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Abrites Diagnostics for Fiat/Alfa/Lancia/FCA User Manual

Version: 1.1

www.ABRITES.com

List of revisions			
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1. Introduction

“Abrites Diagnostics for Fiat/Alfa/Lancia/FCA” is a Windows PC based diagnostic software for Fiat/Alfa/Lancia/FCA 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.

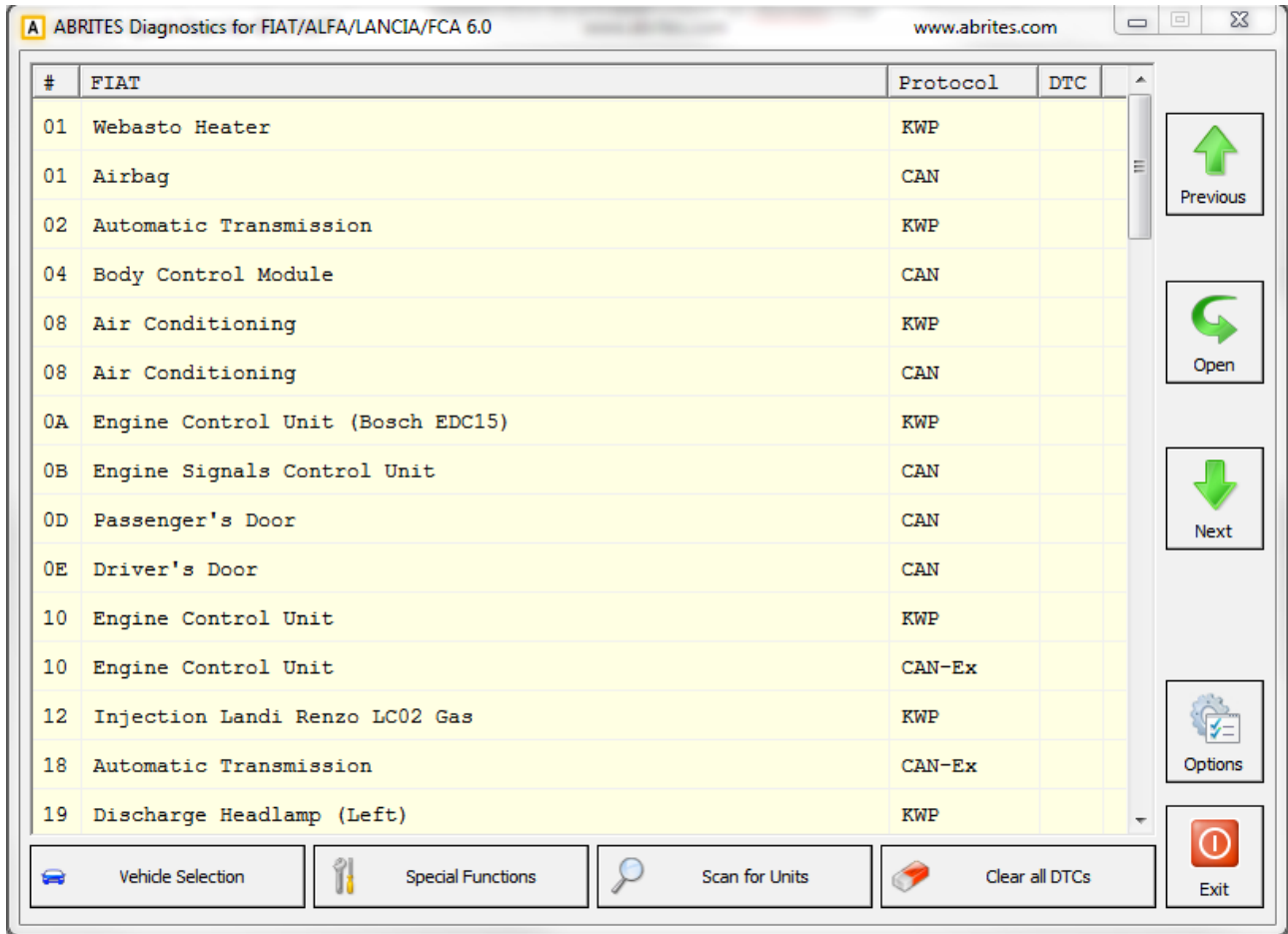
ABRITES is a trade mark of Abrites Ltd.

ABRITES Diagnostics for Fiat/Lancia/Alfa/FCA is an advanced diagnostic software application designed to work together with the Abrites Vehicle Diagnostic Interface to perform basic and advanced diagnostics in Fiat, Lancia and Alfa vehicles. It provides full module identification for the Fiat Chrysler Automobiles vehicles as well, it allows diagnostic trouble code reading and clearing, also the ability to perform actuator tests in order to determine the cause of an electrical or mechanical fault. The diagnostic functions provided allow it to be on par with OEM diagnostic equipment while applying the intuitive and simplistic approach typical for the Abrites diagnostic software. Abrites diagnostics software allows the user to work with almost 100% of the vehicles by Fiat, Alfa Romeo, Lancia and models from the FCA Group (Fiat, Alfa, Chrysler, Dodge and Jeep including models built after 2013).

2. Using the Abrites diagnostic for Fiat/Alfa/Lancia/FCA

The Abrites diagnostics for Fiat/Alfa/Lancia/FCA is installed together with the rest of the Abrites diagnostic software applications as a part of the Abrites diagnostic suite provided to the user via e-mail. The user can start the software by clicking on the appropriate icon from the Abrites “Quick start” menu.

Once the Fiat/Alfa/Lancia/FCA icon is selected the software will start and the user will see the following screen:



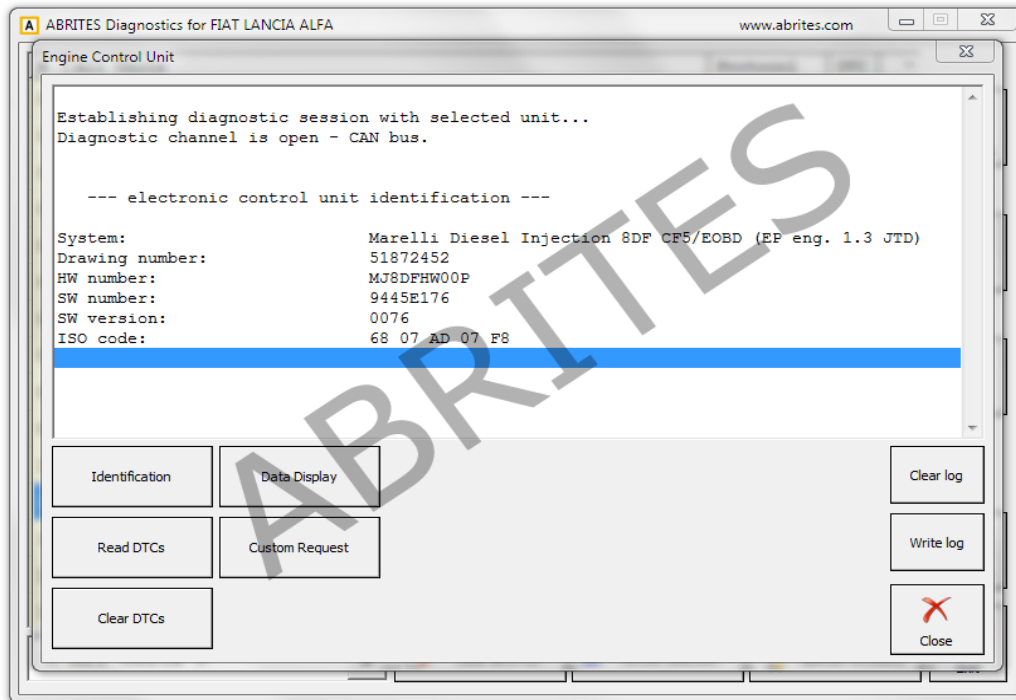
This is the main screen of the software and it shows all the navigation buttons as well as the ones for vehicle selection, scanning and general diagnostic trouble code (DTC) clearing.

