A·B·R·I·T·E·S
automotive solutions

# ABRITES DIAGNOSTICS FOR NISSAN/INFINITI


## User manual
version 4.6

# 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.



# Warranty

You, as a purchaser of Abrites hardware products, are entitled of a two-year warranty. If the hardware product you have purchased has been properly connected, and used according to its respective instructions, it should function correctly. In case the product does not function as expected, you are able to claim warranty within the stated terms. Abrites Ltd. is entitled to require evidence of the defect or malfunction, upon which the decision to repair or substitute the product shall be made.

There are certain conditions, upon which the warranty cannot be applied. The warranty shall not apply to damages and defects caused by natural disaster, misuse, improper use, unusual use, negligence, failure to observe the instructions for use issued by Abrites, modifications of the device, repair works performed by unauthorized persons. For example, when the damage of the hardware has occurred due to incompatible electricity supply, mechanical or water damage, as well as fire, flood or thunder storm, the warranty does not apply.

Each warranty claim is inspected individually by our team and the decision is based upon thorough case consideration.

Read the full hardware warranty terms on our website.

# Copyright information

**Copyright:**



**Notices:**

The information contained in this document is subject to change without prior notice. Abrites shall not be held liable for technical/editorial errors, or omissions herein.
Warranties for Abrites products and services are set forth in the express written warranty statements accompanying the product. Nothing herein should be construed as constituting any additional warranty.
Abrites assumes no responsibility for any damage resulting from the use, misuse, or negligent use of the hardware or any software application.

# 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
**Abrites Support Team by email at support@abrites.com.**

# Table of contents

# List of revisions

| Date | Chapter | Description | Revision |
|---|---|---|---|
| 24.06.2009 | | Initial version of the document. | 2.0 |
| 01.06.2013 | ALL | Revised, updated, renewed | 4.2 |
| 02.03.2014 | ALL | Revised, updated, renewed; design update; structural and contentchanges | 4.3 |
| 02.10.2015 | ALL | Revised, updated, renewed | 4.4 |
| 22.07.2019 | ALL | Revised, updated.<br>Diagram for ESL emulator added. | 4.5 |
| 29.09.2022 | ALL | Full Manual Revision | 4.6 |

# 1. Introduction

ABRITES Diagnostics for Nissan/Infiniti" is a professional diagnostic software, which works together with the Abrites Vehicle Diagnostic Interface (AVDI).

In order to operate, the software requires you to have an AVDI interface, a Windows based PC with Windows 7 or later version of the Windows OS. For optimal operation, it is always recomended to have the latest software version installed, active AMS, and a stable Internet connection.

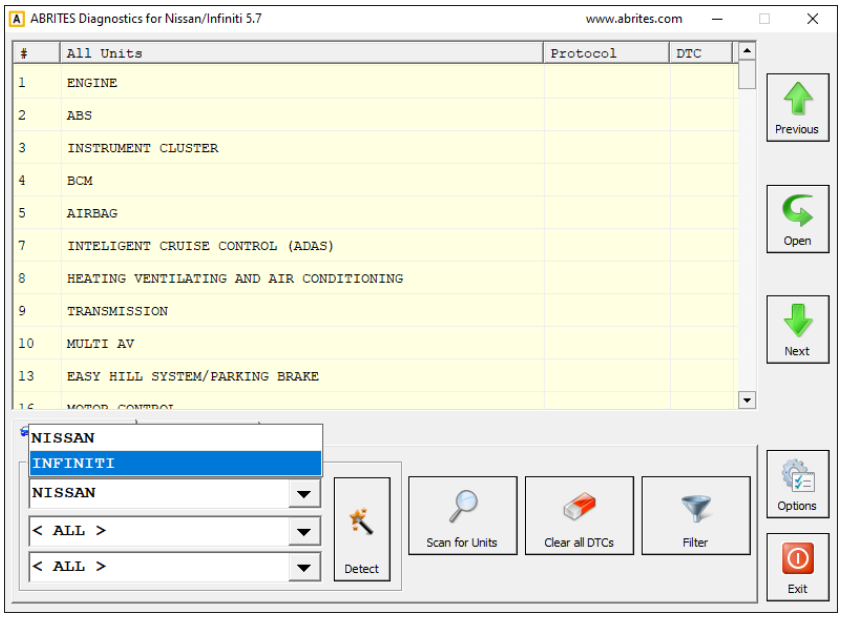
The tool's purpose is to allow you to perform standard and advanced vehicle diagnostics, starting with module identification, reading and clearing diagnostic trouble codes (DTCs), live data monitoring, actuator testing, as well as advanced operations such as service functionality and other special functions.

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

ABRITES is a trade mark of Abrites Ltd.

