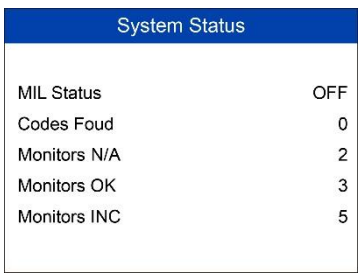


Figure 4-2 *Sample System Status Screen*

- If more than one module is detected, you will be prompted to select a module before testing.
- Use the **UP/DOWN** scroll button to select a module and press the **OK** button.

8) Then you will be prompted to erase previously stored data.

- *Review previously stored data thoroughly before erasing.*

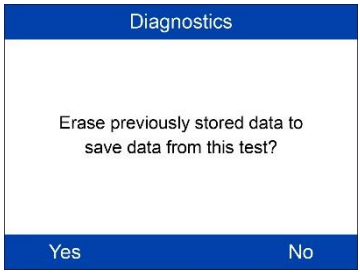


Figure 4-3 ***Sample Erase Previous Data Screen***

- *If no data is stored in the scan tool, the above prompt will not show up.*

9) If you wish to erase the data, press the **OK** button; if you do not want to erase the data, press **ESC** to exit or use **LEFT/RIGHT** button to select **NO** and press **OK** for **Diagnostic Menu** to come up.

Read Codes

- *Read Codes can be done with the key on engine off (KOEO) or with the key on engine running (KOER).*
- *Stored Codes are also known as "hard codes", which are fault codes, or trouble codes that have been stored in the vehicle computer memory because the faults have reoccurred for more than a specified amount of key-cycles. These codes will cause the control module to illuminate the malfunction indicator light (MIL) when emission-related fault occurs.*
- *Pending Codes are also referred to as "maturing codes" or "continuous monitor codes". They indicate problems that the control module has detected during the current or last driving cycle but are not considered serious yet. Pending Codes will not turn on the malfunction indicator light (MIL). If the fault does not occur within a certain number of warm-up cycles, the code clears from memory.*
- *Permanent Codes are DTCs that are "confirmed" and are retained in the non-volatile memory of the computer until the appropriate monitor for each DTC has determined that the malfunction is no longer present and is not commanding the MIL on. Permanent DTC shall be stored in non-volatile memory and may not be erased by any diagnostic services or by disconnecting power to ECU.*

1) Use **UP/DOWN** scroll button to select **Read Codes** from **Diagnostic Menu** and press **OK** button.

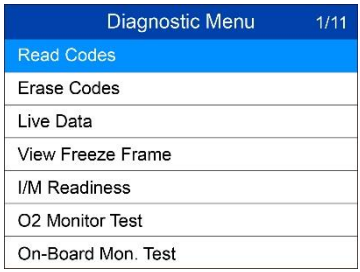


Figure 4-4 ***Sample Diagnostic Menu***

2) Use the **UP/DOWN** scroll button to select **OBDII Codes** or **Enhanced Codes** from the **Read Codes** menu and press the **OK** button.

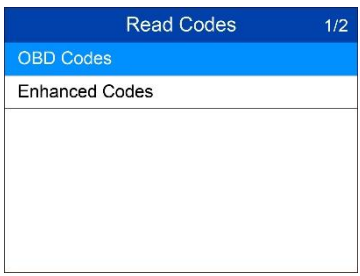


Figure 4-5 ***Sample Read Codes Screen***

- The **OBD Codes** reads pending codes, stored codes, and permanent codes. The **Enhanced Codes** reads DTCs from engine and transmission systems of GM, Chrysler, and Ford vehicles.
- If there is not any Diagnostic Trouble Code, the display indicates "**No (pending) codes are stored in the module!**" Wait a few seconds or press any key to return to previous screen.

NOTE

Permanent Codes function is available for merely vehicles supporting the CAN protocols.

3) View DTCs and their definitions on screen.

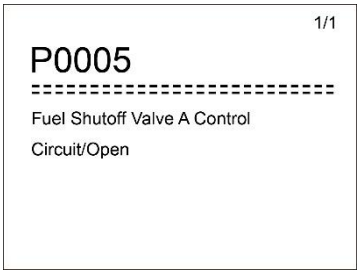


Figure 4-6 ***Sample DTC Screen***

4) If more than one DTC is found, use the **LEFT/RIGHT** scroll button to check all the codes.

   - If retrieved DTCs contain any manufacturer specific or enhanced codes, the AutoVIN technology adopted by this tool will automatically display the definition of the code.

Erase Codes

NOTE

1. Erasing the Diagnostic Trouble Codes may allow the scan tool to delete not only the codes from the vehicle's on-board computer, but also "Freeze Frame" data and manufacturer specific enhanced data. Further, the I/M Readiness Monitor Status for all vehicle monitors is reset to Not Ready or Not Complete status. Do not erase the codes before the system has been checked completely by a technician.
2. Erasing codes does not mean that trouble codes in ECU have been eliminated completely. As long as there is fault with the vehicle, the trouble codes keeps on presenting.

◆ *This function is performed with key on engine off (KOEO). Do not start the engine.*

1) Use the **UP/DOWN** scroll buttons to select **Erase Codes** from **Diagnostics Menu** and press the **OK** button.

2) A warning message comes up asking for your confirmation.

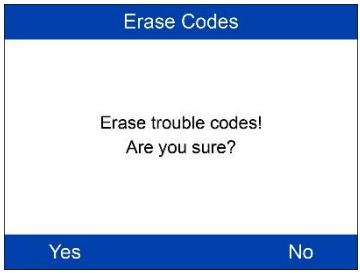


Figure 4-7 *Sample Erase Codes Screen*

- If you do not want to proceed with erasing codes, press **ESC** button or use **LEFT/RIGHT** scroll button to select **NO** to exit. A message of **"Command Cancelled!"** shows up. Wait a few seconds or press any key to return to **Diagnostic Menu**.

