



ABRITES DIAGNOSTICS FOR DAIHATSU

User manual
version 1.1



Important notes

The Abrites software and hardware products are developed, designed and manufactured by Abrites Ltd. During the production process we comply to all safety and quality regulations and standards, aiming at highest production quality. The Abrites hardware and software products are designed to build a coherent ecosystem, which effectively solves a wide range of vehicle-related tasks, such as:

- Diagnostic scanning;
- Key programming;
- Module replacement,
- ECU programming;
- Configuration and coding.

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Safety information

The Abrites products are to be used by trained and experienced users in diagnostics and reprogramming of vehicles and equipment. The user is assumed to have a good understanding of vehicle electronic systems, as well as potential hazards while working around vehicles. There are numerous safety situations that cannot be foreseen, thus we recommend that the user read and follow all safety messages in the available manual, on all equipment they use, including vehicle manuals, as well as internal shop documents and operating procedures.

Some important points:

Block all wheels of the vehicle when testing. Be cautious when working around electricity.

- Do not ignore the risk of shock from vehicle and building-level voltages.
- Do not smoke, or allow sparks/flame near any part of the vehicle fuel system or batteries.
- Always work in an adequately ventilated area, vehicle exhaust fumes should be directed towards the exit of the shop.
- Do not use this product where fuel, fuel vapours, or other combustibles could ignite.

In case any technical difficulties occur, please contact the

Abrates Support Team by email at support@abrites.com.

List of revisions

Date	Chapter	Description	Revision
24.06.2014		Initial version of the document.	1.0
01.10.2015	ALL	Revised, updated, renewed	1.1

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1. Introduction

Congratulations on choosing our wonderful product!

“Abrites Diagnostics for Daihatsu” is a Windows PC based diagnostic software for Daihatsu vehicles. With the help of this software you can perform complete diagnostic operations of all vehicles.

For proper operation of your diagnostic software you will need a corresponding interface for connection between your PC and vehicle named “AVDI”.

AVDI is an interface produced by Abrites Ltd. intended to act as an interface between the PC and the electronic control units.

AVDI should be used with ABRITES software produced by Abrites Ltd.

ABRITES is a trade mark of Abrites Ltd.

1.1 Scope of the manual

This document describes the usage of Abrites Diagnostics for Daihatsu.

The document is applicable for the software versions 1.0 or newer.

In this manual we suppose that software for your AVDI interface is already installed.

Please refer “AVDI Common User’s Manual” in case it is not.