# 2. Abrites Diagnostics for Nissan/Infinity

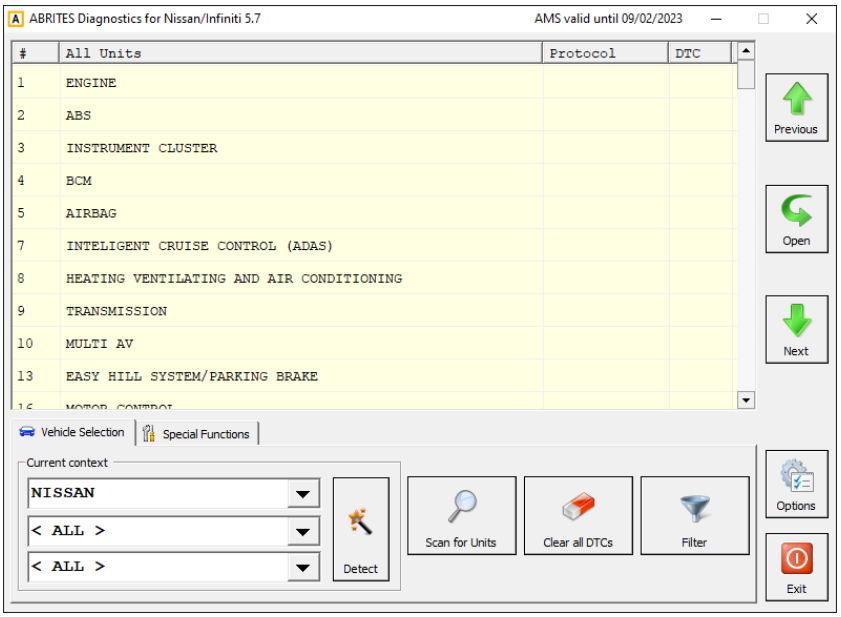
When you open the Abrites Quick Start menu, you need to fined Nissan logo and click it, and it will open the page that you see on the first sceenshot below. Once the first Nissan/Infinity icon is selected from the Abrites Quick start menu the software will start and you will see the screen from the second screensot below:

The ABRITES Diagnostics for Nissan/Infinity consists of two parts:

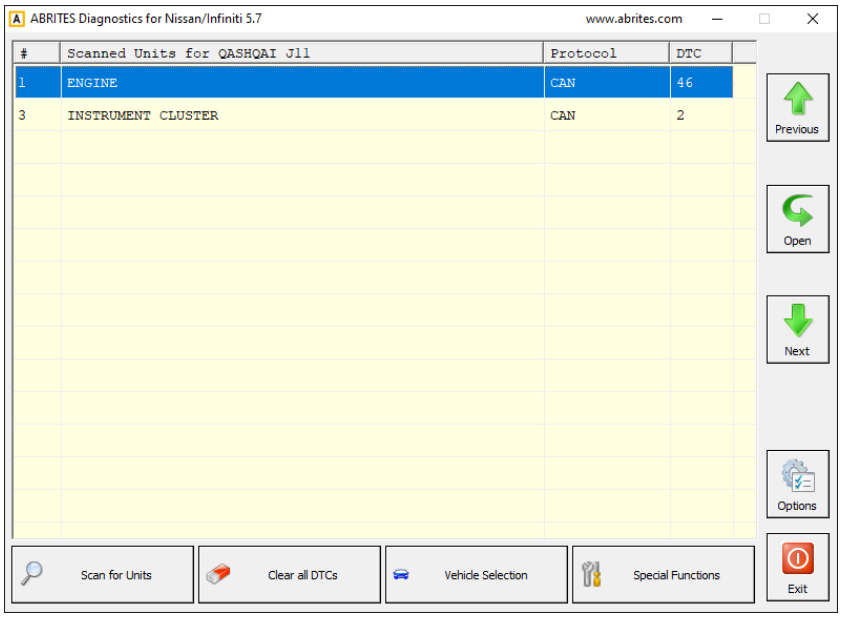
**Standard diagnostic functions** like reading/clearing diagnostic trouble codes (DTC), scanning available devices in the vehicle, displaying actual values (measured parameters), performing actuator tests etc.
**Special functions** like Key Learning, Memory Manager, and PIN calculator

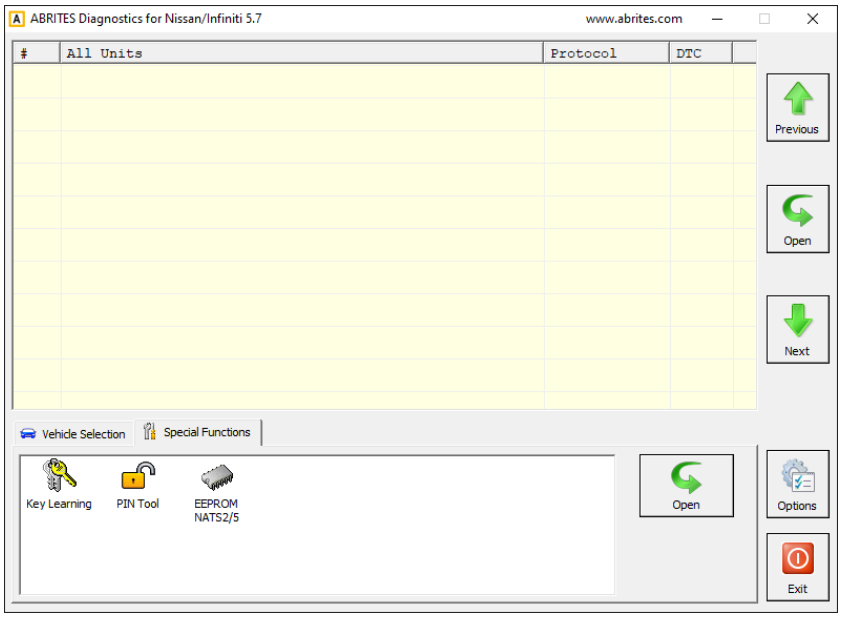
All devices, which are present in the car are listed in the main screen of the ABRITES Diagnostics for Nissan/Infinity. If you want to connect to a specific device, please double click on it or select it ant press the "Open" button. The "ABRITES Diagnostics for Nissan/Infinity will try to connect to the device. From this screen you have the option to selec the vehicle in order to complete full vehicle scan, select the special function menu, or set some options and language.