3) Press the **OK** button to confirm.
   - If the codes are cleared successfully, an "**Erase Done!**" confirmation message shows on the display.
   - If the codes are not cleared, then an "**Erase Failure. Turn Key on with Engine off!"** message appears.
4) Press any button to return to **Diagnostic Menu**.

Live Data

In this function, you can not only read the live data but also record data for later review.

View Data

The View Data function allows viewing of live or real time PID data of vehicle's computer module(s).

1) To view live data, use the **UP/DOWN** scroll button to select **Live Data** from **Diagnostic Menu** and press the **OK** button.
2) Wait a few seconds while the scan tool validates the PID MAP.

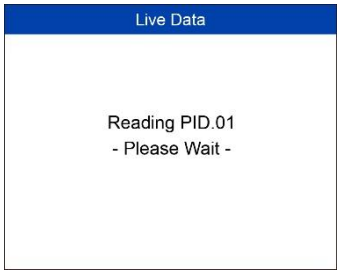


Figure 4-8 *Sample Live Data Screen 1*

3) Use the **UP/DOWN** scroll button to select **View Data** from **Live Data** menu and press the **OK** button.

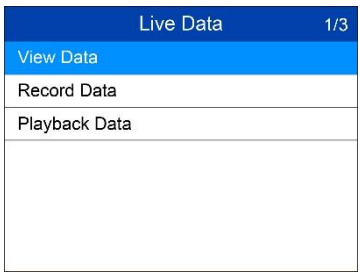


Figure 4-9 *Sample Live Data Screen 2*

View Complete Data Set

1) To view complete set of data, use **UP/DOWN** scroll button to select **Complete Data Set** from **View Data** menu and press the **OK** button.

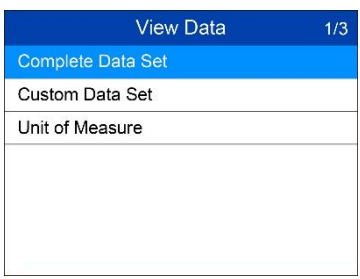


Figure 4-10 *Sample View Data Menu*

2) View live PIDs on the screen. Use the **UP/DOWN** scroll button for more PIDs if additional information is available on more than one page.

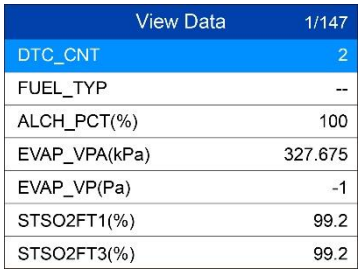


Figure 4-11 ***Sample Complete Data Screen***

- The number “x” to the right of the screen indicates sequence of the highlighted item.
- To view full name of the highlighted PID, press the “**?**” button.
- If the **G** icon appears when a PID is highlighted, graphic information is available. Press **OK** to view graph.

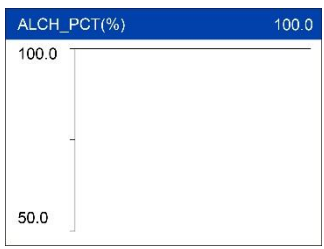


Figure 4-12 ***Sample Data Graph Screen***

3) Press the ESC button to return to previous menu.

View Custom Data Set

1) To view customized PID data, use the **UP/DOWN** scroll button to select **Custom Data Set** from **View Data** menu and press the **OK** button.
2) Observe on-screen instructions.

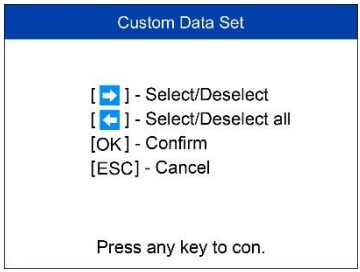


Figure 4-13 ***Sample Custom Data Set Screen 1***

3) Use the **RIGHT** button to deselect/select data parameters, and use the **UP/DOWN** scroll button to move up and down. Selected parameters are marked with solid squares.

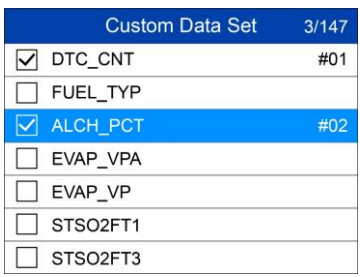


Figure 4-14 ***Sample Custom Data Set Screen 2***

- The number “x” to the upper right corner of the screen indicates sequence of highlighted item; and “#x” are the order that the parameters are selected and will be displayed.
- If you want to deselect all marked items or select all items, press the **LEFT** button. A message comes up to ask for your confirmation.
- If you decide to deselect these items, press **OK;** if you decide not to, press **ESC** or use the **LEFT/RIGHT** scroll button to select **NO** to continue PID selections.

4) Press the **OK** button to view selected PIDs on screen.

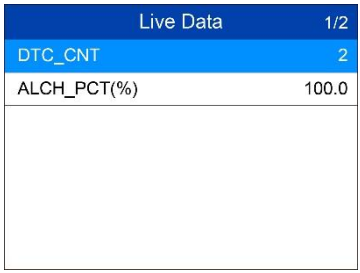


Figure 4-15 ***Sample Custom Data Set Screen 3***

5) Use the **ESC** button to return to previous menu.

Record Data

The Record Data function allows recording vehicle modules' Parameter Identification (PID) data to help diagnose intermittent vehicle problems. A recording includes 5 frames of live data before trigger event and several frames after trigger event.

There are two trigger modes used to record data:

A. **Manual Trigger** – allows user to press the **OK** button to start recording.

B. **DTC Trigger** – automatically records PID data when a fault that causes a DTC to set is detected by vehicle.

NOTE

DO NOT try to drive and operate the scan tool at the same time! Always have another person operate the scan tool while driving.

To record live data, use the **UP/DOWN** scroll button to select **Record Data** from **Live Data** menu and press the **OK** button.

