A·B·R·I·T·E·S
automotive solutions

FCA ONLINE USER MANUAL



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

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List of revisions

Date	Chapter	Description	Revision
15.03.2023	ALL	Document created.	1.0
14.03.2024		Key Learning	1.1

1. Introduction

Congratulations on choosing our wonderful product!

The "FCA Online" is an Online server based Abrites software for vehicles from the FCA Group.

In order to operate, the software requires you to have an AVDI interface, a Windows based PC with a minimum of 1024MB RAM, 64GB of free hard drive space and at least Windows 7 64bit Service Pack 1 or later version to operate. For optimal operation, it is always recommended to have the latest software version installed, active AMS, and a stable Internet connection.

With the help of this software you can perform basic and advanced software functionalities such as vehicle scan, read/clear DTCS, monitor live values, module adaptation and replacement (VIN Change), and key learning to some of the latest models of the brand.

For proper operation of your diagnostic software you will need a corresponding interface for connection between your PC and vehicle named "AVDI". "AVDI" stands for "Abrites Vehicle Diagnostic Interface." It is produced by Abrites Ltd. and intended to act as an interface between the PC and the electronic control units.

Please check the "license viewer" installed on your computer for your unique interface ID number.

The software is in constant development and its functionality is ever growing. The intentions for the Abrites Software are to be used by automotive specialists, but it is simultaneously designed in such a way that is accessible to enthusiasts as well.

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

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2. General Information

2.1 Scope of the manual

This document describes the usage of Abrites "FCA Online". The document is applicable for the latest software version. In this manual we suppose that the software for your AVDI interface is already installed. Please refer to the "AVDI Common User's Manual" in case it is not.

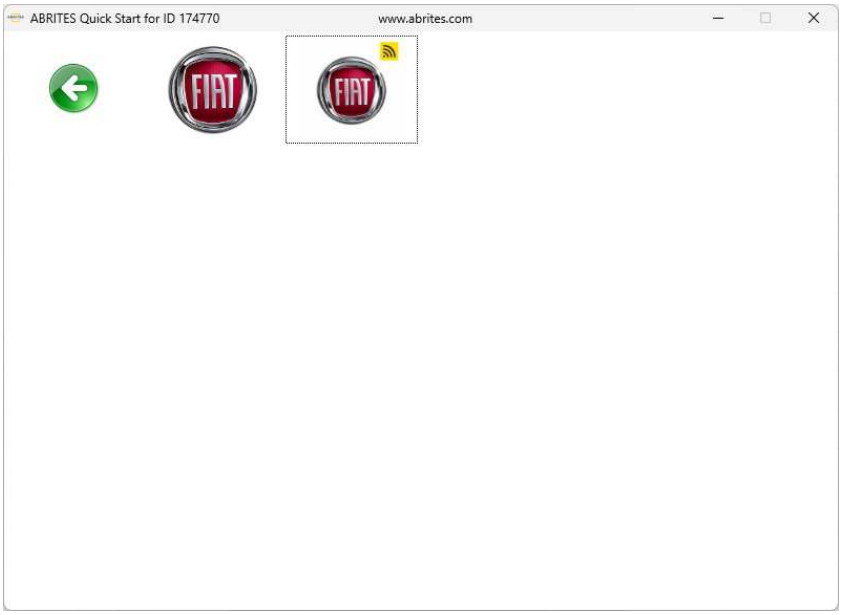
System requirements:

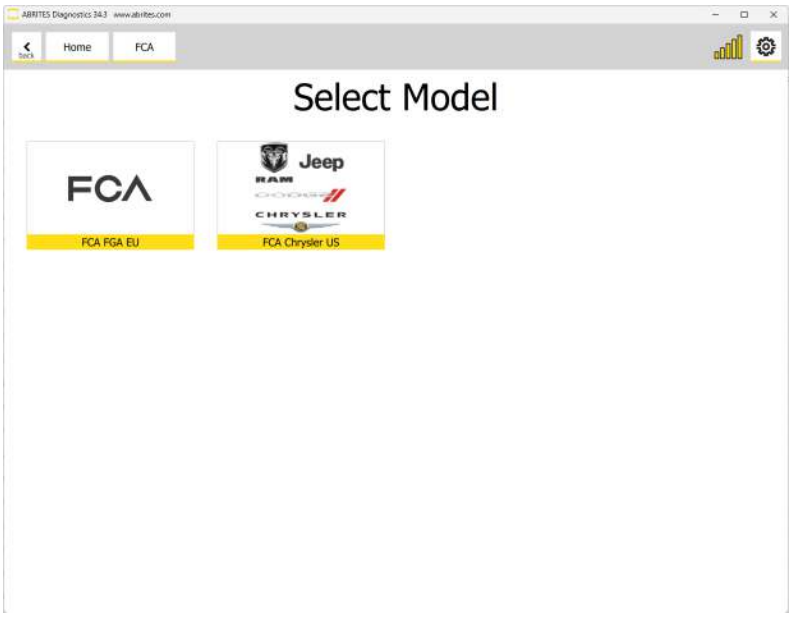
Minimum system requirements – Windows 7 SP1 + 2GB RAM (recommended 4GB)

2.2 Getting Started

You can start Abrites “FCA Online” by starting the Abrites Quick Start application and selecting any of the FCA Brands.

When the FCA application is started the main screen of the application will appear where you can select the FCA Online icon.





3. Abrites Diagnostics for FCA Online

ABRITES Diagnostics for FCA Online brings improved user experience.

When starting the software it is recommended to have the vehicle connected to an external power source in order to be sure that the vehicle does not loose power during the time spent working on it. When the software is started the vehicle will be automatically detected and General Diagnostics screen will be displayed and the scanning of the modules will automatically start.

Using the Abrites Diagnostics for FCA Online we have access to basic diagnostic functionalities and special functions.

IMPORTANT: Internet connection is required!

Some of the general diagnostic functionalities are:

- Scanning for modules
- Read and Clear DTCs
- Monitoring Live Data
- and more

Apart from the basic diagnostic functions the Abrites diagnostics for FCA Online allows the user to perform various diagnostic functions at an extremely high diagnostic level. Such functions include:

- VIN change
- Module Replacement and Adaptation

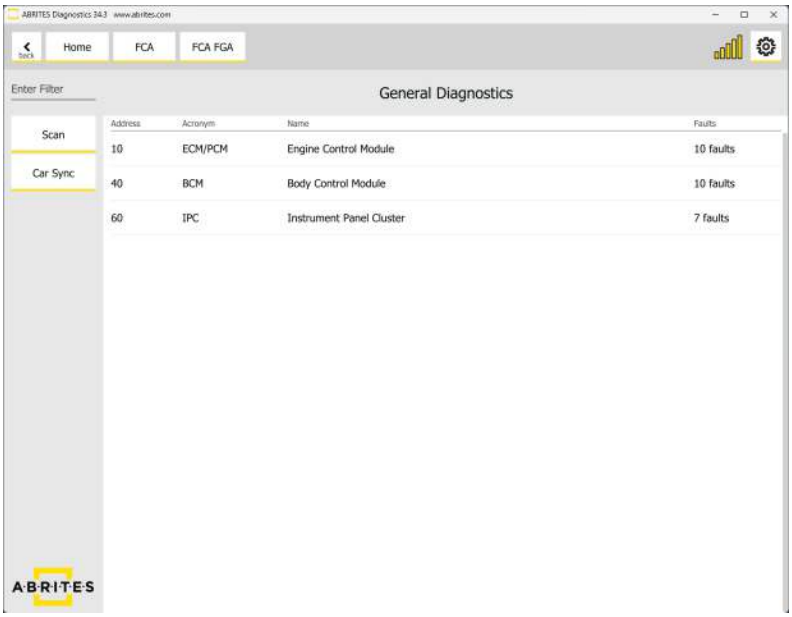
4. General Diagnostic Functionalities

Once started, the software will go through all available protocols and will identify all available modules in the vehicle you are working on. You could then enter each module and you will see all available options for it Abrites Diagnostics for FCA Online has the following basic diagnostic functionalities:

- Vehicle Scan
- Read/Clear DTCs
- Monitor Live Values 4.2

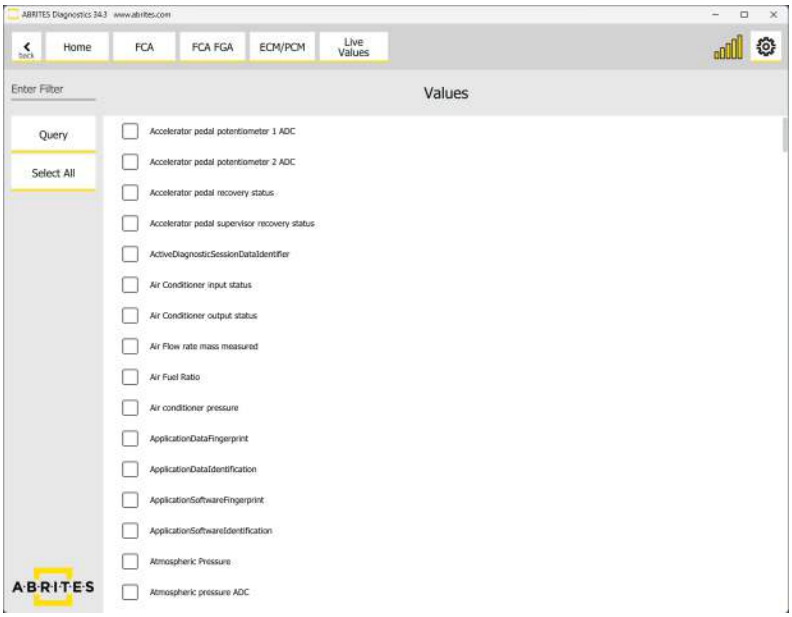
4.1 Scan

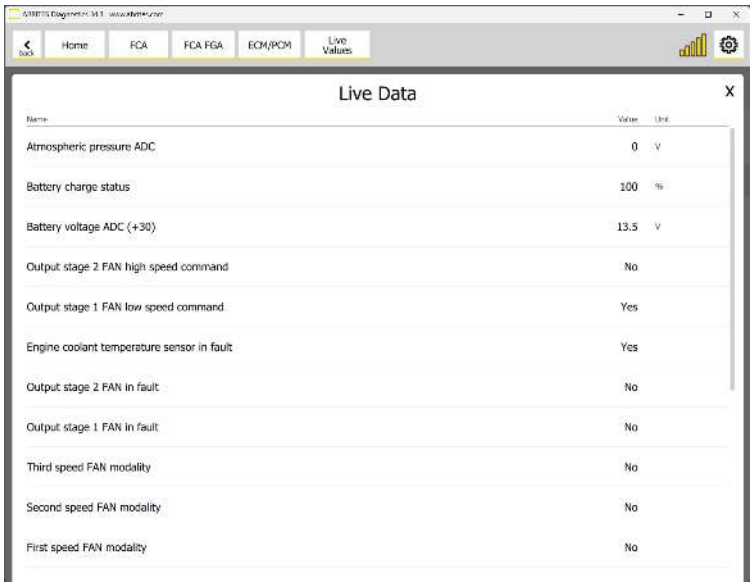
When pressing the Scan button the user will see the electronic modules installed in the vehicle they are currently working with. The number of faults within each will also be displayed.



4.2 Monitor Live Values

In order to display the live values of a module within a vehicle the user should select the module they would like to view the live values for, open it and select “Live values”. A list of the available parameters will be displayed, you can choose certain parameters to monitor, or select all and monitor them im a query mode.