2. System requirements

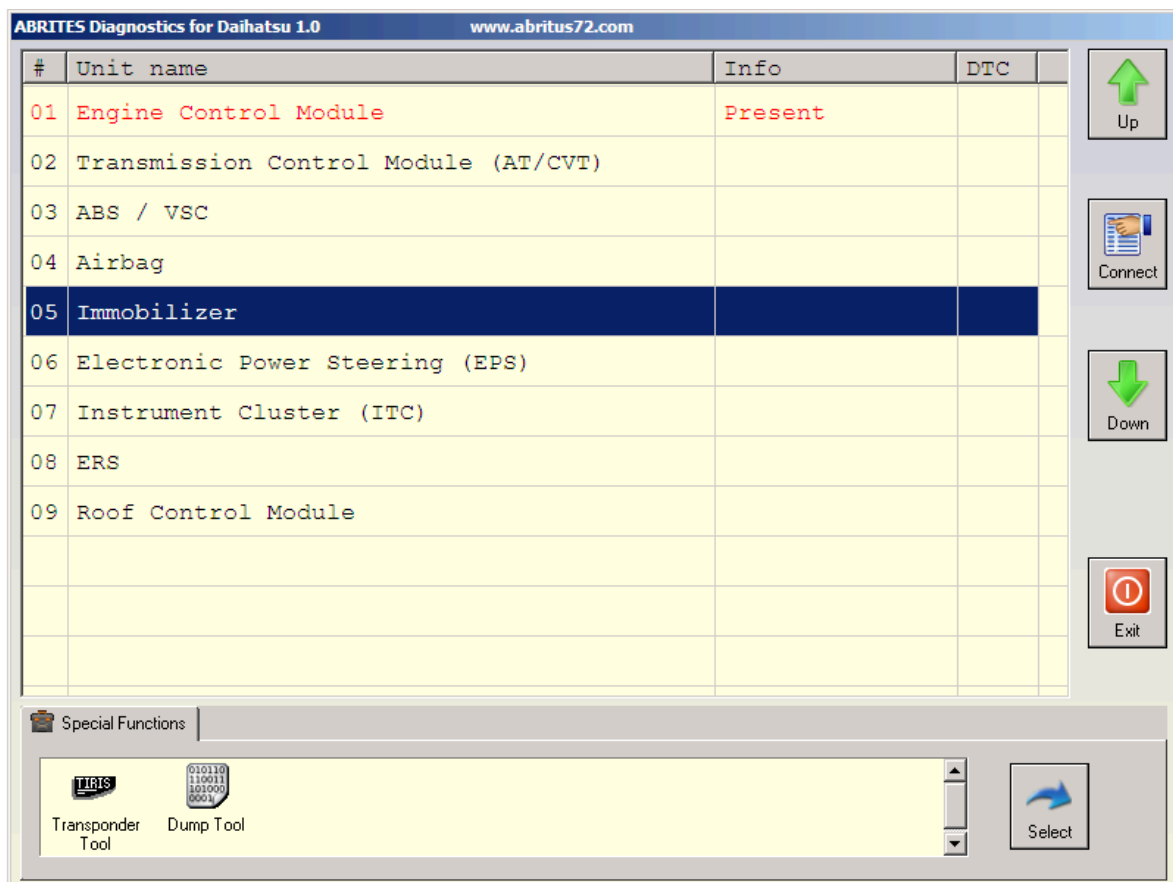
- Operation system Windows XP, Windows 2000, Windows Vista, Windows 7
- At least Pentium 4 with 512 MB RAM.

Note: Windows RT is not supported!

3. Getting Started

You can start Abrites Diagnostics for Daihatsu by starting the Abrites Quick Start application and selecting Daihatsu.




When the diagnostic application is started the main screen of the application will appear – picture 1.



The screen is divided in two parts – the upper part where all electronic control units assembled in Daihatsu vehicles are listed and the lower part of the screen where the additional special functionalities available in your diagnostic software are listed.