Record Complete Data Set

1) To record complete set of live data, use the **UP/DOWN** scroll button to select **Complete Data Set** from **Record Data** menu and press the **OK** button.

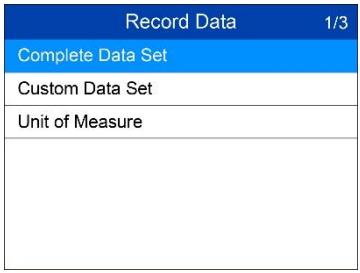


Figure 4-16 ***Sample Record Data Screen***

2) Use the **UP/DOWN** scroll button to select a trigger mode and press the OK button.

Figure 4-17 ***Sample Pick Trigger Mode Screen***

- If data from previously tested vehicle is not erased, data from current test will be stored in a temporary cache.

3) Use the **UP/DOWN** scroll button to select a memory location and press the **OK** button.

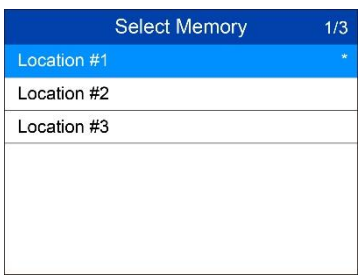


Figure 4-18 ***Sample Select Memory Screen 1***

- The asterisk (*) icon on the screen indicates that there is a previous recording in the memory location.

- If you select a location marked with an asterisk (*) icon, a message prompting to overwrite old recording displays.

Figure 4-19 ***Sample Select Memory Screen***

- If you wish to proceed with overwriting the old recording, press the **OK** button; if you do not wish to overwrite it, use the **LEFT/RIGHT** button to select **NO** or press the **ESC** button to pick another memory location.

4) Observe on-screen instructions.

- If **Manual Trigger** is selected, following screen shows:

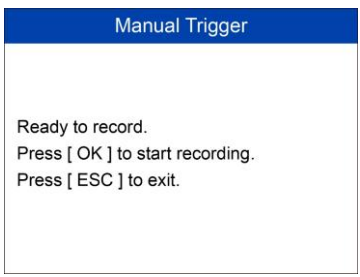


Figure 4-20 ***Sample Manual Trigger Screen***

- If **DTC Trigger** is selected, following screen shows:

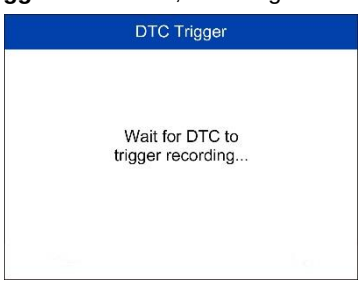


Figure 4-21 ***Sample DTC Trigger Screen***

5) Wait for DTC to trigger recording or press **OK** to start recording.

◆ *Drive till a DTC is detected when DTC Trigger is selected. If no DTCs are detected, press ESC to exit recording.*

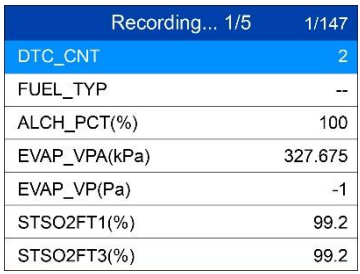


Figure 4-22 *Sample Recording Data Screen*

- The number "x/x..." to the upper right corner of the screen indicates the maximum frames that can be recorded and the number of recorded frames.

6) The scan tool keeps recording PID data until user presses the **ESC** button, selected memory location is full, or it completes recording. A message prompting to playback data shows on the screen.

Figure 4-23 *Sample Recording Done Screen*

- If you wish to playback recorded data, press the **OK** button; if you do not wish to playback, press the **ESC** button, or use **LEFT/RIGHT** button to select **NO** and press the **OK** button to return to **Record Data** menu.

Record Custom Data Set

1) To record customized data, use the **UP/DOWN** scroll button to select **Custom Data Set** from **Record Data** menu and press the **OK** button.

2) Observe on-screen instructions. Press the **OK** button to continue; press the **ESC** button, or use **LEFT/RIGHT** button to select **NO** and press the **OK** button to return to **Record Data** menu.

3) Use the **RIGHT** button select/deselect data parameters. Selected parameters are marked with solid squares. Press the **OK** button to confirm.

   - If you wish to deselect all marked items, press **LEFT** button.
   - A message comes up to ask for your confirmation.
   - If you decide to deselect these items, press **OK**; if you decide not to, press the **ESC** button, or use the **UP/DOWN** button to select **NO** and press **OK** to continue PID selections.

4) Use the **UP/DOWN** scroll button to select a trigger mode and press the **OK** button.

   - If data from previously tested vehicle is not erased, data from current test will be stored in temporary cache.

5) Use the **UP/DOWN** scroll button to select a memory location and press the **OK** button.

6) Observe on-screen instructions to select DTC trigger mode.

7) Wait for DTC to trigger recording or press OK to start recording.

8) The scan tool keep recording PID data until user presses ESC button, the selected memory location is full, or it completes recording. A message prompting to playback data shows on the screen.

   - If you wish to playback recorded data, press the **OK** button; if you do not wish to playback, press the **ECS** button, or use the **LEFT/RIGHT** button to select **NO** and press the **OK** button to return to **Record Data** menu.

Playback Data

The Playback Data function allows viewing of previously stored PID data.

1) To playback recorded data, use the **UP/DOWN** scroll button to select **Playback Data** from **Live Data** menu and press the **OK** button.

   - You are also allowed to playback recorded data immediately after recording.

2) Use the **UP/DOWN** button to select the memory location marked with an asterisk (*) icon.

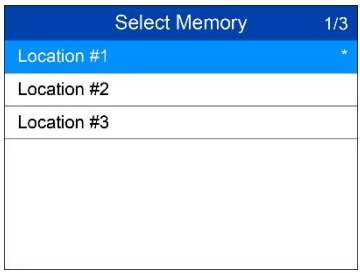


Figure 4-24 ***Sample Select Memory Screen 2***

- If there is no recording in selected location, a message "**Not Supported or Stored No Data**" displays on the screen.