3. Standard diagnostic functions

The features of the standard diagnostic functions of the Abrites diagnostics for Fiat/Alfa/Lancia/FCA include, but are not limited to Reading and clearing of DTCs, Module identifications, Data display, ECU identification, ECU configuration, sensor monitoring, BUS inputs, LIN data, BUS outputs, Line graphs, Actuator tests and others.

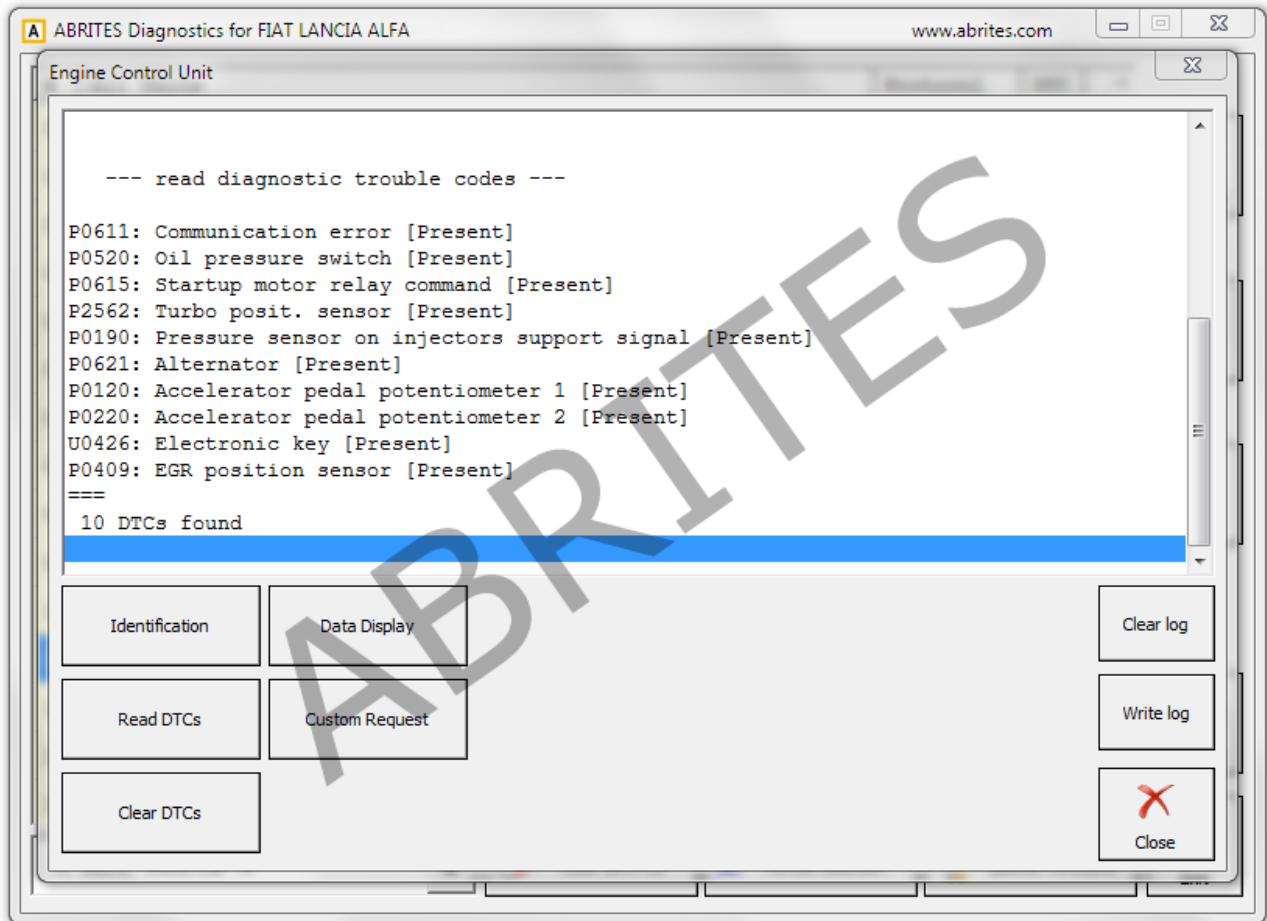
3.1 Module identifications

The module identifications function can be used to determine all the details about an electronic module – the manufacturer, hardware number, software number, software version, ISO codes and others



3.2 Reading and clearing of diagnostic trouble codes (DTC)

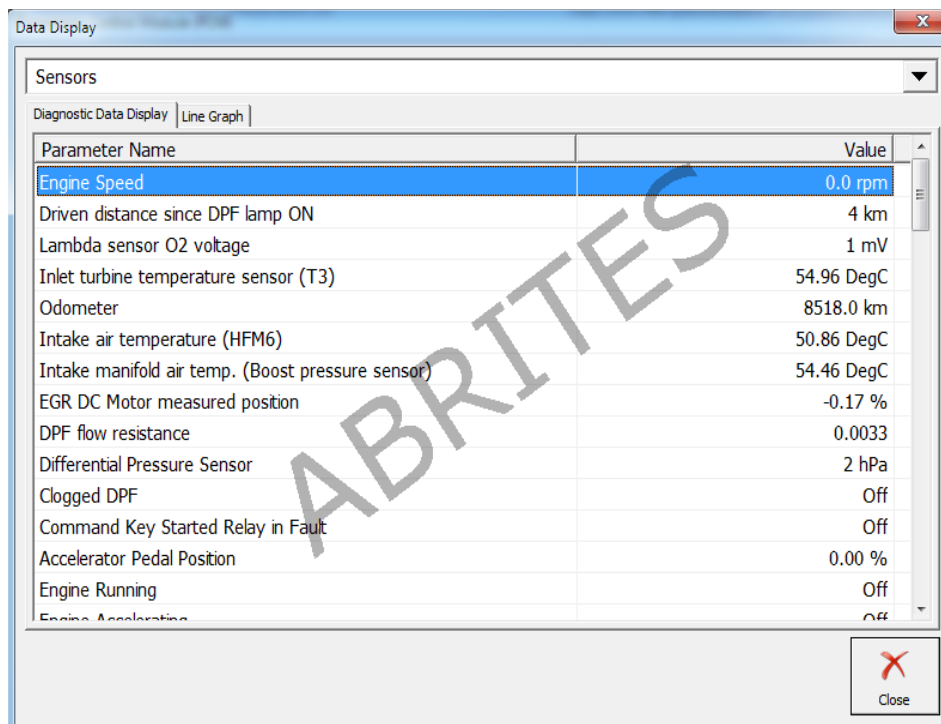
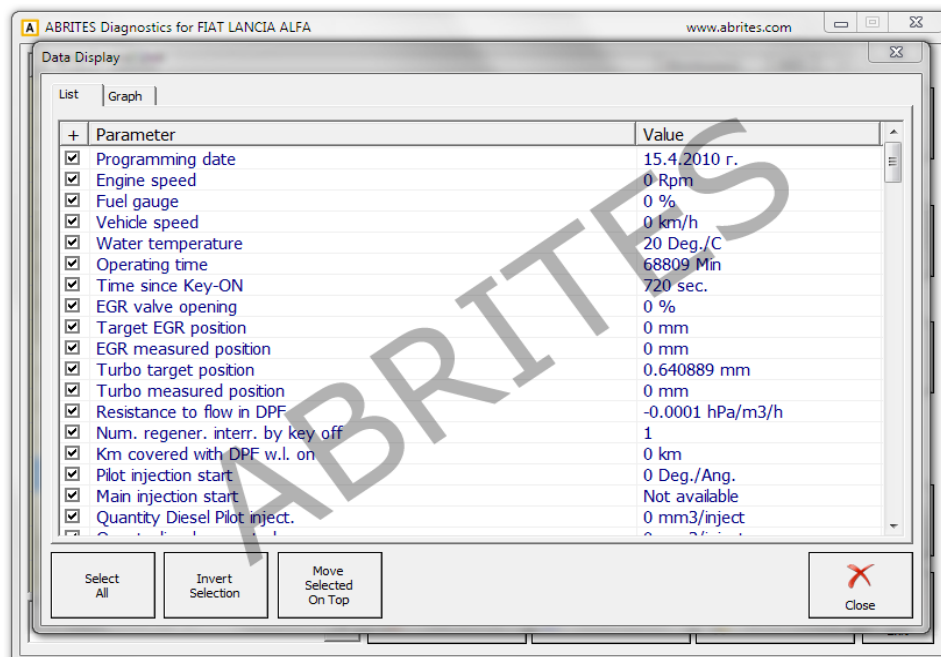
This function allows the user to read the diagnostic trouble code, analyse it, find the cause of the issue, repair the damage and clear the DTC