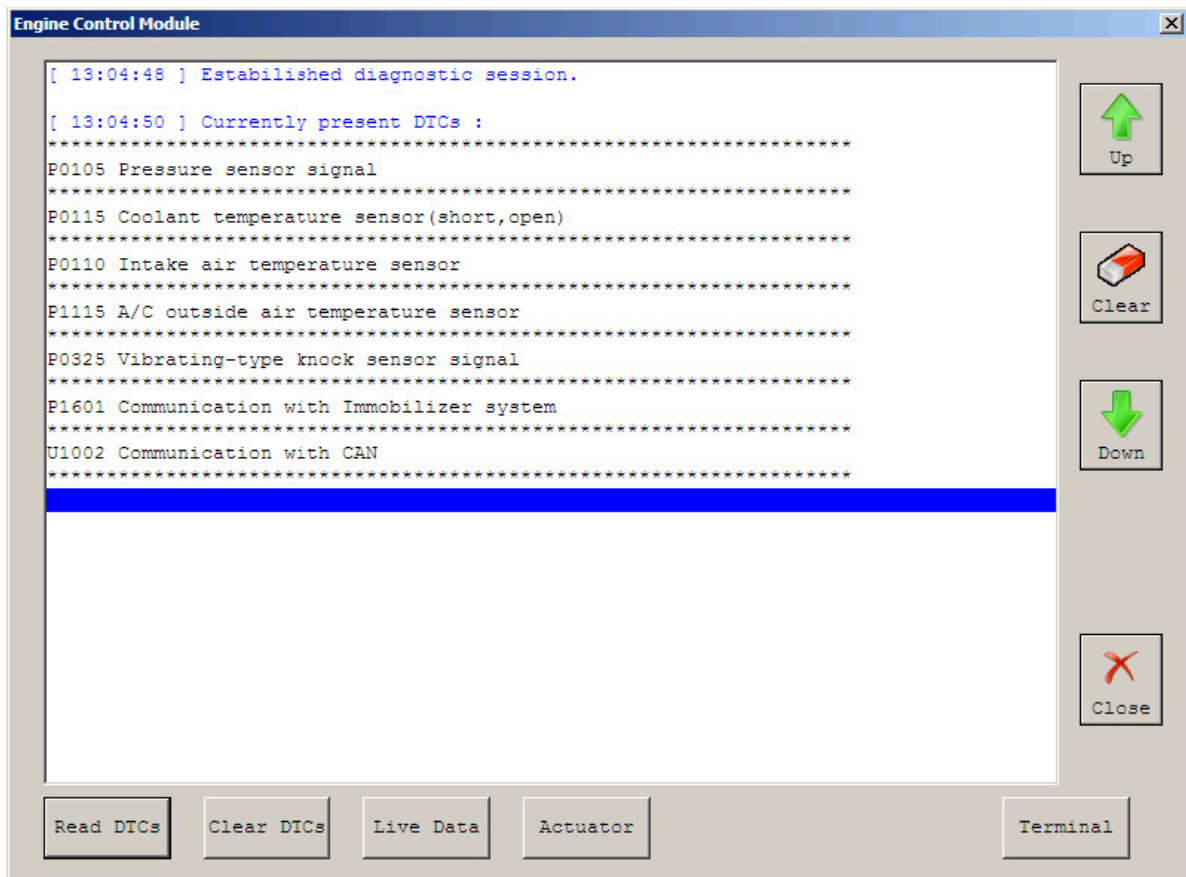
By double-clicking on the desired electronic control unit the user can establish a diagnostic session with the corresponding control unit.

Once a unit is selected by the list the user can move the selection up and down in the list by using

the buttons  Up and  Down. The button  Connect will establish a diagnostic session with the currently selected electronic control unit.

4. Basic Diagnostic

As described you can establish a diagnostic session with most electronic control units in the vehicle. When the diagnostic session is established the basic diagnostic screen will appear (picture 2)



If for some reason the diagnostic session can not be established you will be notified.

In the basic diagnostic screen you have a choice to read registered DTCs, clear them, display live data or to perform other actions from the "Special" button.

To read all DTCs press the button "Read DTCs" - all DTCs with their status - current, history or pending will be displayed.

Each DTCs is described with its number (Uxxxx, Bxxxx or Cxxxx) and with a detailed description. To clear stored DTCs in the electronic control unit press button "Clear DTCs".

Live data or so named measured values is data sampled by the electronic control units giving us a detailed view of the current status of the corresponding unit.

Simply press the "Live Data" button and everything available from the current unit will be displayed
– Picture 3.

Live data	
Data	Value
Output volt of FR O2 SSR	0.030 V
Short term of FR O2 SSR	0 %
Output volt of RR O2 SSR	0.005 V
Short term of RR O2 SSR	52 %
Distance when MIL is ON	0 km
Total fuel trim bank 1	1.000
Evaporative purge output	0 %
Barometric pressure	94 kPa
Battery voltage	13.0 V
Relative throttle position	0 %
Knock corr. advance angle	0 CA
Purge corr. coefficient	0 %
Idle switch position	OFF
Air conditioner signal	OFF
Electric load	ON
Stop lamp signal	OFF
Power steering signal	OFF
Manifold absolute pressure2	0.11 MPa
Injection volume	0.000 ml
Injection time	29.06 ms