5. Special Functions

The software provides special diagnostic functions in order to assist the user to perform advanced diagnostics on vehicle from the FCA Group. The available special functions are displayed on the left side of the main screen of the software, in a list form in the menu bar. You can open the required special function by clicking on it

Car Sync is a special function, which lets you synchronize VIN (Vehicle identification numbers) in all modules in your vehicle, thus letting you replace and adapt modules.



6. Key Learning Special Function

This special function allows you to perform key learning procedures to FCA platform vehicles, which have BCM unit with an RH850 MCU and Atmel-type keys.

Functionalities:

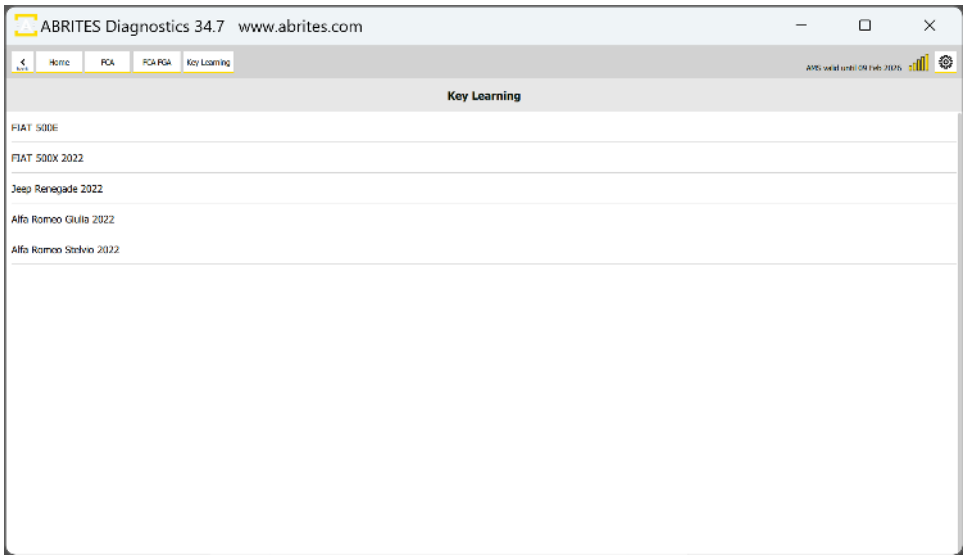
- PIN code reading and Key programming
- Transponders/Keys preparation
- Remote control programming

This special function works together with the ZN085 ABRITES RH850/V850 Programmer. The process of key programming includes reading the dump using the ZN085 Programmer and the corresponding software, then preparing the key via the ABRITES Diagnostics for FCA Online and with the help of the ZN003 PROTAG Programmer and finally, learn the key.

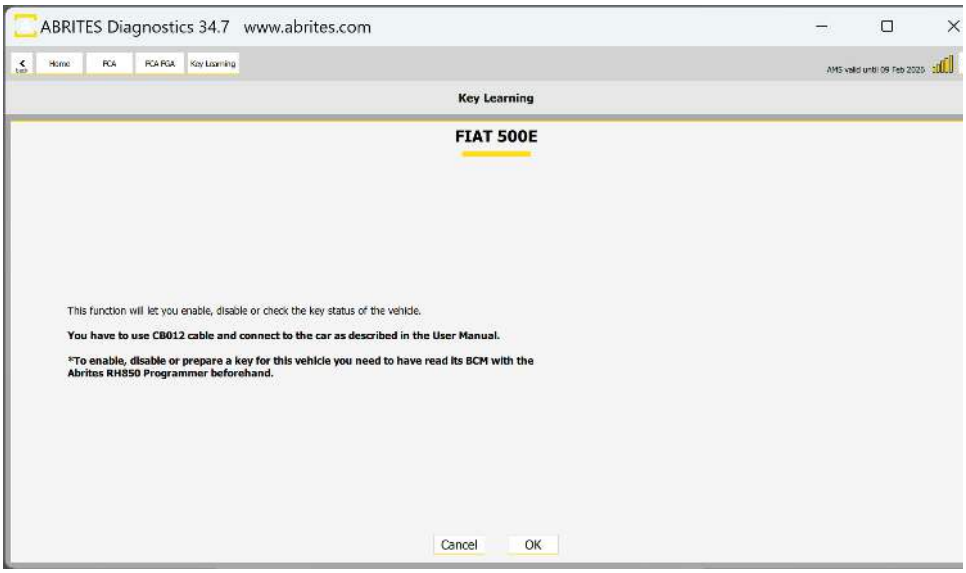
CB012 - Direct CAN-BUS Connection Cable Set is required to establish connection to the internal CAN wires, where the BCM is also connected, and execute the procedure, picture with example available on the next page.