This is displayed in full details throughout the range of supported vehicles.

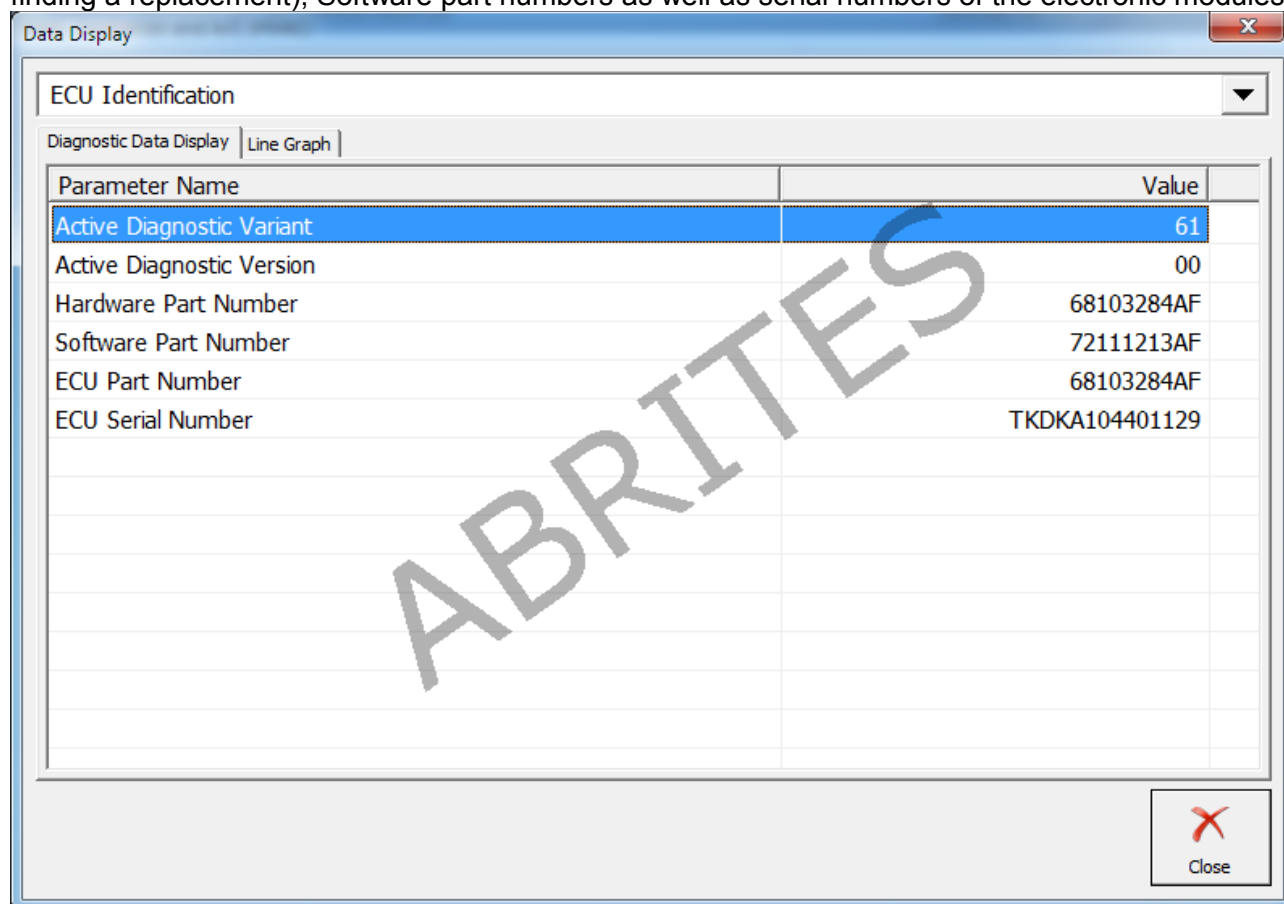
3.3 Data Display

The Data display option shows details about the live data being read from the sensors within the vehicles. It allows monitoring of the values measured by these sensors and is an obligatory part of determining the cause of a fault with the vehicles.



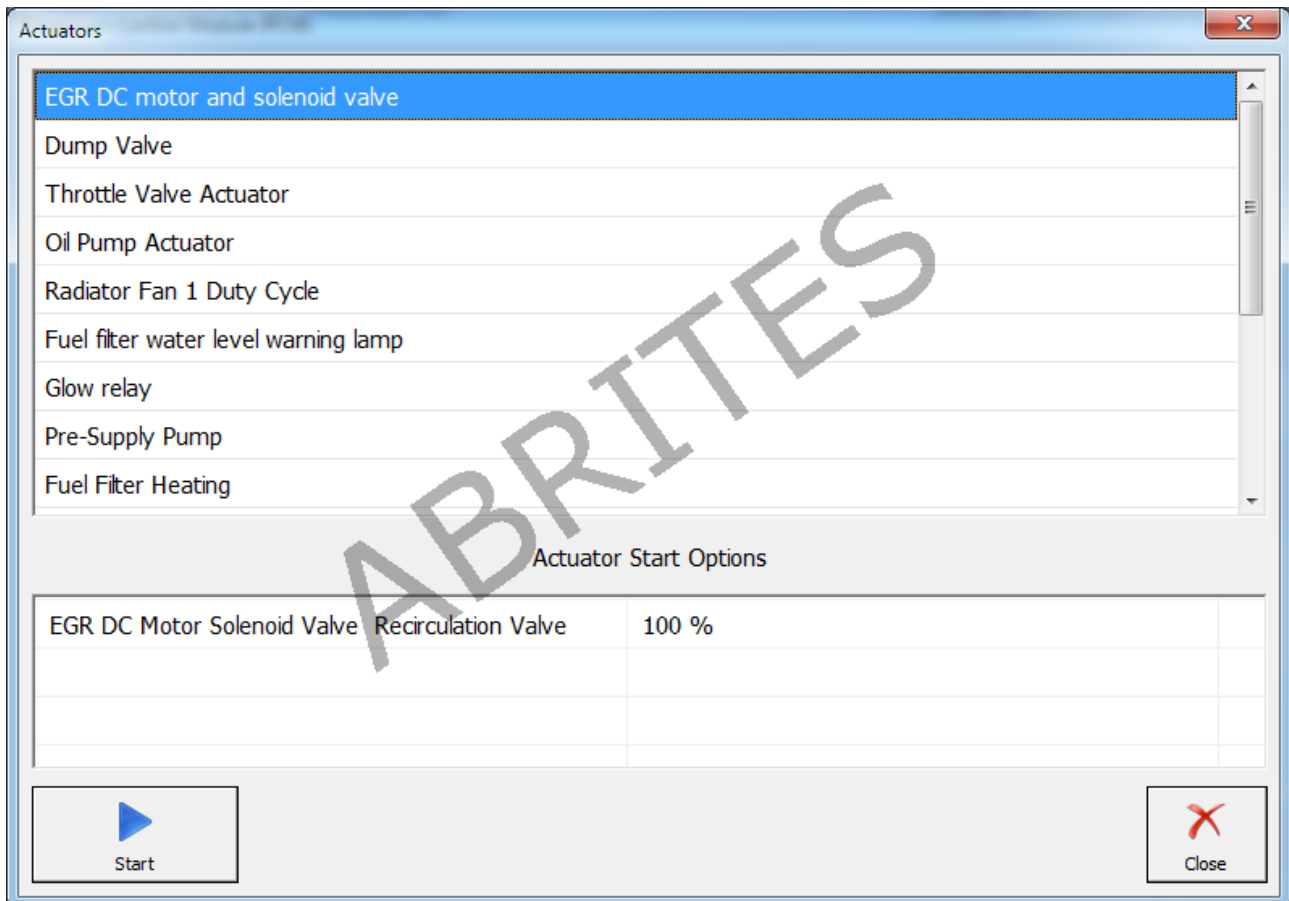
3.4 ECU identification and configuration