5. Special Functions

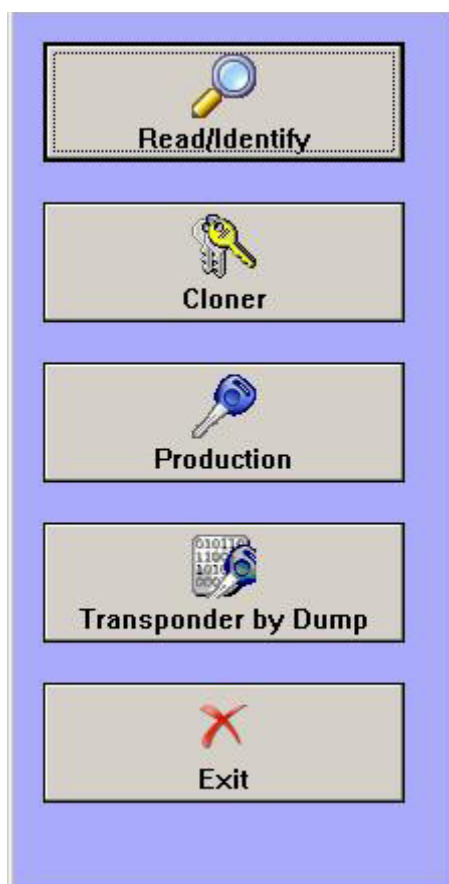
The ABRITES Diagnostics for Daihatsu has some unique diagnostic abilities, which are not supported by other diagnostic tools. These functions are accessible from the **Special Functions** tab on the main screen. Please, note that depending on the version you have purchased some of these functions may not be available in your configuration. In this case a message will inform you that you need to acquire an additional license.

5.1 Special function “Transponder Tool”

Before usage of special function “Transponder Tool” please be sure that your transponder programmer is connected to the AVDI interface.



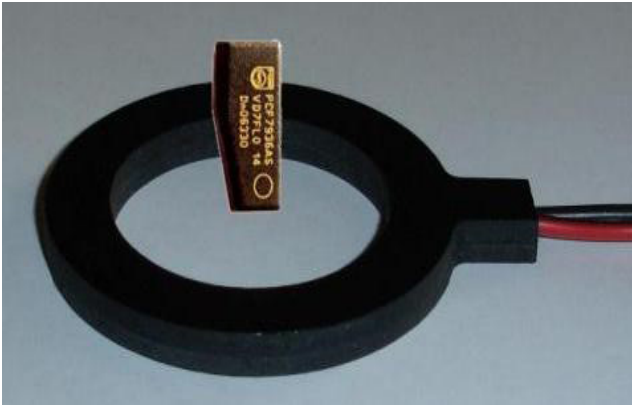
When your transponder programmer is detected a list of sub functions will appear – Identification of a key or transponder, Cloning of a key/transponder, Preparation (production) of transponders ready for usage with Daihatsu vehicles, Programming transponder by the dump of immobilizer/smart system.



Before usage of your programmer please take into account:

- while operating the antenna of the transponder the programmer should be kept away from metal surfaces
- key or transponder should be placed near the antenna to allow proper reading and programming.

Find bellow example of some key and transponder positions:



Transponder position should be at 1 cm. from antenna surface.



Regular key example.



Smart key example.

5.1.1 Identification of a key or transponder

If you have a key or transponder simply place it near the antenna of the programmer and press the “Read/Identify” button. A message about type of your transponder and content programmed will be displayed. If your transponder is some of the known transponder types information about this type (e.g. Texas Crypto 4D) will be displayed .

Abrates Diagnostics for Toyota/Lexus/Scion will try to recognize ONLY transponders/keys used in Daihatsu vehicles. These types are as follows:

- Fixed transponder Texas 4C. This type of transponder consist of only identification number and do not contain any authentication logic.
- Crypto transponder Texas 4D. This type of transponder consist of a set of data fields programmable by the user than can be used from immobilizer system to decide whether the key has been programmed in the vehicle. In addition this transponder provides the ability for programming of 40 bits secret keys which can be used by immobilizers to identify the transponder by a special authentication algorithm.

5.1.2 Cloning of a key or transponder

With the help of this option you can prepare a fully functional cloning of an existing vehicle’s keys.

Supported keys/transponders for cloning are:

- Texas 4C fixed. In the cloned key you should use transponder type TPX1 produced by JMA Company or compatible.
- Texas 4D transponders. You should use an empty (brand new) transponder named TPX2 produced by JMA Company or compatible.