First, you need to have the unit read with the ZN085 programmer, once this step is done, you can install the unit back in the vehicle and proceed to the FCA Online software.

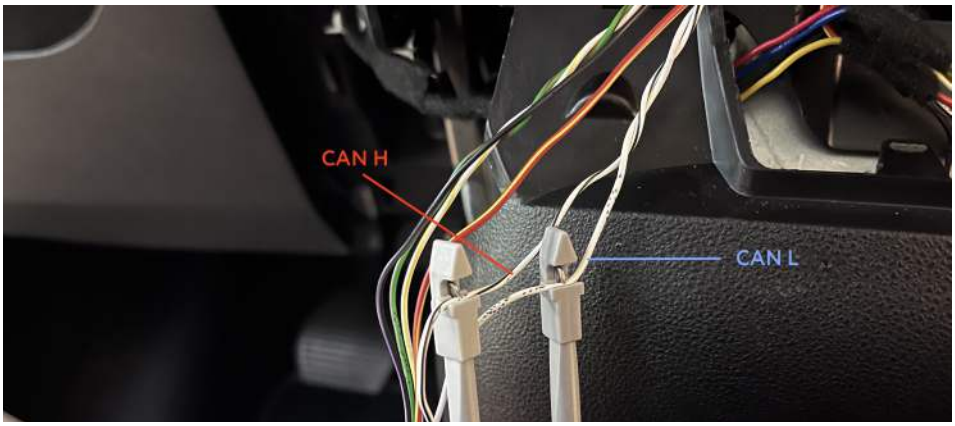
All procedures are guided and with on-screen messages, please make sure you pay attention to what the software is asking for.



- Prepare Key Fob - prepare the transponder with the use of ZN003 ProTag programmer. If the key is order from an FCA dealer by VIN it should be prepared, so you can skip this step.
- Read Key Fob ID placed on the emergency slot of the vehicle - you can read the information from the key in the vehicle.
- Check Status of Key Fob in ProTag - check the status of the key before proceeding to key learning.
- Disable Key Fobs - Any key fob that is not used in this procedure will be disabled, you will remain only with the present keys working for the vehicle.
- Enable Key Fobs - before this step, make sure you prepare the key with the ZN003 programmer, or use a dealer's key - this step will complete the key learning procedure.



These are the wires that go to the gear selector module, example is in FIAT 500E



Below you can see screenshots from the main key learning screen and the available options, as well as the status of a key in the ProTag programmer





7. Car Sync Special Function

The Module Adaptation functionality for ABRITES Diagnostics for FCA software is found under the "Car Sync" special function.

With this new functionality, you will be able to adapt modules unrelated to the immobilizer of Alfa Romeo, Fiat, Jeep, and Lancia vehicles effortlessly. These modules include:

- Distronic
- ABS
- Electric power steering
- Climate control
- and many more

The procedure essentially offers a vehicle identification number synchronisation between the modules and the vehicle, which makes adaptation procedures of non-immobiliser-related modules fast and easy.

This functionality is able to change VIN in all modules of the vehicle, however, we can say it works for module exchange or adaptation only for the non-immobilizer related modules.

*BCM, ECU, RFH modules need more than just VIN Change for adaptation.