The ECU Identification allows the user to view the full details in regards to the Electronic Control Units within the vehicle. This includes Diagnostic variants, versions, part number (needed for finding a replacement), Software part numbers as well as serial numbers of the electronic modules.

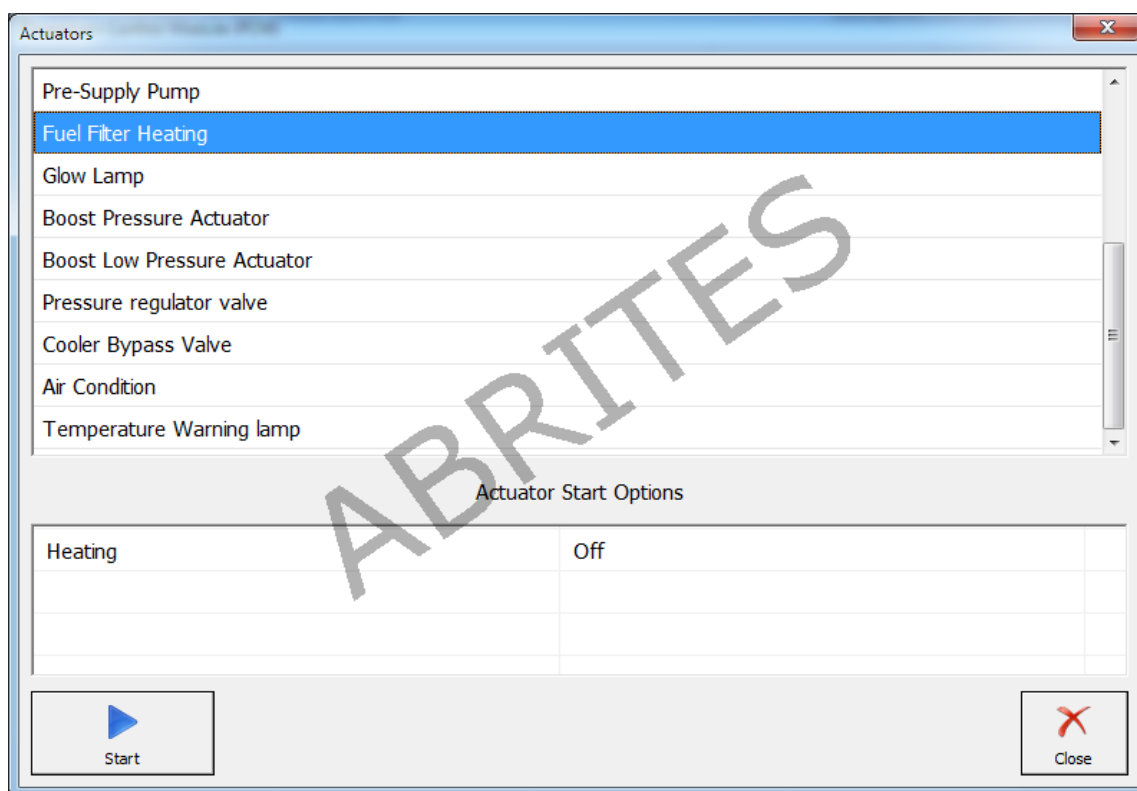


3.5 Actuators

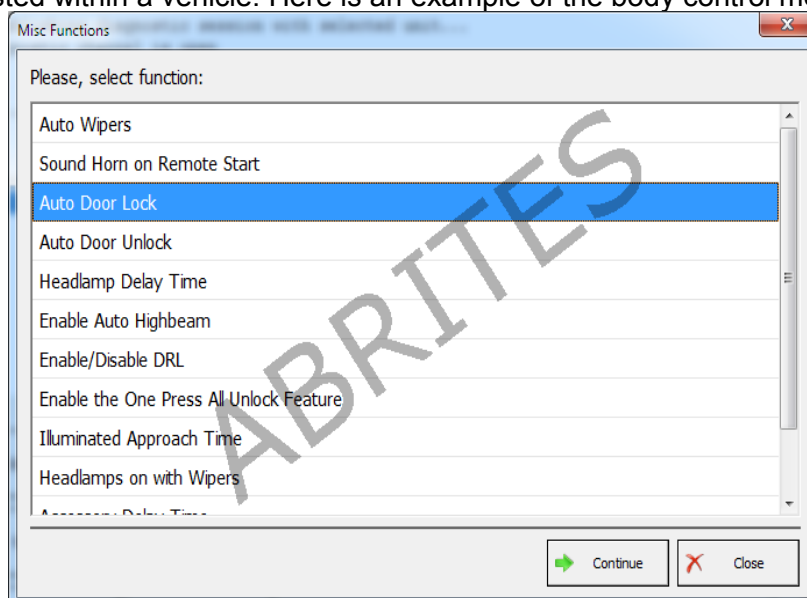
Actuator testing is perhaps one of the most important steps in resolving an issue with a faulty vehicle. This function is used to test the operation of separate systems within the car. For example the user can test the oil pump actuator separately without interfering with other actuators.



This function is started by selecting the desired actuator and pressing the start button. It is important to let the actuator test end before exiting.