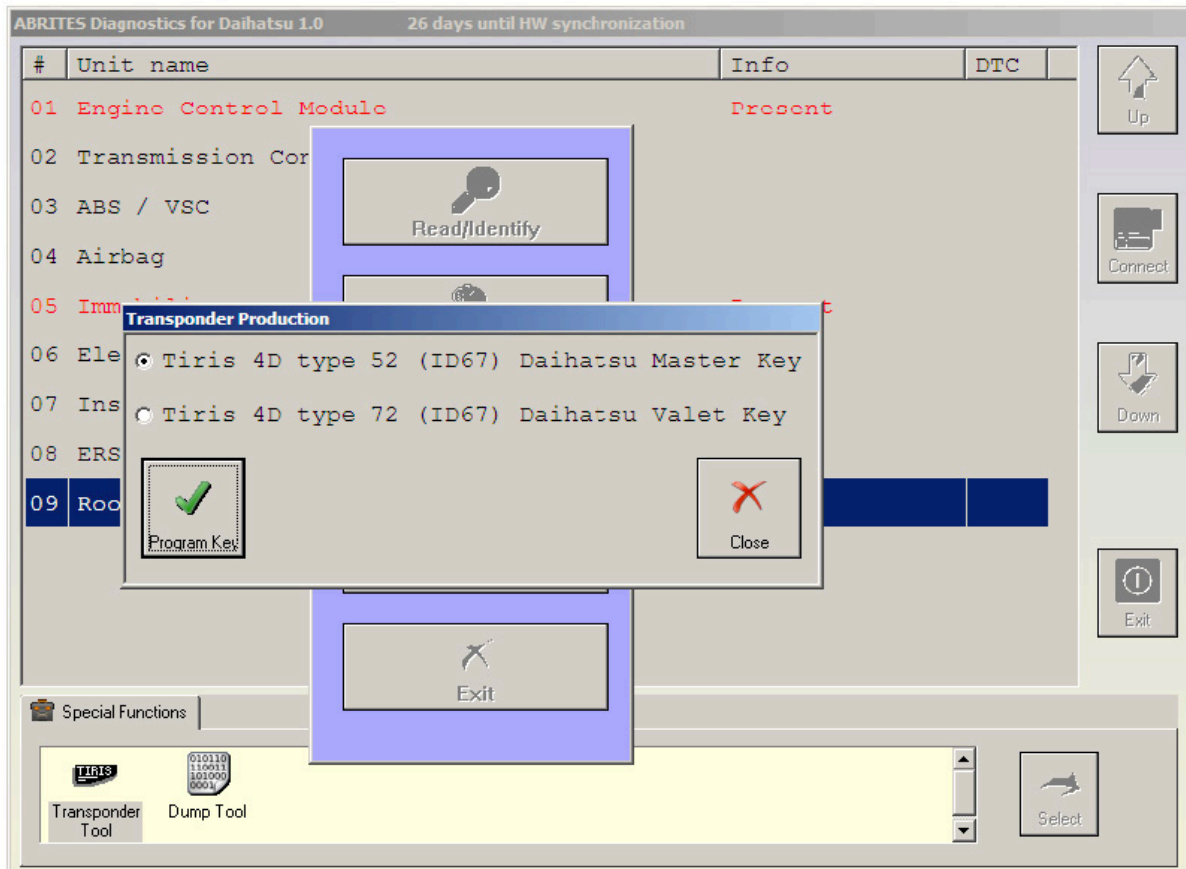
5.1.3 Preparation of transponders/keys ready for usage with the vehicle

Usually when you need to add an additional key to the vehicle or all keys are lost you need to use some kind of key or transponder.

Transponder inside of the key should be with a special content in order for future programming by diagnostics to be possible.

“Production” utility provides the ability to program an empty (brand new) transponder as at transponder ready for acceptance by the immobilizer system of the vehicle.