Supported Models:

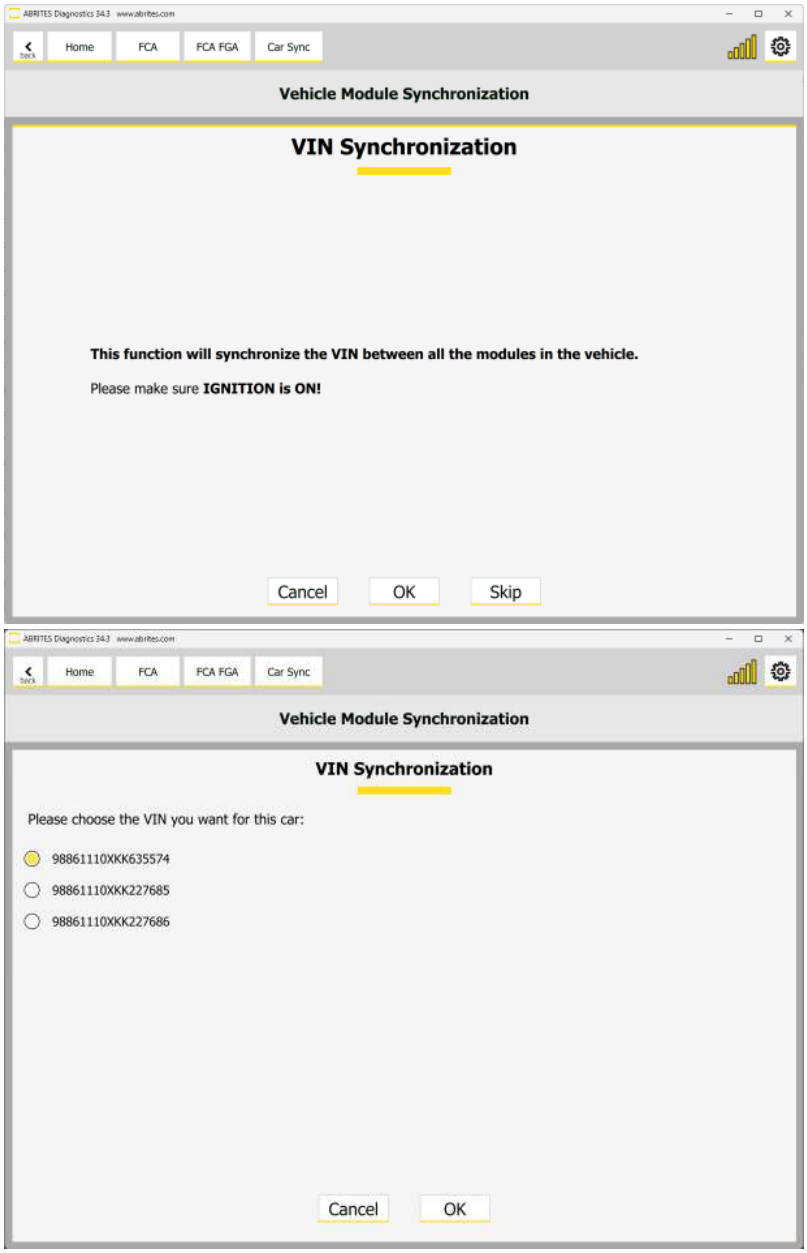
- Alfa Romeo: Giulia, Stelvio, Giulietta
- Jeep: Renegade, Compass
- Fiat: 500, 500L, 500X, Panda 319 MK4 (3rd generation), Doblo 263 (2nd generation), Fiorino/Qubo 255 (3rd generation), Ducato 250 (3rd generation)

Currently models are covered up to 2020, later models are still to be tested.

The procedure for VIN Synchronization is used when you want to adapt a non-immobilizer related module. You can start it from the main diagnostic screen > select Car Sync button on the left side.