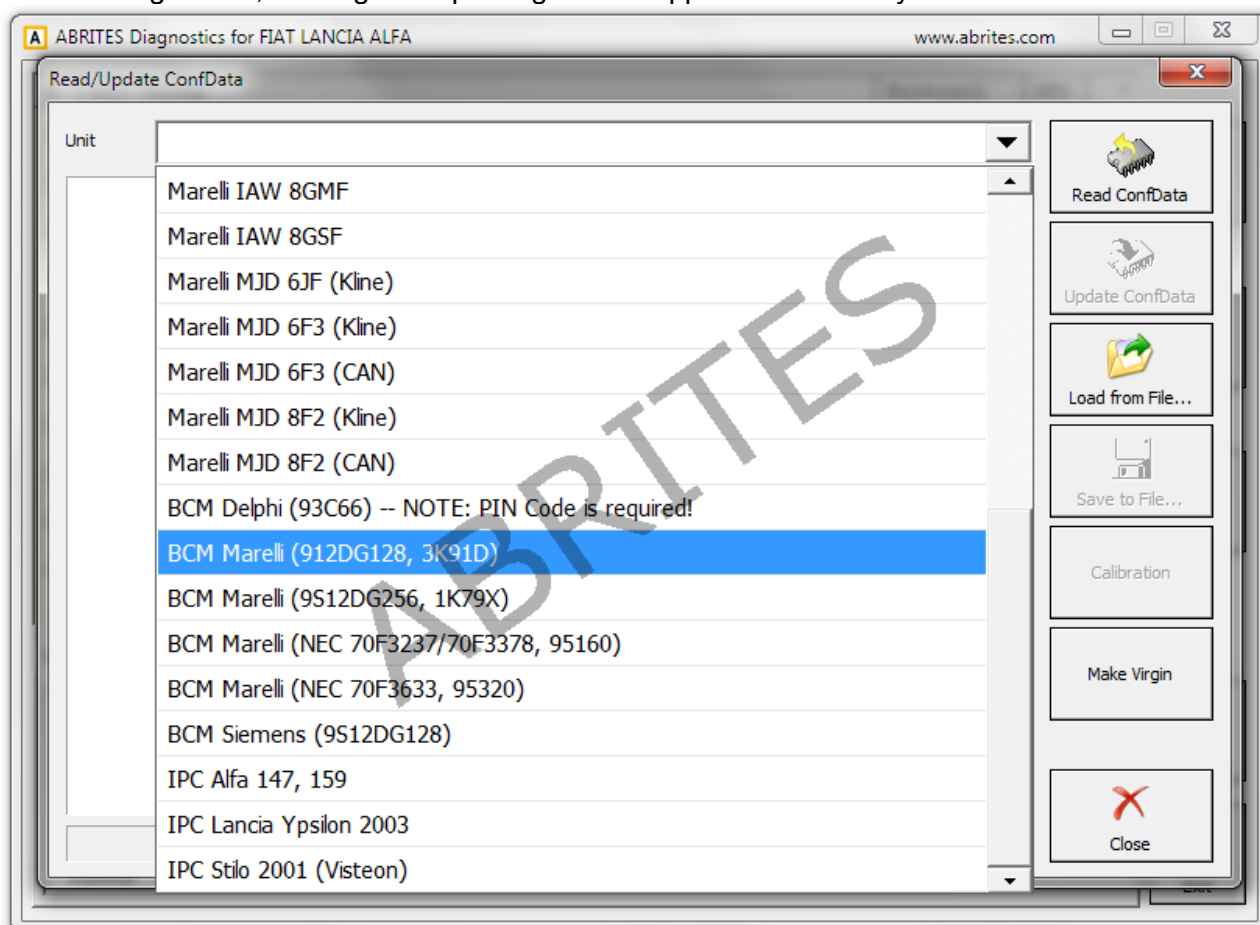
The Abrites diagnostics for Fiat/Alfa/Lancia/FCA currently supports almost 100% of the actuators that can be tested within a vehicle. Here is an example of the body control module's actuators.



4.BCM, RFH and Key manager

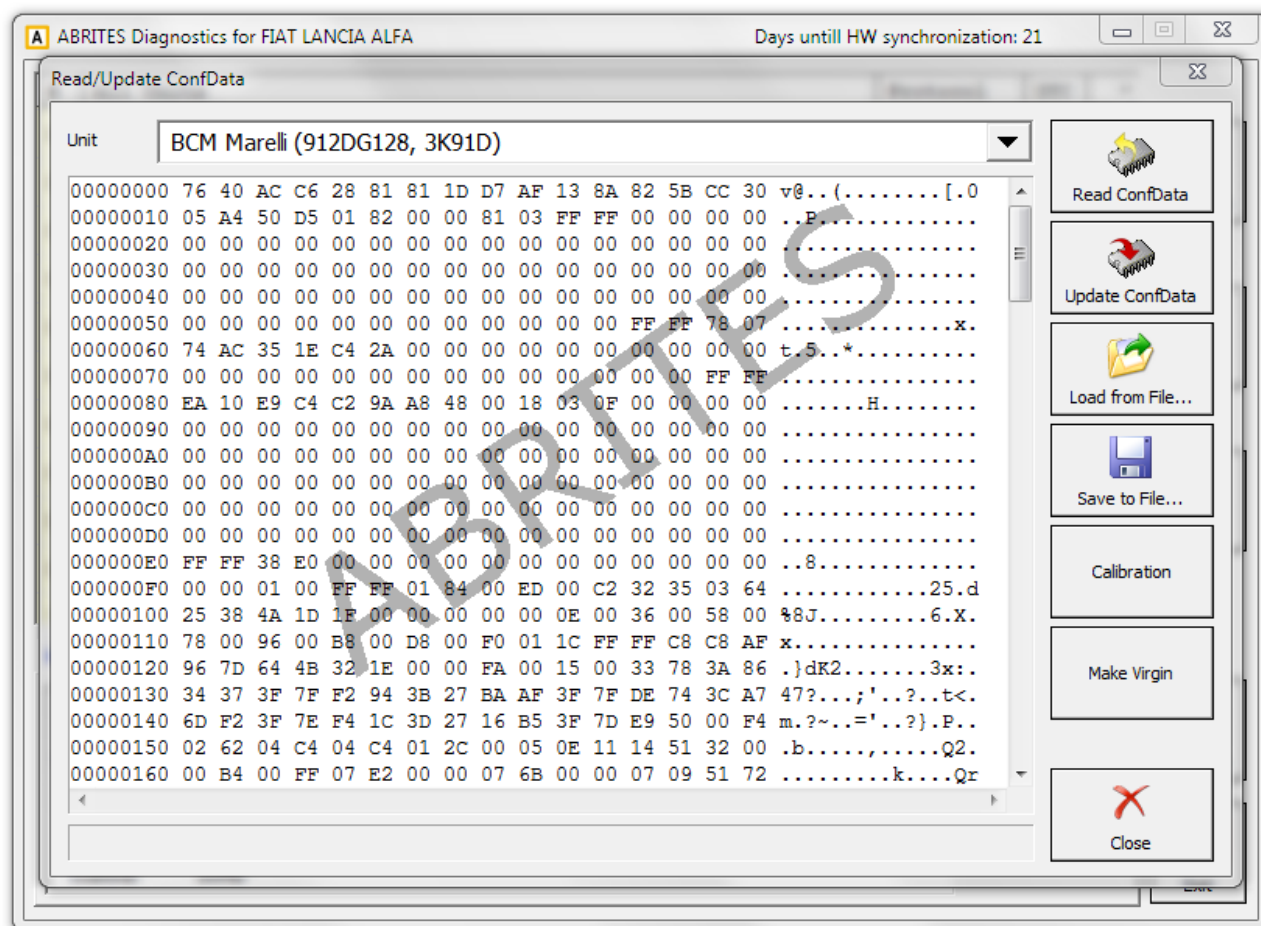
The Body Control Module (BCM) and key manager function is used in order to perform key programming and preparation, PIN code reading and updating, Component protection data

- BCM configuration, reading and updating of the supported models by OBD.