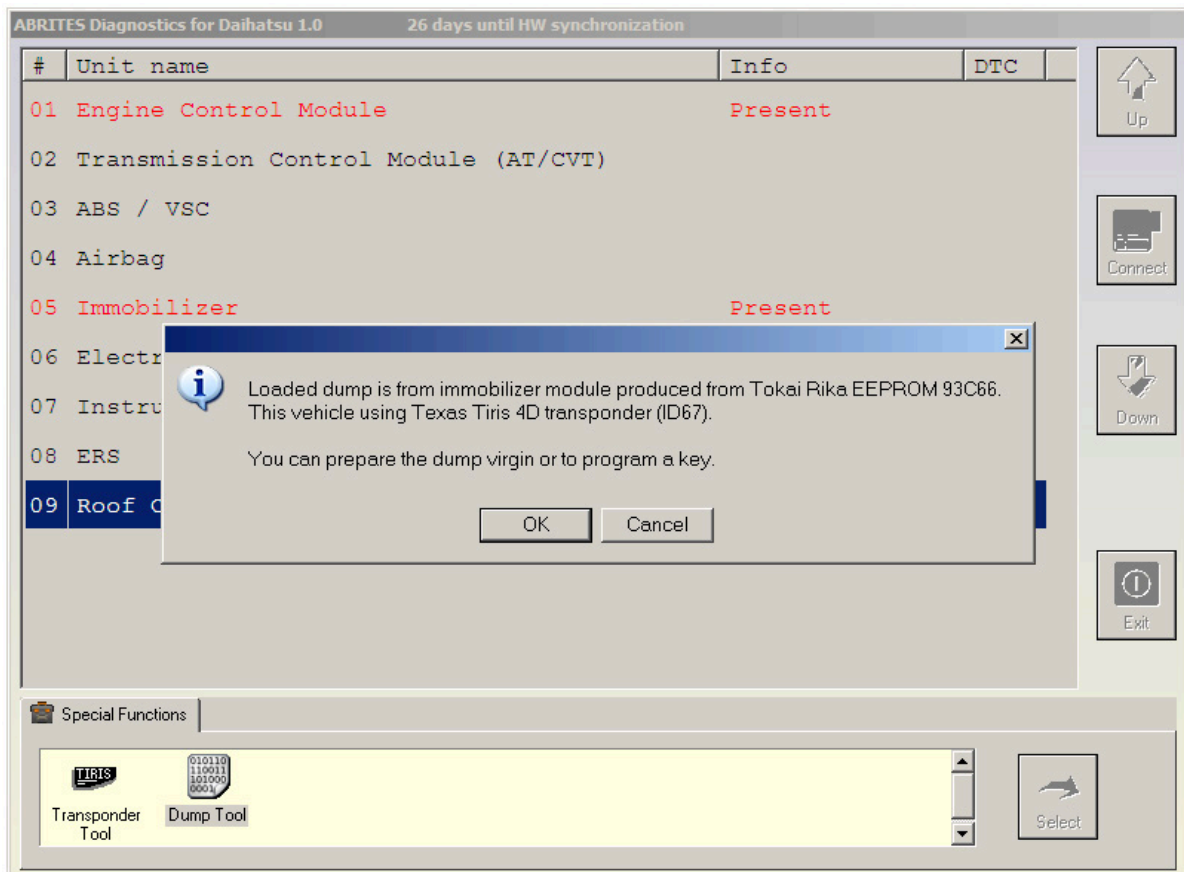
Transponders applicable for this utility are virgin Texas 4D transponders or TPX2 transponders.



5.1.4 Preparation of a key by dump of immobilizer

This utility will provide the ability to prepare a key when you have the dump of the immobilizer system.

All that is needed from you is to read by some IC programmer the eeprom of your immobilizer/smart module, to load it in the application, it will automatically identify the type of your vehicle and the needed transponder or key for programming. When the key is programmed with the same IC programmer you can program the new dump (modified by application) in the immobilizer/smart module back.



5.2 Special function “Dump Tool”

This special function will help you when the dump of some electronic control unit is present to reset it in virgin state, to adjust mileage or to clear crash data records from airbag control modules.

Once the dump is modified it should be saved and programmed back in the corresponding control unit.