3) Use the **UP/DOWN** button to view recorded PIDs of each frame.

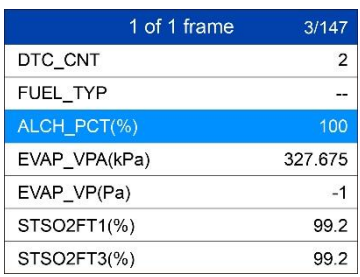


Figure 4-25 ***Sample Playback Data Screen***

4) Use the **LEFT/RIGHT** button to view PIDs of next or previous frames.

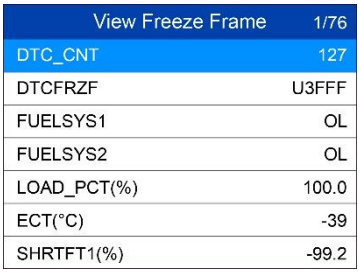
View Freeze Frame Data

Freeze Frame Data allows the technician to view the vehicle's operating parameters at the moment a DTC (Diagnostic Trouble Code) is detected. For example, the parameters may include engine speed (RPM), engine coolant temperature (ECT), or vehicle speed sensor (VSS) etc. This information will aid the technician by allowing the parameters to be duplicated for diagnostic and repair purposes.

1) To view freeze frame data, use the **UP/DOWN** scroll button to select **View Freeze Frame** from **Diagnostic Menu** and press the **OK** button.

2) Wait a few seconds while the scan tool validates the PID MAP.

3) If retrieved information covers more than one screen, use the **DOWN** scroll button, as necessary, until all the data have been shown up.



View Freeze Frame	1/76
DTC_CNT	127
DTCFRZF	U3FFF
FUELSYS1	OL
FUELSYS2	OL
LOAD_PCT(%)	100.0
ECT(°C)	-39
SHRTFT1(%)	-99.2

Figure 4-26 ***Sample View Freeze Frame Screen***

- If there is no freeze frame data available, an advisory message "**No freeze frame data stored!**" shows on the display.

4) If you want to view full name of a PID, use the **UP/DOWN** scroll button to select the PID, and press the HELP button.

5) Press **ESC** button to return to previous screen.

Retrieve I/M Readiness Status

I/M Readiness function is used to check the operations of the Emission System on OBD II compliant vehicles. It is an excellent function to use prior to having a vehicle inspected for compliance to a state emissions program.

NOTE

By clearing trouble codes you also clear the readiness status for the individual emission system readiness tests. In order to reset these monitors, the vehicle must be driven through a complete drive cycle with no trouble codes in memory. Times for reset vary depending on vehicle.

Some latest vehicle models may support two types of **I/M Readiness** tests:

A. **Since DTCs Cleared** – indicates status of the monitors since the DTCs are erased.

B. **This Drive Cycle** – indicates status of monitors since the beginning of the current drive cycle.

An I/M Readiness Status result of “NO” does not necessarily indicate that the vehicle being tested will fail the state I/M inspection. For some states, one or more such monitors may be allowed to be “Not Ready” to pass the emissions inspection.

There are two ways to retrieve I/M readiness status.

Retrieve I/M Readiness status with One-Click I/M Readiness Key

By simply pressing the **One-Click I/M Readiness Key,** you can retrieve the I/M readiness status. The screen will show as below. According to different readiness status, the color LEDs will illuminate and different audio tones will be heard.

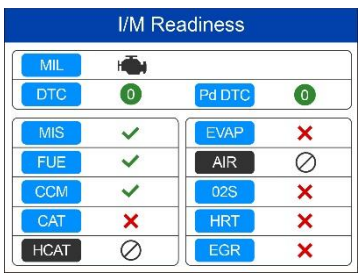


Figure 4-27 ***Sample I/M Readiness Screen***

The green, yellow and red LEDs provide a quick way to help you determine if a vehicle is ready for an Emission Test.

- **OK** – indicates that a particular monitor being checked has completed its diagnostic testing.
- **INC** – indicates that a particular monitor being checked has not completed its diagnostic testing.
- **N/A** – the monitor is not supported on the vehicle.

The LED and audio tone indications are interpreted as below:

LED Interpretation

- **GREEN LED** – indicates that engine systems are “OK” and operating normally (the number of Monitors supported by the vehicle which have

run and performed their self-diagnostic testing is in the allowed limit. MIL is off).There are no stored and pending DTCs. The vehicle is ready for an Emissions Test, and there is a good possibility that it can be certified.

- **YELLOW LED** – with MIL off, there may be three possible conditions to cause the yellow LED to light.
  - ✧ If a "Stored" Diagnostic Trouble Code is causing the Yellow LED to light, it is still possible that the vehicle will be allowed to be tested for emissions and certified.
  - ✧ If a "Pending" Diagnostic Trouble Code is causing the Yellow LED to light, it is still possible that the vehicle will be allowed to be tested for emissions and certified.
  - ✧ If the illumination of the Yellow LED is being caused by monitors that have not completed their diagnostic testing, then the issue of the vehicle being ready for an Emissions Test depends on the emissions regulations and laws of your local area.

NOTE

From the code retrieval procedure, determine the status of each Monitor. Take this information to an emissions professional to determine (based on your test results) if your vehicle is ready for an Emissions Test.

- **RED LED** – indicates there is a problem with one or more of the vehicle's system. A vehicle displaying a red LED is definitely not ready for an Emissions Test. The red LED is also an indication that there are DTCs present. The MIL lamp on the vehicle's instrument panel will light steady. The problem that is causing the red LED to light must be repaired before an Emissions Test can be performed. It is also suggested that the vehicle be inspected/repaired before driving the vehicle further.