From the first screen you can select the vehicle you are working with, do a Scan for Units (and DTCs) and Clear DTCs. Also, a sub-menu with options is available from this screen.
(The modules may vary according to the vehicle specifications.)

The second screen shows the available **Special Functions** in the Abrites Nissan/Infinity software.



## 2.1 Standard diagnostic functionalities

The "ABRITES diagnostics for Nissan/Infinity" provides the options for detailed module identification, reading and clearing of diagnostic trouble codes (DTC), monitor live data,, actuator tests for Nissan/Infinity vehicles. Diagnostics is performed via the OBD-II connector.

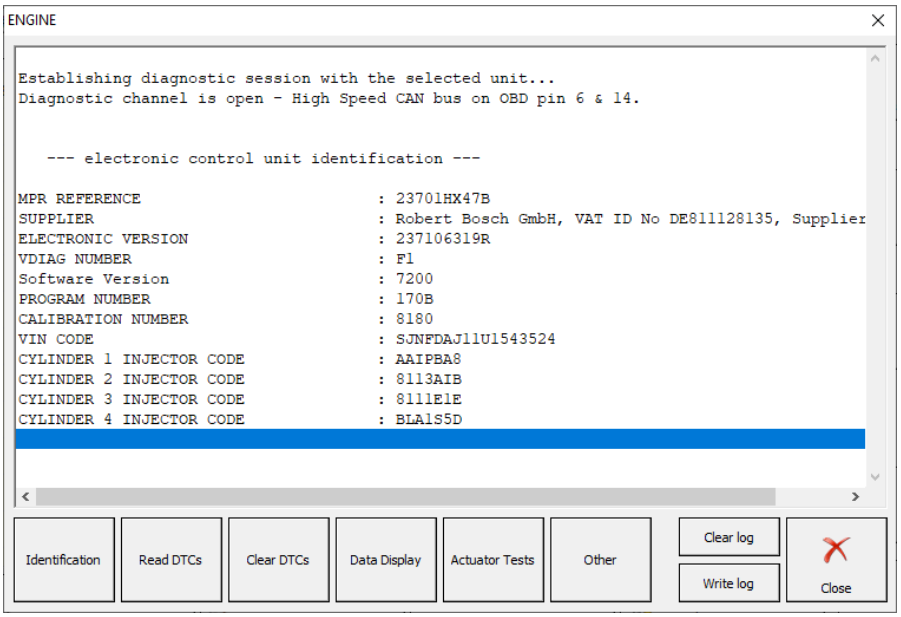
There is an option to read and clear all DTCs or individually clearing them when entering the appropriate electronic module.

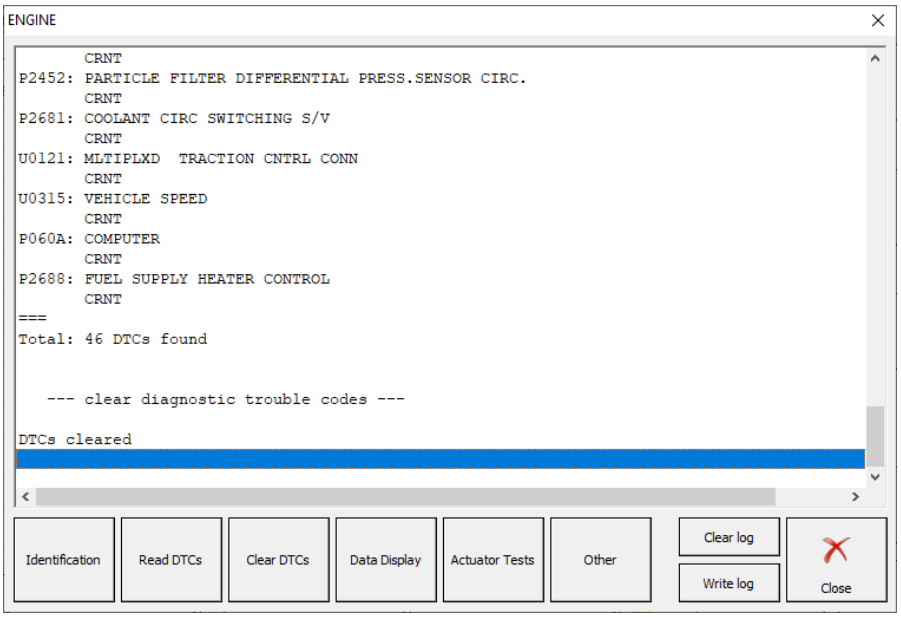
The "Standard diagnostic functions" of the software include three separate diagnostic protocols (K-line, CAN and UDS). This provides all the versatility that you may need from a tool. Using these three protocols allows you to work on almost all the cars produced by Nissan/Infiniti due to the fact that the manufacturer often combines various modules using different communication protocols in one vehicle.