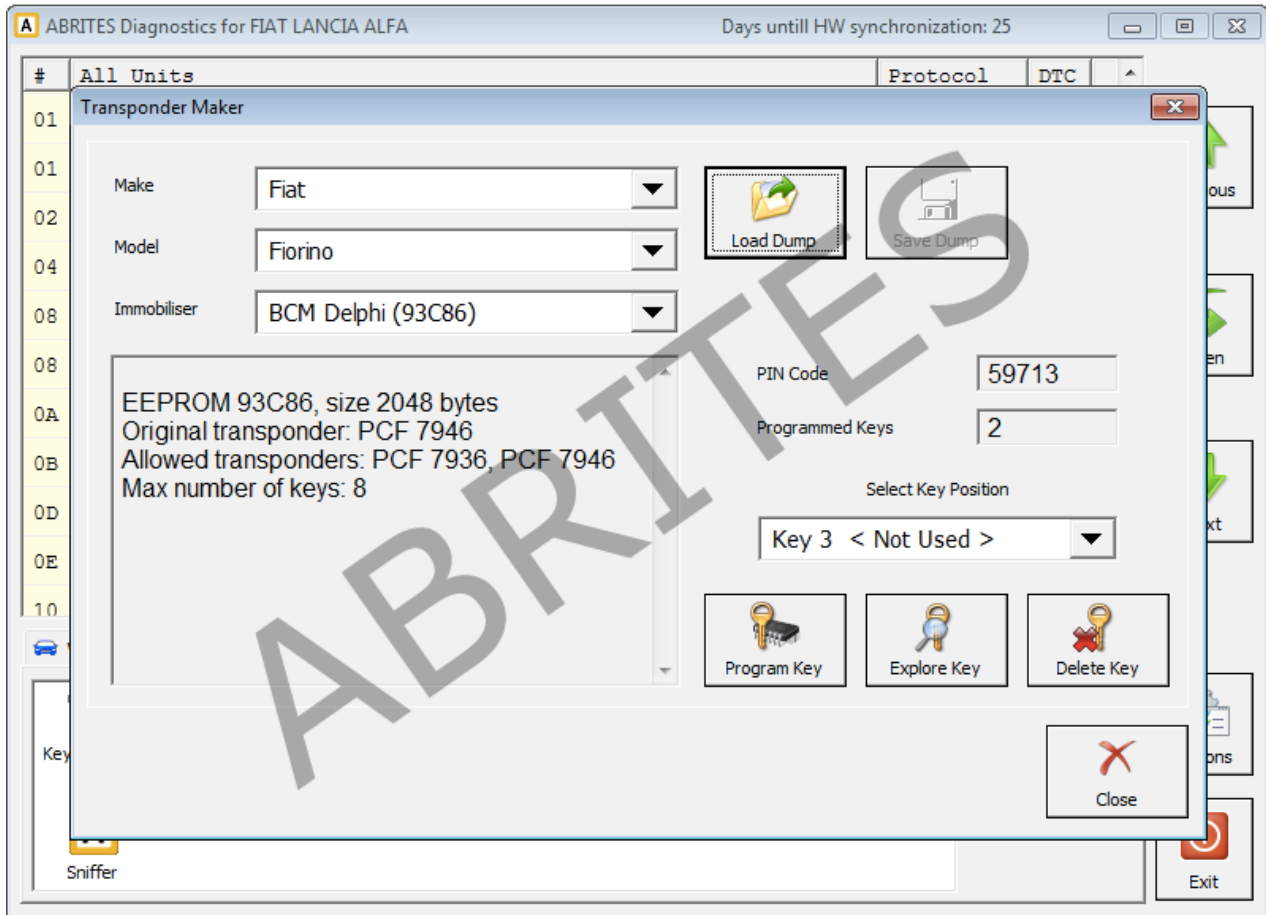


It allows the Configuration data to be saved locally to the user's computer, the loading of previously saved files is also supported.

Please check the full list at abrites.com



-Transponder maker – Preparing transponder by dump of immobilizer to be ready for key programming.



- Key learning by OBD for many models produced by the FCA. Once the PIN code is obtained the user will have the ability to select the model of the vehicle and perform key learning directly via the vehicle's diagnostic port.

Key Learning

Make: Fiat

Model: 500

Connect

Immobliser Status

Parameter	Value

PIN Code: 33423

Program Key

Close

Please visit **abrites.com** for a full list of supported vehicles.

- For the latest 2017/2018 models when a RFH module and a Gateway are present, the user has to connect to the Internal CAN-BUS in order to obtain the PIN code - either through the pin 6(CAN H) and pin 14(CAN L) of the AVDI Interface, or using a ZN051 Distribution box. The best option would be to connect to the CAN H and CAN L cables of the RFH's connector.

This is what the RFH module looks like:



5. Instrument cluster data manager

This function allows the update of Instrument Cluster working data

Calibration by OBDII in cluster of CAN based vehicles. Please make sure to visit our website – abrites.com for the full supported model list.

Calibration can be used when the module has been replaced with a second hand unit in order to avoid mismatching and obstructions in the vehicle's operation. Please observe local regulations in regards to the calibration.

The screenshot shows a software window titled "Cluster Recalibration". Inside the window, there is a "Select Unit" dropdown menu currently showing "Instrument Alfa Giulietta". To the right of this menu is a "Connect" button with a green circular arrow icon. Below the unit selection, there are two input fields: "Current" with the value "32458" and "New" with the value "35986". To the right of these fields is a "Write" button with a blue pen icon. At the bottom right of the window is a "Close" button with a red 'X' icon.

Calibration of Engine Control Unit – BOSCH EDC16 – Tested Version for now : Fiat Croma, Alfa 159, Fiat 16, New Fiat Bravo 1.6 JTD, New Lancia Delta 1.6 JTD, Alfa GTV 1.9 JTD