  If the RED LED was obtained, there is a definite problem present in the system(s). In these cases, you have the following options:
  - ✧ Repair the vehicle yourself. If you are going to perform the repairs yourself, proceed by reading the vehicle service manual and following all its procedures and recommendations.
  - ✧ Take the vehicle to a professional to have it serviced. The problem(s) causing the red LED to light must be repaired before the vehicle is ready for an Emissions Test.

Audio Tone Interpretation

The audio tone is configured according to the I/M Readiness Status. This function is invaluable when performing diagnostics and driving at the same time, or working in bright areas where LED illumination alone is not sufficient.

Different audio tone with different LED light indicates different I/M Readiness Status.

Table 4-1

LED Light	Audio Tone	Beep Interval
Green	Two long beeps	5 seconds
Yellow	short, long, short beep	5 seconds
Red	Four short beeps	5 seconds

After you have read the information, press **ESC** to exit. The other buttons are disabled to prevent misoperation.

Retrieve I/M Readiness status in typical way

1) Use the **UP/DOWN** scroll button to select **I/M Readiness** from **Diagnostic Menu** and press **OK** button.
2) Wait a few seconds while the scan tool validates the PID MAP.
3) If the vehicle supports both types of tests, then both types will be shown on the screen for selection.

Figure 4-28 ***Sample I/M Readiness Selection Screen***

4) Use the **UP/DOWN** scroll button, as necessary, to view the status of the MIL light (**ON** or **OFF**) and the following monitors.

For spark ignition engines:

- **MIS –** Misfire Monitor
- **FUEL –** Fuel System Monitor
- **CCM –** Comprehensive Component Monitor
- **EGR –** EGR System Monitor
- **O2S –** O2 Sensors Monitor
- **CAT –** Catalyst Monitor
- **EVAP –** Evaporative System Monitor
- **HTR –** O2 Sensor Heater Monitor
- **AIR –** Secondary Air Monitor
- **HCAT –** Heated Catalyst Monitor

For compression ignition engines:

- **MIS –** Misfire Monitor
- **FUEL –** Fuel System Monitor
- **CCM –** Comprehensive Component Monitor
- **EGR –** EGR System Monitor
- **HCCAT –** NMHC Catalyst Monitor
- **NCAT –** NOx Aftertreatment Monitor
- **BP –** Boost Pressure System Monitor
- **EGS –** Exhaust Gas Sensor Monitor
- **PM –** PM Filter Monitor

Since DTCs Cleared	1/11
MIL	OFF
MIS	OK
FUEL	OK
CCM	OK
CAT	INC
HCAT	N/A
EVAP	INC

Figure 4-29 *Sample Since DTC Cleared Screen*

5) If the vehicle supports readiness test of "**This Drive Cycle**", a screen of the following displays.

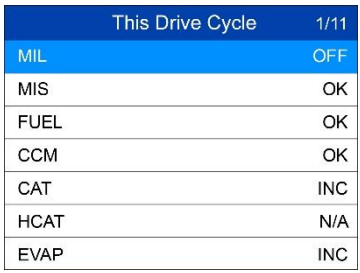


Figure 4-30 *Sample This Drive Cycle Screen*

6) The LEDs and audio tone corresponding to different monitor status will be activated as below.

Table 4-2

LED Light	Audio Tone	Beep Interval
Green	Two long beeps	2 minutes
Yellow	short, long, short beep	2 minutes
Red	Four short beeps	2 minutes

7) Use the **UP/DOWN** scroll button for more PIDs if additional information is available on more than one page. Or use the **LEFT/RIGHT** scroll button to view PIDs in the previous/next page.

8) Press the **ESC** button to return to Diagnostic Menu.

O2 Monitor Test

OBD II regulations set by SAE require that relevant vehicles monitor and tests on the oxygen (O2) sensors to identify problems related to fuel efficiency and vehicle emissions. These tests are not on-demand tests and they are done automatically when engine operating conditions are within specified limits. These test results are saved in the on-board computer's memory.

The O2 Monitor Test function allows retrieval and viewing of O2 sensor monitor test results for the most recently performed tests from the vehicle's on-board computer.

The O2 Monitor Test function is not supported by vehicles which communicate using a controller area network (CAN). For O2 Monitor Test results of CAN-equipped vehicles, see *On-Board Monitor Test* on page 46.

1) Use the **UP/DOWN** scroll button to select **O2 Monitor Test** from **Diagnostic Menu** and press **OK** button.
2) Wait a few seconds while the scan tool validates the PID MAP.
3) Use the **UP/DOWN** scroll button to select O2 sensor from **O2 Monitor Test** menu and press **OK** button.

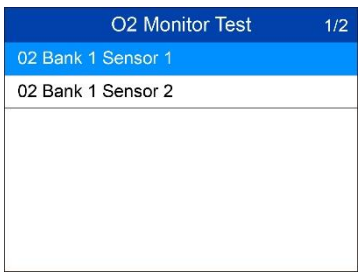


Figure 4-31 ***Sample O2 Monitor Test Screen 1***

- If the vehicle does not support the mode, an advisory message will be displayed on the screen.

4) View test results of selected O2 sensor.

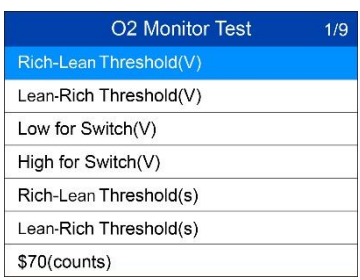


Figure 4-32 ***Sample O2 Monitor Test Screen 2***

5) Use the **UP/DOWN** scroll button to view more screens of data if additional information is available in more than one page.
6) Press the **ESC** button to return to the previous menu.

On-Board Monitor Test

The On-Board Monitor Test is useful after servicing or after erasing a vehicle's control module memory. The On-Board Monitor Test for non-CAN-equipped vehicles retrieves and displays test results for emission-related power train components and systems that are not continuously monitored. The On-Board Monitor Test for CAN-equipped vehicles retrieves and displays test results for emission-related power train components and systems that are and are not continuously monitored.