The Abrites Vehicle Diagnostics for Nissan/Infiniti is a very strong diagnostic tool, aimed at professionals looking for a multipurpose divece that fulfills all their needs in one place.

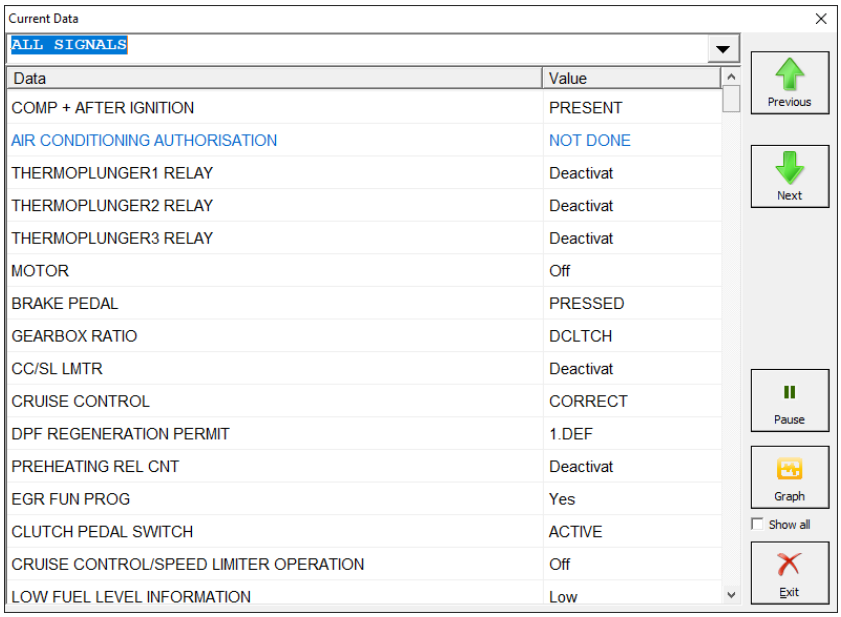
All Abrites diagnostic software applications provide an unmatched, dealer level diagnostics, previously available to the OEM services only.

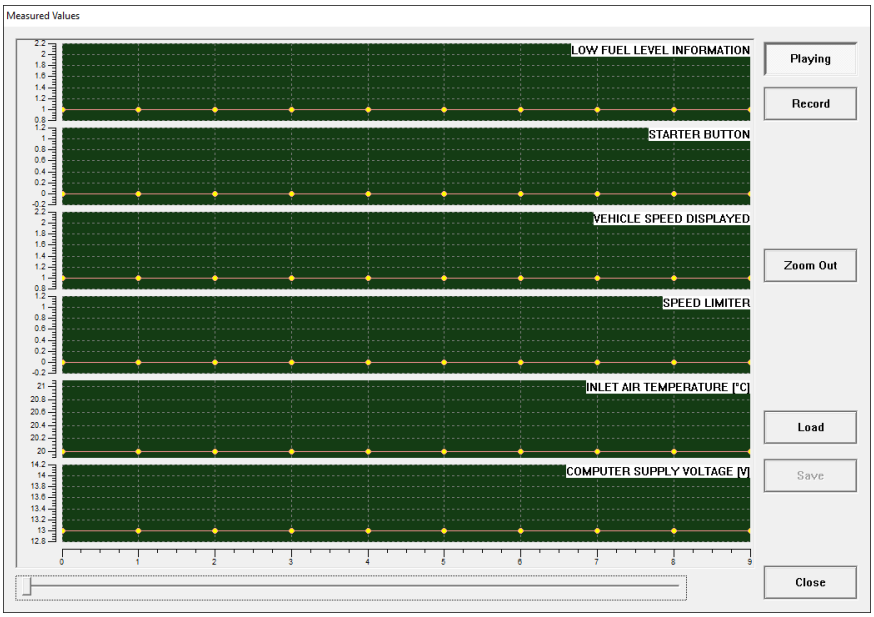
In order to perform module identification you need to select and double-click the module from the main diagnostic screen and a new screen with the available options appear. The first option will be the identification on the selected electronic module. You can choose the "Read DTCs" option to see all the diagnostic trouble codes for the module and you can press the "Clear DTCs" button to remove the temporary or resolved trouble codes. This procedure applies to the selected module. In case you would like to clear all the DTCs from the vehicle's modules, press the "Clear All DTCs" button from the main screen.