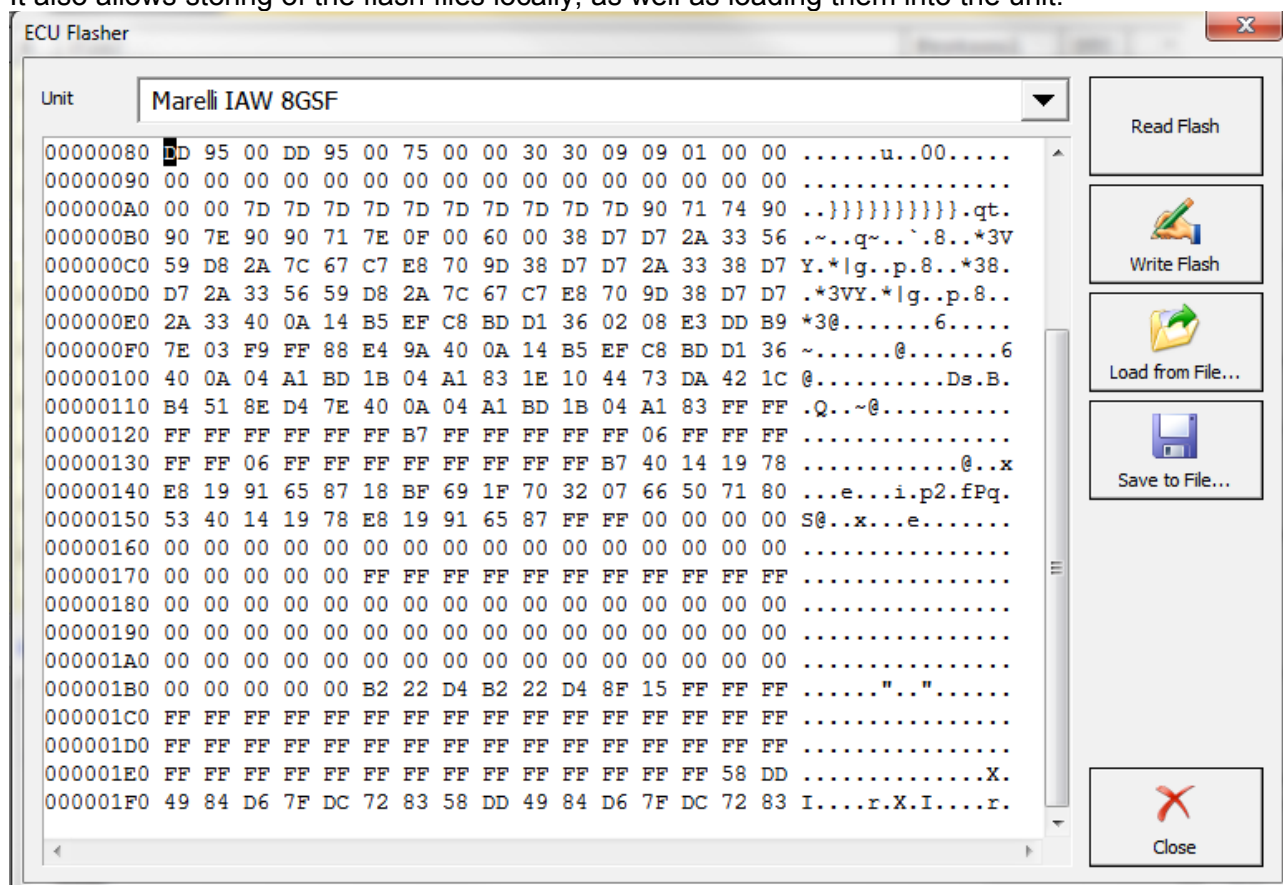
6. Engine Control Unit Flash Manager

The ECU flash manager provides reading and Updating ECU's flash memory by diagnostic. ECUs supported: Marelli IAW 4AF/4EF/59F/5AF/5NF/6JF IAW 5SF3; BOSCH

ME7.3H4/ME7.3.1/ME7.2.1 (BOOT MODE)

MJD 6JF - IMMO OFF

It also allows storing of the flash files locally, as well as loading them into the unit.



7. ECU configuration manager

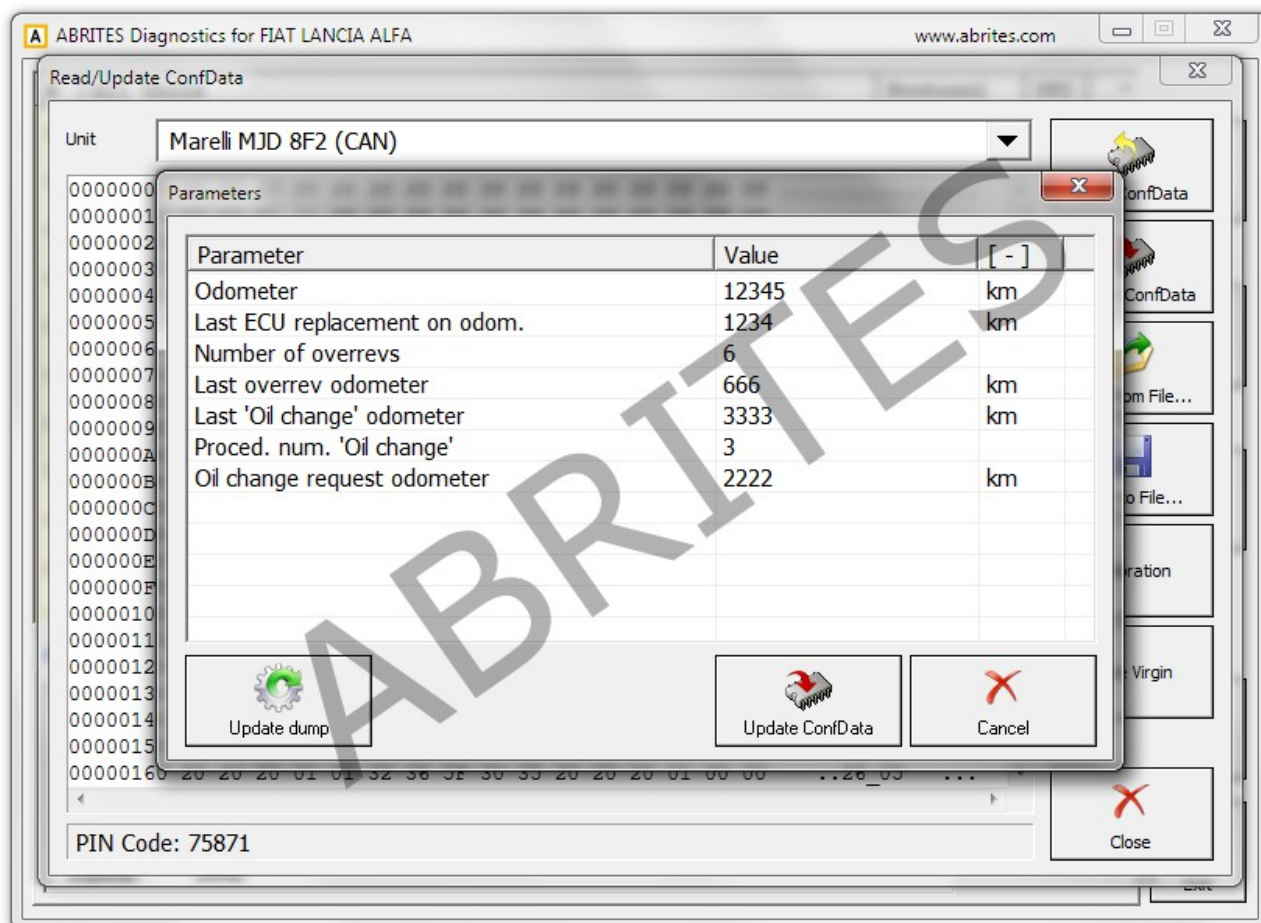
Reading and Updating ECU's configuration memory by diagnostic. Reset to factory new state option. ECUs supported: EDC15C5, EDC15C7, MJD 6JF/8F2; Marelli IAW 4AF, 4EF, 59F, 5AF, 5AM, 5NF, 5SF3, 8GMF, 8GSF; BOSCH ME7.3H4 (boot), ME7.3.1 (boot), ME7.2.1 (boot)

Read/update memory, Calibration by OBDII of Engine Control Unit - EDC15C5(EURO2), EDC15C7(EURO3). This model ECU have the following vehicles:

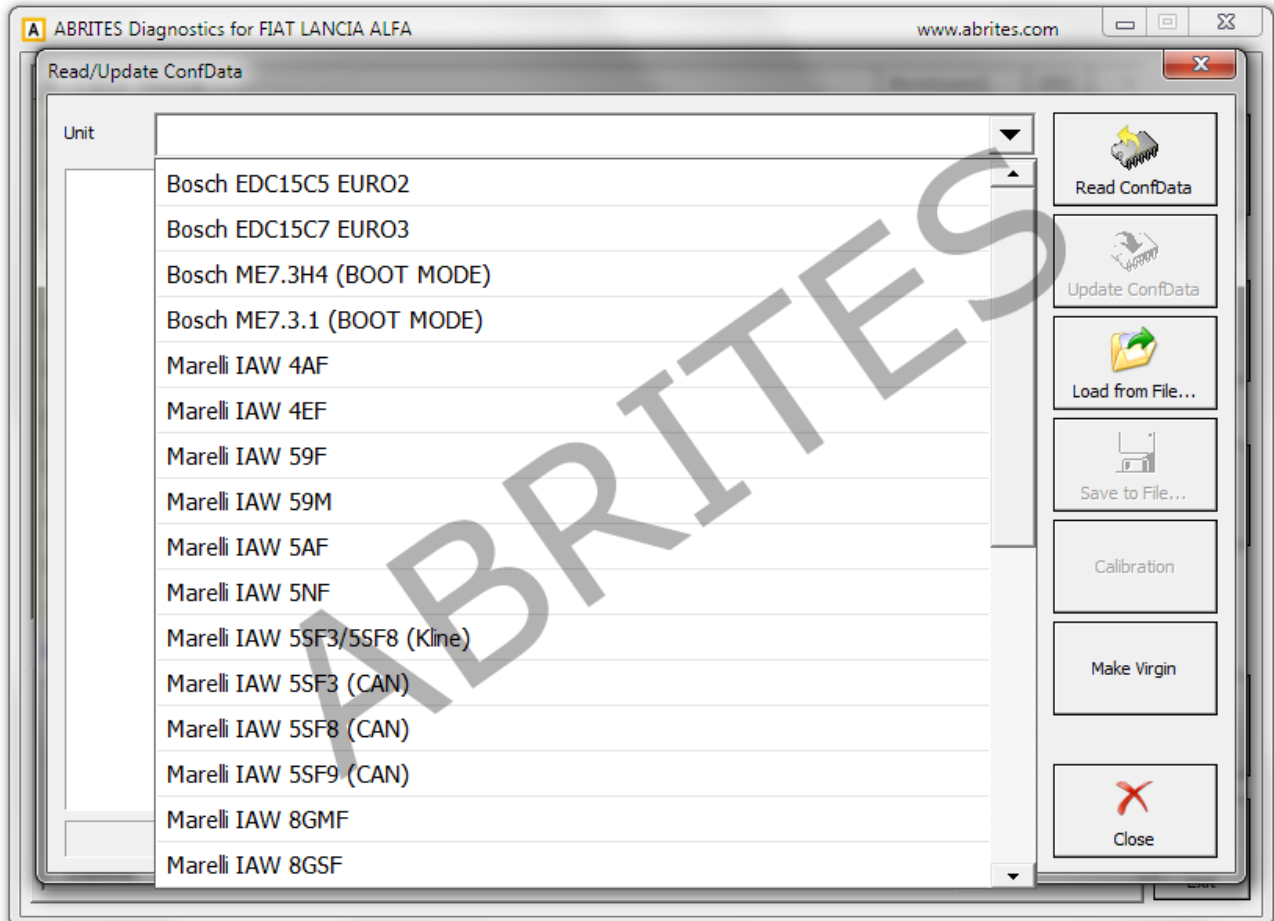
Alfa 145 - 1.9 JTD	Alfa 146 - 1.9 JTD	Alfa 147 - 1.9 JTD 16V ; 1.9 JTD 8V	Alfa 156 - 1.9 JTD ; 2.4 JTD
Alfa 166 - 2.4 JTD	Fiat Bravo - 1.9 JTD	Fiat Brava - 1.9 JTD	Fiat Doblo - 1.9 JTD
Fiat Ducato - 2.0 JTD ; 2.3 JTD ; 3.8 JTD	Fiat Marea - 1.9 JTD ; 2.4 JTD	Fiat Marengo - 1.9 JTD	Fiat Multipla - 1.9 JTD
Fiat Punto - 1.9 JTD	Fiat Palio - 1.9 JTD	Fiat Stilo - 1.9 JTD	Fiat Siena - 1.9 JTD
Fiat Scudo - 2.0 JTD	Lancia K - 1.9 JTD	Lancia Lybra - 1.9 JTD ; 2.4 JTD	Lancia Thesis - 2.4 JTD
Lancia Z - 1.9 JTD			

Read/update memory, Calibration, Make VIRGIN by OBDII of Engine Control Unit - Marelli Multijet MJD 6JF. This model ECU have the following vehicles:

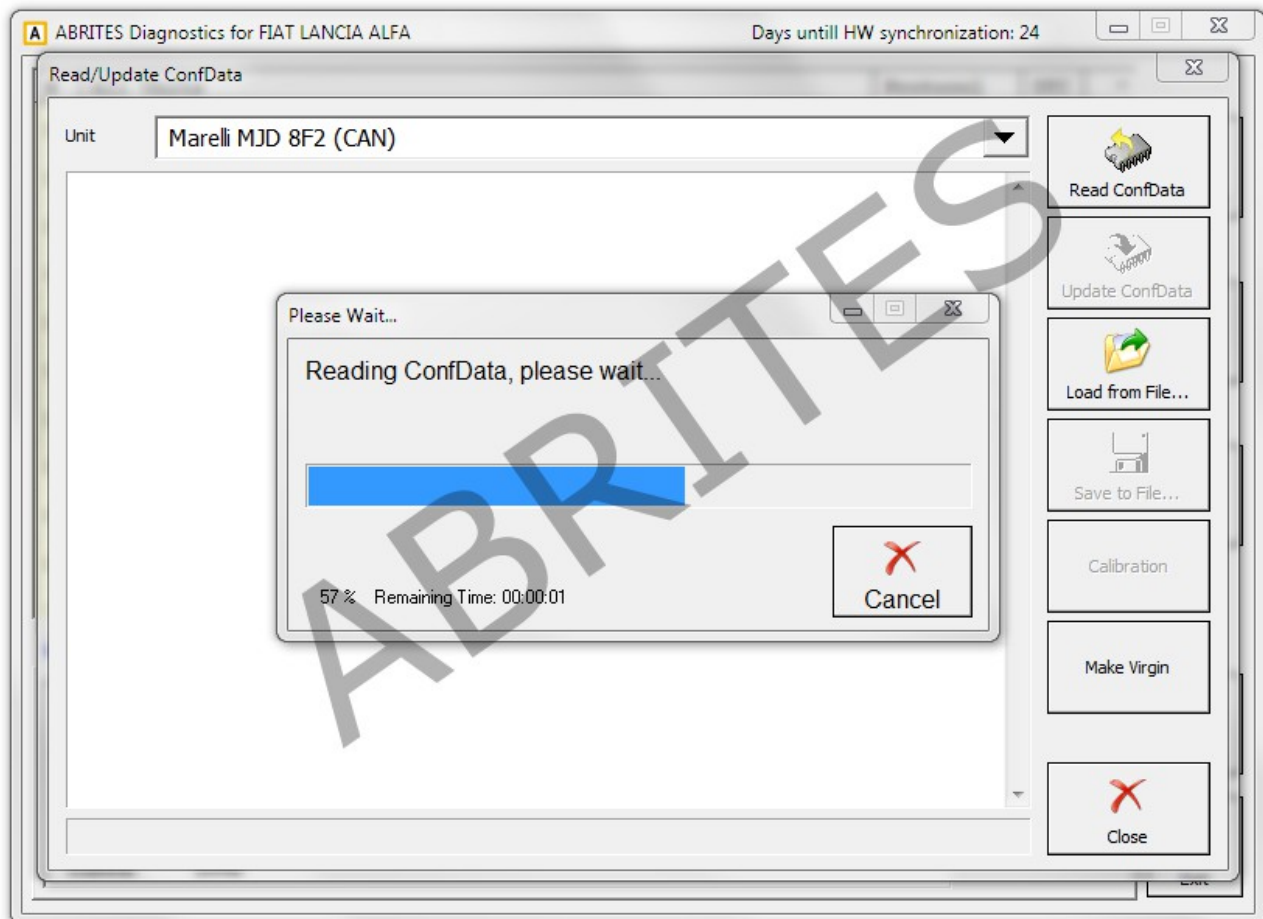
Fiat new Panda - 1.3 IAW Multijet MJD 6JF	Fiat Idea - 1.3 IAW Multijet MJD 6JF	Fiat Doblo - 1.3 IAW Multijet MJD 6JF	Fiat Punto - 1.3 IAW Multijet MJD 6JF
Fiat Grande Punto - 1.3 IAW Multijet MJD 6JF	Fiat Cinquecento - 1.3 IAW Multijet MJD 6JF	Lancia Musa - 1.3 IAW Multijet MJD 6JF	Lancia Ypsilon - 1.3 IAW Multijet MJD 6JF



Reading and updating Conf data, saving to files, loading from files :



Making the ECU virgin:



This function is vital for adaptation purposes in the cases where a second hand unit is used.