The scan tool allows access to the results of on-board diagnostic monitoring tests for specific components/systems. The vehicle manufacturer is responsible for assigning "Manufacturer Defined Test IDs" and Component IDs for tests of different systems and components. The advanced feature of this scan tool enables you to read the definition of an On-Board Diagnostic Monitor ID.

NOTE

The scan tool will display a Test definition only if this test definition is present in the vehicle's computer memory. If no such definition is present, the scan tool will just display the Test IDs.

In this test, there are typically a minimum value, a maximum value, and a current value for each monitor. By comparing the current value with the minimum and maximum value, the scan tool will determine if it is OK.

1) Use the **UP/DOWN** scroll button to select **On-Board Mon. Test** from **Diagnostic Menu** and press the **OK** button.
2) Wait a few seconds while the scan tool validates the PID MAP.
3) The scan tool will prompt you to select the vehicle make.
4) After you select the vehicle manufacturer, the scan tool shows the On-Board Monitors test results for specific monitored systems.

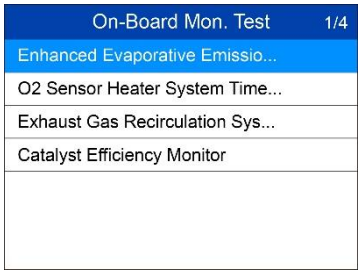


Figure 4-33 *Sample On-board Mon. Test Screen 1*

5) From **On-Board Mon. Test** menu, use the **UP/DOWN** scroll button to select a test to view and press the **OK** button. Or, use the **LEFT/RIGHT** scroll button to view previous/next screen of test items.

- If the vehicle under test does not support the mode, an advisory message will be displayed on the screen.
- For CAN-equipped vehicles, test selections can be as below:

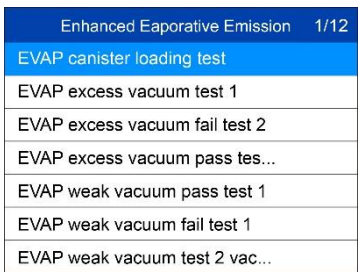


Figure 4-34 *Sample On-board Mon. Test Screen 2*

6) Use the **UP/DOWN** scroll button to select the desired monitor from On-Board Mon. Test menu and press the **OK** button.

7) View test data on screen.

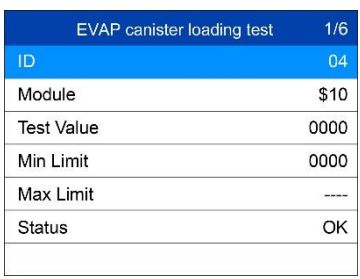


Figure 4-35 *Sample On-board Mon. Test Screen 3*

NOTE

If the On-Board Monitor Test failed, this monitor item will be red color. Just by the text color you may easily find out which system is at fault.

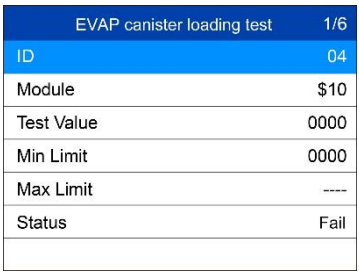


Figure 4-36 *Sample On-board Mon. Test Screen 4*

8) Press **ESC** button to return to the previous menus.

Component Test

The Component Test function allows initiating a leak test for the vehicle's EVAP system. The scan tool itself does not perform the leak test, but commands the vehicle's on-board computer to start the test. Different vehicle manufacturers might have different criteria and methods for stopping the test once it has been started. Before starting the Component Test, refer to the vehicle service manual for instructions to stop the test.

1) Use the **UP**/**DOWN** scroll button to select **Component Test** from **Diagnostic Menu** and press the **OK** button.
2) Wait for the scan tool to display the **Component Test** menu.

Figure 4-37 *Sample Component Test Screen 1*

3) If the test has been initiated by the vehicle, a confirmation message will be displayed on the screen.

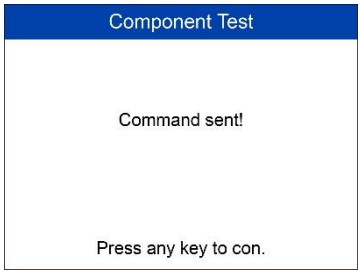


Figure 4-38 *Sample Component Test Screen 2*

- Some vehicles do not allow scan tools to control vehicle systems or components. If the vehicle under test does not support the EVAP Leak Test, an advisory message is displayed on the screen.

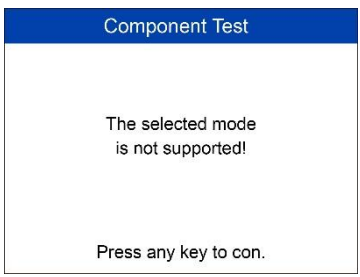


Figure 4-39 *Sample Component Test Screen 3*

4) Wait a few seconds or press any key to return to previous screen.

View Vehicle Information

The Vehicle Info. function enables retrieval of Vehicle Identification No. (VIN), Calibration ID Nos. (CINs), Calibration Verification Nos. (CVNs) and In-use Performance Tracking on 2000 and newer vehicles that support Mode 9.

1) Use **UP/DOWN** scroll button to select **Vehicle Info.** from the **Diagnostic Menu** and press **OK** button.
2) An advisory message comes up to remind you. Wait a few seconds or press any key to continue.

Figure 4-40 *Sample Vehicle Info. Screen 1*

3) Wait a few seconds while the scan tool reads vehicle information.
   - If the vehicle does not support this mode, a message shows on the display warning that the mode is not supported.

4) From **Vehicle Info.** Menu, use the **UP/DOWN** scroll button to select an available item to view and press the **OK** button.