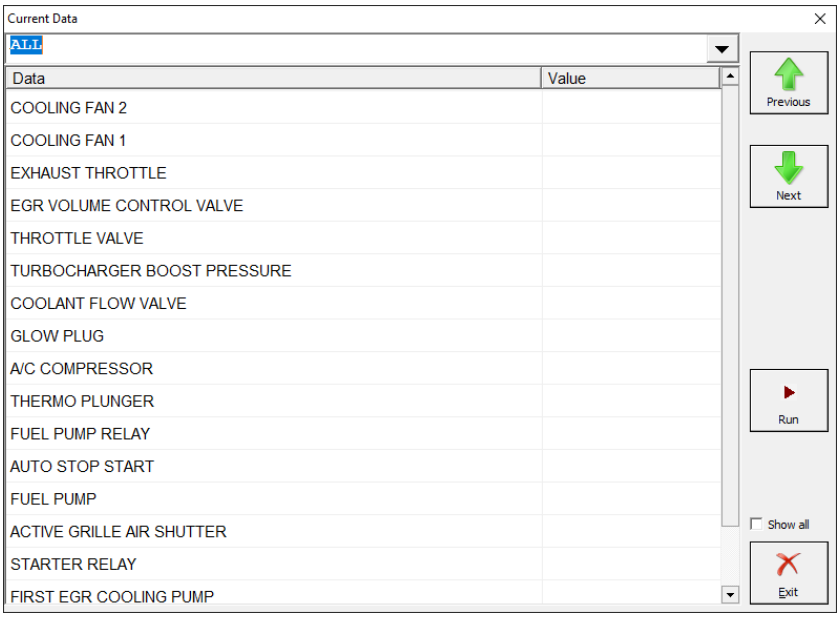



When an electronic control module is selected you can also monitor live data values. This allows you to perform detailed diagnostics and analyze the behavior of the vehicle in real time. The values can be viewed in a list form, as well as a graph. If you would like to see the details about the vehicle in a graph you can select the graph button on the right of the screen:



Actuator testing is very important when a fault within the vehicle needs to be found, the option can also be used when enabling or disabling features on the vehicle. From the list of items that is displayed when selecting the “Actuator Tests” button you can select the appropriate actuator and perform the test needed. motor is being tested.



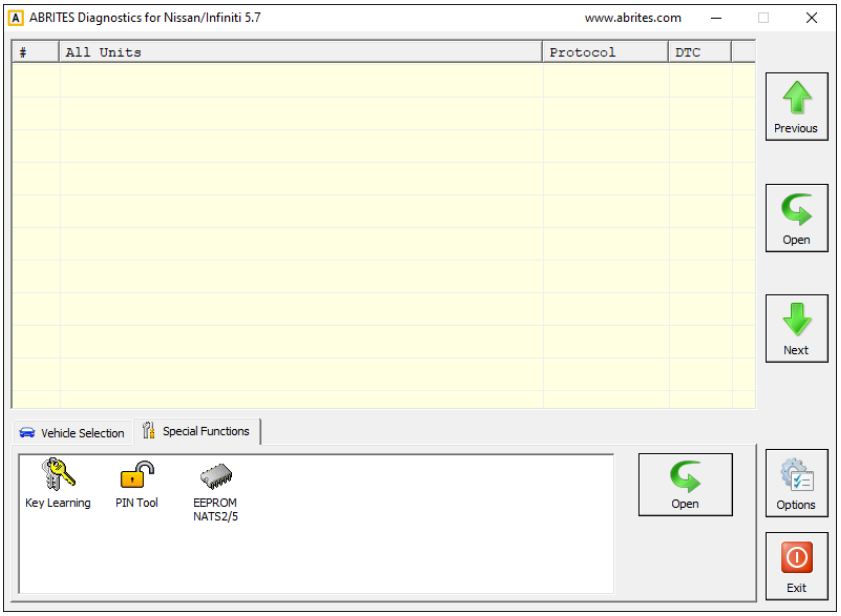
## 2.2 Special Functions

The software provides special diagnostic functions in order to assist the user to perform advanced diagnostics on Nissan/Infinity vehicles. This option from the main screen opens the special function menu of the ABRITES Diagnostics for Nissan/Infinity. The required special function is opened by selecting it from the menu box and double-clicking on it.