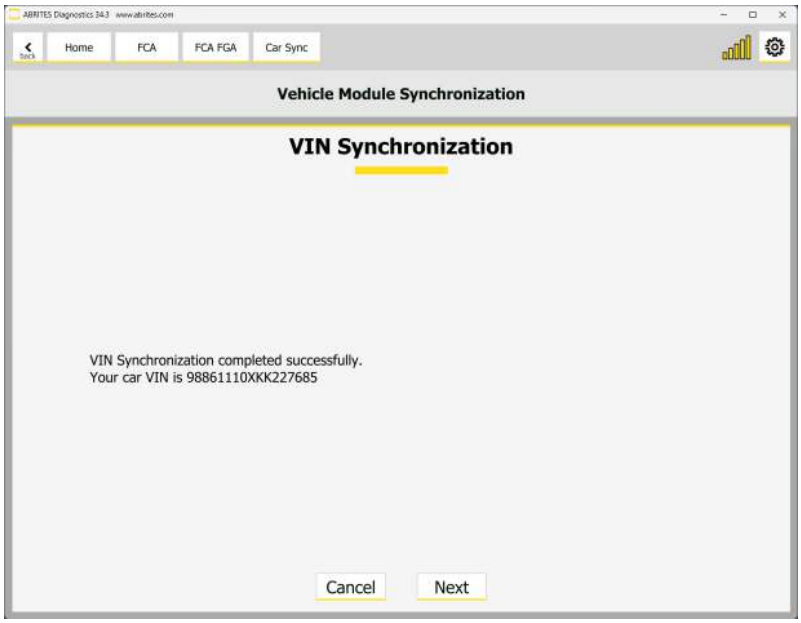
Here is how the procedure is executed:

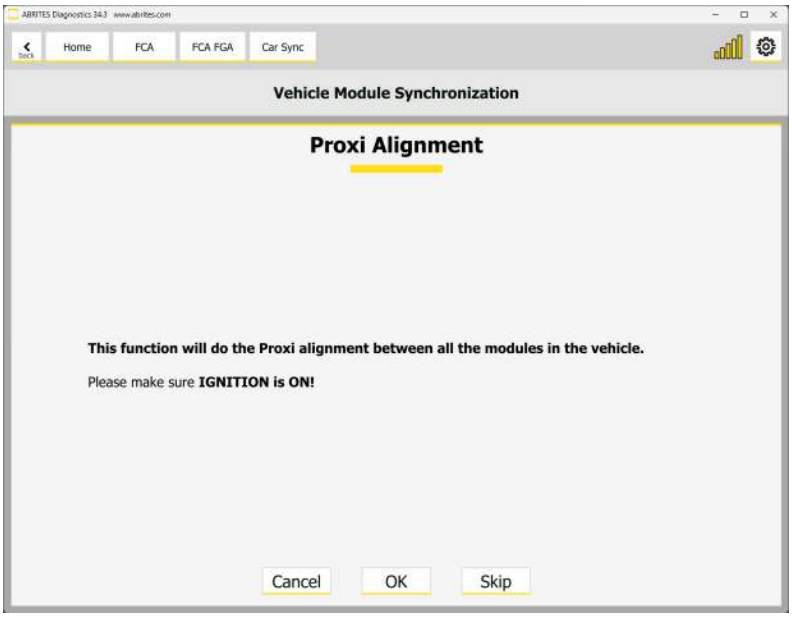
1. Select “Car Sync” and click OK to start the procedure
2. The software will collect and show the available VINs from the modules in the vehicle
3. Select the VIN that you want to be written in all modules
4. The software will start VIN change/synchronization procedure and proxi alignment



Proxi Alignment is needed after VIN change in FCA vehicle, the procedure does it automatically.

N.B.: If you want to add/remove modules in the car, you will need to change the CAN configuration (proxi) of the vehicle from the Abrites Diagnostics for FCA (Offline). FN021 will be required.





8. Scan VINs Special Function

This special function will let you scan all the modules in the vehicle and get the VIN in each module that has such information available.

In the example below you can see the VIN in the BCM unit of a Fiat vehicle.

This functionality is only informative, for VIN exchange please see Car Sync special function.