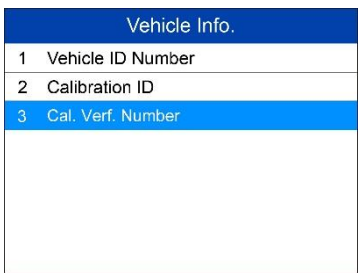


Figure 4-41 *Sample Vehicle Info. Screen 2*

1) View retrieved vehicle information on screen.

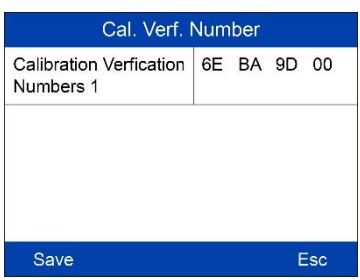


Figure 4-42 *Sample Vehicle Info. Screen 3*

2) Press the **ESC** button to return to previous menu.

Modules Present

The Modules Present function allows viewing of the module IDs and communication protocols for OBD2 modules in the vehicle.

1) Use the **UP/DOWN** scroll button to select **Modules Present** from **Diagnostic Menu** and press **OK** button.
2) View modules present with their IDs and communication protocols.

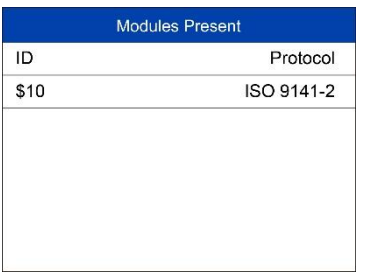


Figure 4-43 *Sample Modules Present Screen*

3) Press the **ESC** button to return to previous menu.

Code Breaker

Code breaker function is used to provide descriptions of DTCs and helpful tips to deal with DTCs. It is useful for technicians to find the root cause of trouble code faster, saving diagnosis and repair time.

1) Repeat steps in the **Read Codes** section to identify DTCs.

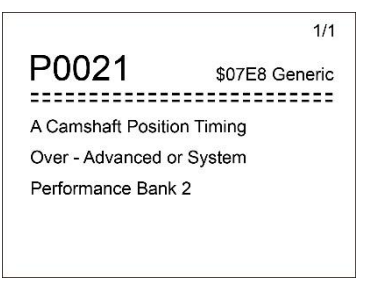


Figure 4-44 *Sample Code Breaker Screen 1*

2) Press the "**?**" button to display **Code Breaker** menu.

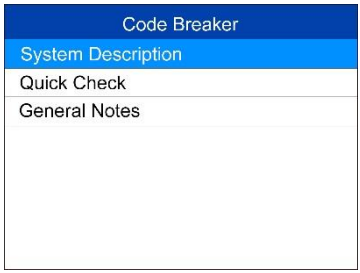


Figure 4-45 ***Sample Code Breaker Screen***

3) Click on **System Description** and **Quick Check** to read the code information, symptoms, specifications, data/sensor information, etc.
4) Click on **General Notes** to view helpful repair information of DTCs.
5) To return to previous screen, press **ESC** button.

5 Ready Test

This function can be used as a convenient readiness test tool by automotive technicians to determine if the tested vehicle is ready for an emission test. By visual and audible indication, you will learn a vehicle's monitors readiness.

General Information

Repairs to the emissions-control systems of a 1996 or newer vehicle cause the vehicle's computer (ECU) memory to be cleared. The vehicle must go through a drive cycle to allow the ECU to perform a series of tests to ensure that the repair was successful, and before a state mandated emissions test can be conducted. But how will you know when it is ready?

With this scan tool, you don't have to drive around endlessly and continuously coming back to the repair shop for retest if all required tests by the ECU are completed. And you could also do a quick check of the vehicle to determine if it is ready to receive an emission test without the hassle of connecting your vehicle to the analyzer or having to use a complicated scan tool.

In the following cases, this function is especially useful.

- You bought a used car and the check engine light had been cleared to mask potential problems.
- You disconnected the battery for tune-ups and other engine repairs, dead battery replacement, car radio installation and car alarm installation.
- You used a scan tool to clear the DTCs.
- Your car has been sent to repair.

Ready Test Application

The purpose of this function is to indicate which of the vehicle's monitors have run and completed their diagnosis and testing, and which ones have not yet run and completed testing and diagnosis of their designated sections of the vehicle's emission system. All data shows on one screen, which provides a simple profile of vehicle at a glance, saving diagnosis time and improving technician productivity.

- Use the **UP/DOWN** scroll button and **LEFT/RIGHT** scroll button to select **Ready Test** from **Main Screen**, and press the **OK** button.

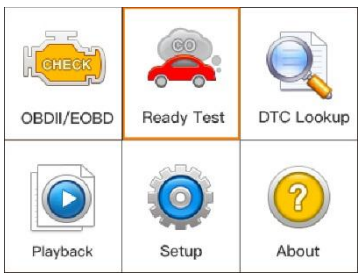


Figure 5-1 ***Sample Ready Test Screen***

As post-repair diagnostic tool

This function can be used (after the vehicle has done any emission-related repairs) to confirm that the repair has been performed successfully.

After repairs, some drive cycles are required to reset the monitoring systems. Drive cycles vary among vehicles and for each monitor in any particular vehicle.

Use the following procedure to check if the repair has been done correctly:

1) Connect the scan tool to the vehicle's DLC and erase the DTC(s) from the vehicle's computer memory.
2) After the erase procedure is performed, status of most monitors will be changed. Leave the scan tool connected to the vehicle, and select **Ready Test** from **Main Screen.**
3) Keep on driving the car till the scan tool notifies you safely with color LEDs and audible tone that the drive cycle has been completed and the

vehicle is ready, eliminating drive cycle guesswork and confirming readiness status.

4) If the GREEN LED lights and two long beeps are heard, your vehicle is ready and the repair work is confirmed.

5) If the RED LED lights, your vehicle is not ready and the repair work is unsuccessful.

As pre-check diagnostic tool

Prior to having a vehicle inspected for compliance to a state emissions test, you could use this function to check the readiness status first by yourself.