From the main screen of the software you can select the "Special functions" tab and see the available special functions:

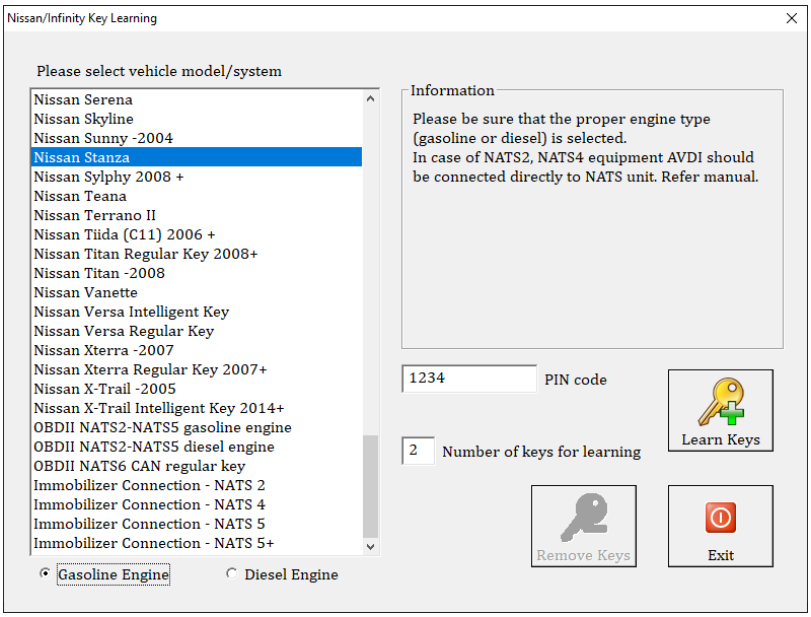
The available special functions in ABRITES Diagnostics for Nissan/Infinity software are:

- Key Learning
- PIN Tool
- EEPROM NATS2/5 Memory Manager



# 3. Special Function “Key learning”

This function allows you to perform key learning of Nissan vehicles with Immobilizer systems – NATS-2, NATS-4, NATS-5, NATS5+. After the vehicle is selected the PIN code must be entered, as well as the number of keys to be learned and then you need to press the “Learn keys” button. When you selec a vehicle, there is a winwod with suggestions on the right side of the window on what needs to be done for the key learning procedure for the selected vehicle.

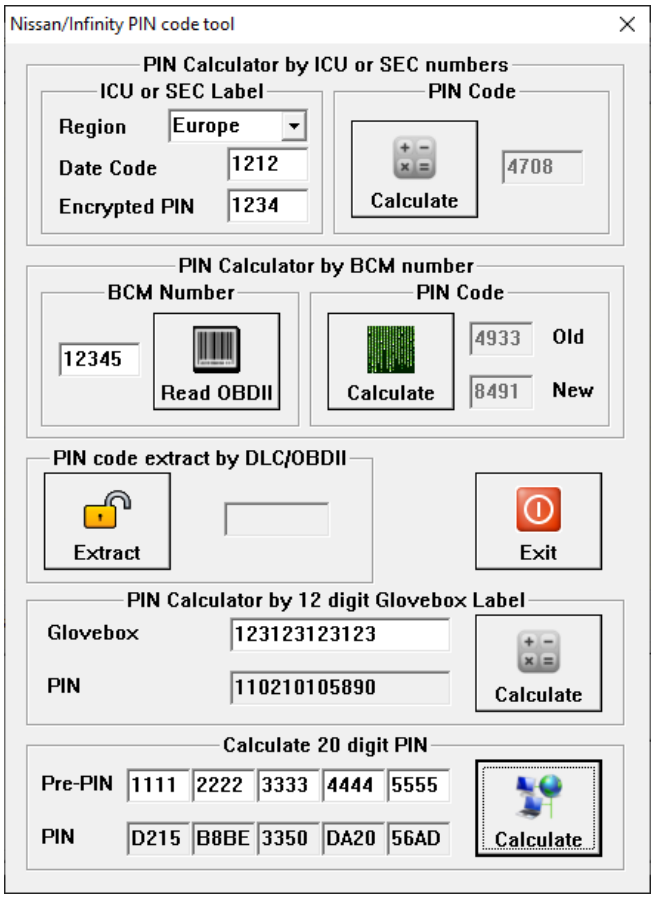


# 4. Special Function “PIN Code”

The PIN Code function allows the reading or the calculation of the PIN CODE for the vehicle.. It has the following options:

PIN Calculator by ICU or SEC numbers
PIN Calculator by BCM number
PIN Code extraction by OBDII
PIN Calculator by 12 digit Glovebox label
PIN Calculator by 20 digit PIN

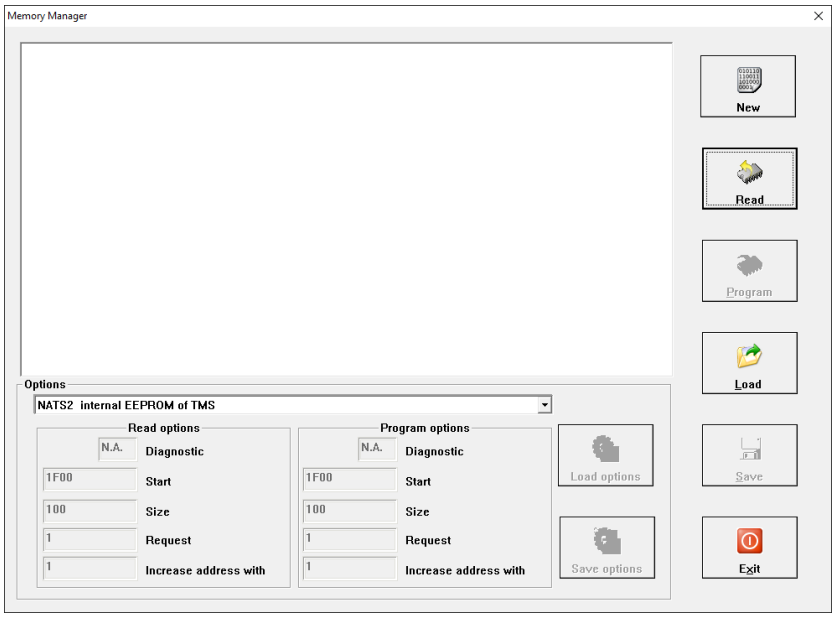
Once you have the PIN Code you can than proceed to the key learning procedure, explained in the previous section 3. Key Learning.

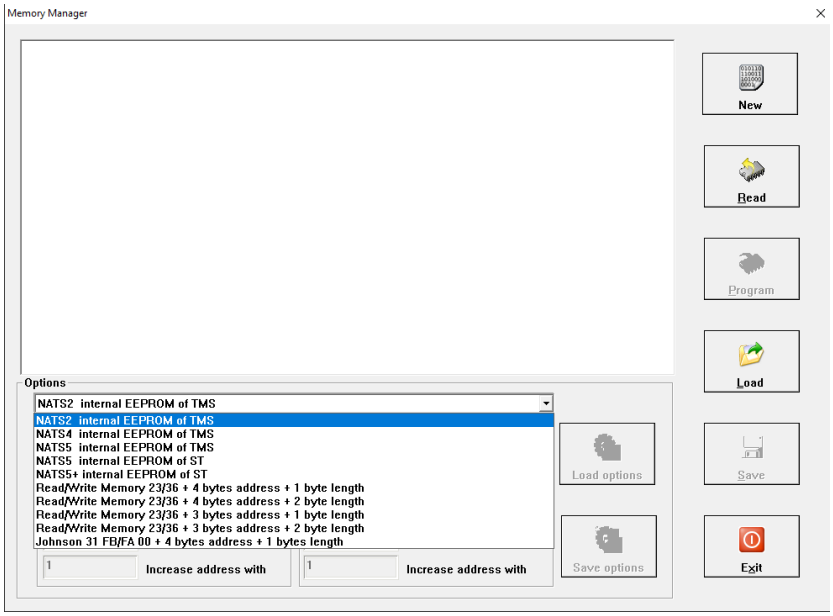


# 5. Special Function “EEPROM NATS2/5”

This function allows you to read the Configuration data from the Nissan Anti Theft System (NATS). It will allow you to read the data, save it to a file on your computer in order to use it later, update it back to the vehicle. Here are the functionalities of the buttons explained:

When pressing the “Read” button the Data will be displayed.
The “New” button has the ability to create a new conf data file.
“Program” updates the file to the NATS system.
“Save” saves the conf data file locally on your computer.



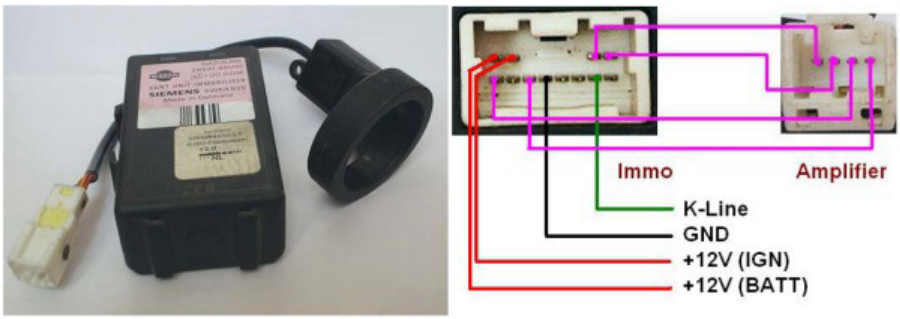



# 6. Pinouts

Here you can find the Pinouts of the NATS immobilizer modules for the cases when they need to be connected on a bench.
The version of the NATS can be determined by the label on the immobilizer unit itself.

### 6.1 NATS 2 Siemens:

Immobilizer version:
5WK4593, 5WK4640, 5WK46472, 5WK4825, 5WK48642



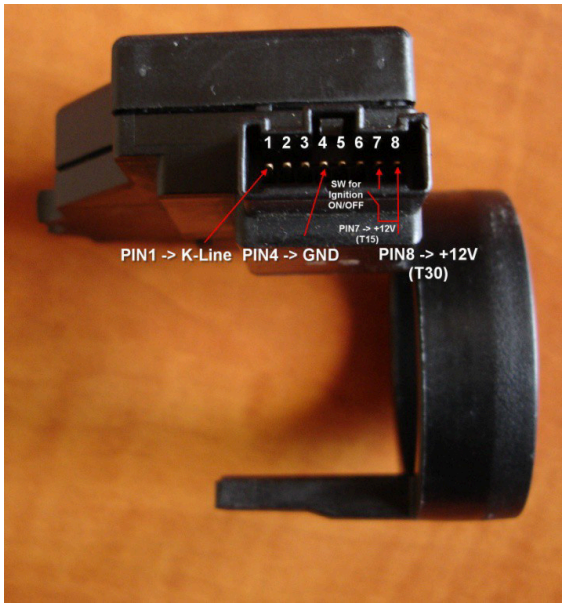
### 6.2 NATS 4 Siemens:

Immobilizer version: 5WK4738, 5WK4750, 5WK4803, 5WK48543A, 5WK48543B, 5WK48692.