1) While the scan tool is connected to the vehicle, select **Ready Test** from **Main Screen**. Drive the car till the scan tool notifies you safely with color LEDs and audible tone if your vehicle is ready to conduct state emission test.

2) If the GREEN LED lights and two long beeps are heard, your vehicle is ready and there is a good possibility that it can be certified.

3) If the RED LED lights, your vehicle is not ready and must be repaired before an emissions test can be performed.

NOTE

1. If you are driving the vehicle to perform a drive cycle ALONE, please set the Status Beep On (see 3.8 System Setup). By listening to the beep, you will learn when the monitors have run and completed the diagnostic testing. NEVER try to drive and operate the scan tool at the same time!
2. This function reads off the real time data of emission-related monitoring systems readiness status. Once the scan tool has finished other operations, for example, clearing trouble codes, the I/M Readiness Monitor Status program resets status of all the monitors to “INC” condition. In order to set these monitors to a Ready status, the vehicle must be driven through a complete drive cycle. Times for reset vary depending on vehicle. Please refer to your vehicle’s service manual for drive cycle information.
3. In this function, only ESC button is available. The other buttons are disabled to prevent misoperation.

LED and Tone Interpretation

Select **Ready Test** from the **Main Screen** and the screen shows as below, including applicable monitors status, MIL state, Ignition type, DTCs (stored one and pending one).

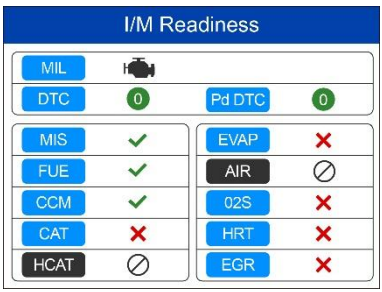


Figure 5-2 ***Sample I/M Readiness Screen***

If the scan tool is idle, it will show the result immediately. If it is busy, it will wait till the current procedure finished. After viewing the status, press **ESC** button to exit.

✔ **OK** – indicates that a particular monitor being checked has completed its diagnostic testing.

✘ **INC** – indicates that a particular monitor being checked has not completed its diagnostic testing.

⊘ **N/A** – the monitor is not supported on the vehicle.

The LED and audio tone indications are interpreted as below:

LED Interpretation

The green and red LEDs provide an easy way to check if emission-related monitoring systems complete their self-diagnostic testing.

1) **GREEN LED** – your vehicle is **Ready**. Indicates that engine systems are “OK” and operating normally (the number of Monitors supported by the vehicle which have run and performed their self-diagnostic testing is in the allowed limit).

2) **RED LED** – your vehicle is **Not Ready**. Indicates that the number of Monitors supported by the vehicle which have run and performed their self-diagnostic testing is out of the allowed limit.

Audio Tone Interpretation

The audio tone could be configured according to the I/M Readiness Status. This function is invaluable when performing diagnostics and driving at the same time, or working in bright areas where LED illumination alone is not sufficient.

Table 5-1

LED Light	Audio Tone	Beep Interval
Green	Two long beeps	2 minutes
Red	No beep	

6 Compliance Information

FCC COMPLIANCE

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme aux CNR exempts de licence d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interferences; et
2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

⚠ WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off

and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.

– Increase the separation between the equipment and receiver.

– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

– Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF WARNING STATEMENT

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

The term "IC" before the radio certification number only signifies that IC technical specifications were met.

RoHS COMPLIANCE

This device is declared to be in compliance with the European RoHS Directive 2011/65/EU.

CE COMPLIANCE

This product is declared to conform to the essential requirements of the following Directives and carries the CE mark accordingly:

EMC Directive 2014/30/EU
R&TTE Directive 1999/5/EC
Low Voltage Directive 2014/35/EU

7 Warranty and Service

Limited One Year Warranty

Autel Intelligent Technology Corp., Ltd. (the Company) warrants to the original retail purchaser of this Autel device that should this product or any part thereof during normal usage and under normal conditions be proven defective in material or workmanship that results in product failure within 1 year period from the date of purchase, such defect(s) will be repaired, or replaced (with new or rebuilt parts) with Proof of Purchase, at the Company's option, without charge for parts or labor directly related to the defect(s).

The Company shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the device. Some states do not allow limitation on how long an implied warranty lasts, so the above limitations may not apply to you.

This warranty does not apply to:

1) Products subjected to abnormal use or conditions, accident, mishandling, neglect, unauthorized alteration, misuse, improper installation or repair or improper storage;
2) Products whose mechanical serial number or electronic serial number has been removed, altered or defaced;
3) Damage from exposure to excessive temperatures or extreme environmental conditions;
4) Damage resulting from connection to, or use of any accessory or other product not approved or authorized by the Company;
5) Defects in appearance, cosmetic, decorative or structural items such as framing and non-operative parts.
6) Products damaged from external causes such as fire, dirt, sand, battery leakage, blown fuse, theft or improper usage of any electrical source.

IMPORTANT

All contents of the product may be deleted during the process of repair. You should create a back-up copy of any contents of your product before delivering the product for warranty service.

Service and Support

If you have any questions regarding the product, please contact one of our offices in your region.

AUTEL NORTH AMERICA

- **Phone:** 855-AUTEL-US (855-288-3587) Monday-Friday 9am-6pm EST
- **Website:** www.autel.com
- **Email:** ussupport@autel.com
- **Address:** 175 Central Avenue, Suite 200, Farmingdale, New York, USA. 11735

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- **Phone:** 0049 (0) 61032000522
- **Website:** www.autel.eu
- **Email:** sales.eu@autel.com, support.eu@autel.com
- **Address:** Robert-Bosch-Strasse 25, 63225, Langen, Germany

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- **Phone:** (+507) 308-7566
- **Website:** www.autel.com/es
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- **Email:** sales@autel.com.au
- **Address:** 155 Islington Street, Melbourne, Collingwood, VIC

For technical assistance in other markets, please contact your local selling agent.