Vehicle models:

- NISSAN Micra MY 1998-2000
- NISSAN Primera MY 2000-2003
- NISSAN Almera MY 1998-2000

Below you may find the pinout of the AVDI

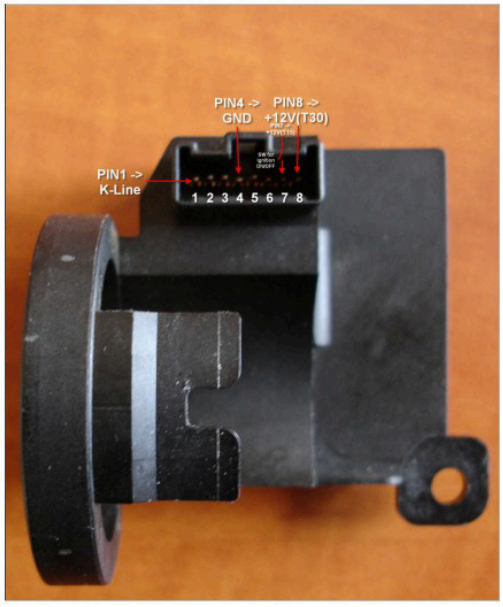



| AN001 – Base Interface OBDII Male Cable | NATS – 4 |
|---|---|
| Pin 7 | Pin 1 |
| Pin 4 | Pin 4 |
| Pin 16 | Pin 8 |
| | Switch between Pin 7 and Pin 8 for Ignition ON/OFF |

### 6.3 NATS-5, NATS-5+ Siemens:

Immobilizer version: 5WK48041, 5WK48042, 5WK48042, 5WK48643, 5WK48643, 5WK48644, 5WK48644, 5WK48644.

A full list of supported models can be found at abrites.com.




| AN001 – Base Interface OBDII Male Cable | NATS – 5, 5+ |
|---|---|
| Pin 7 | Pin 1 |
| Pin 4 | Pin 4 |
| Pin 16 | Pin 8 |
| | Switch between Pin 7 and Pin 8 for Ignition ON/OFF |

# 7. ESL emulator (EM002)

The Abrites EM002 emulator for Renault/Nissan supports all ESL types (old 6 pins (Renault) , new 6 pins (Renault), 8 pins (Nissan).

### 7.1 OLD type ESL diagram (Renault):


Connection to old ESL :
1 - BLACK (-)
2 - RED(+)
3 - GREEN (CAN H)
4, 5 - NOT USED
6 - BLUE (CAN L)

### 7.2 NEW type ESL diagram (Renault):

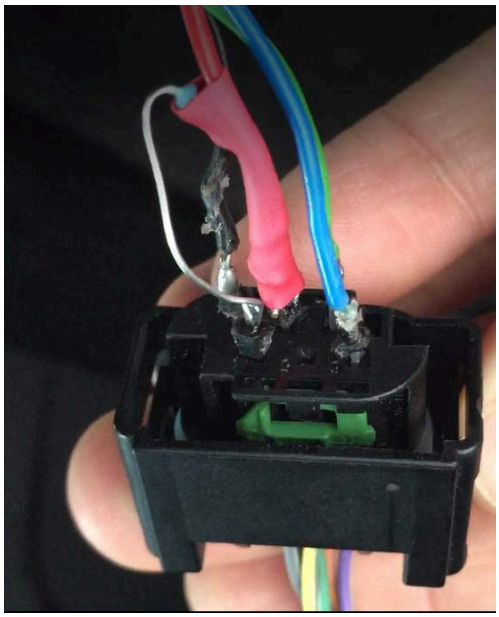

Connection to new ESL :
1 - BLACK (-)
2 - RED(+)
3 - GREEN (CAN H)
4 - Connect pin 4 of the ESL to pin 2 of the ESL through 100 Ohm resistor.
5 - NOT USED
6 - BLUE (CAN L)

### 7.3 8 pins ESL diagram (Nissan):


Connection to new ESL :
1 - BLACK (-)
2 - RED(+)
3 - GREEN (CAN H)
4, 5, 7 - NOT USED
6 - Connect pin 6 of the ESL to pin 2 of the ESL through 100 Ohm resistor.
8 - BLUE (CAN L)

Example new type ESL diagram (Renault):

*The white wire is used to update the emulator but at the moment there are no updates available.



**Note:**

**The** green square respresents the position of the toggle switch