



Achieve the impossible

Abrites Diagnostics AVDI Common
User Manual

Version: 3.3

www.ABRITES.com

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1. INTRODUCTION AND INSTALLATION

Congratulations on choosing our product!

AVDI will allow you to use your Windows based PC as a powerful diagnostic tool for cars, trucks, bikes, marine equipment and recreational products.

AVDI is an interface produced by Abrites Ltd. intended for interface between a PC and electronic control units.

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

ABRITES is a trade mark of Abrites Ltd.

Scope of the manual

This document describes the software and hardware installation of your AVDI diagnostics interface.

The document is applicable for the interfaces numbered 17xxxx (or 16xxxx) where xxxx is a hexadecimal number between 0000 and FFFF.

Your AVDI package

The basic package of AVDI interface contains:

- Abrites Vehicle Diagnostics Interface
- AVDI OBDII cable (SAE J1962) - used to connect the AVDI to the vehicle



- USB cable with extra power - used to connect the AVDI to the PC



System requirements

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

Getting Started

Software for your AVDI interface can be delivered by email. Please make sure that you follow the steps described below.

Software is represented by windows executable files named

1. "SetupInterface_17xxxx.exe" (or 16xxxx.exe)
2. "SetupInterface_Common.exe" and three more downloadable parts of the common file:
 - " SetupInterface_Common-1.bin "
 - " SetupInterface_Common-2.bin "



SetupInterface_1
7xxxx.exe



SetupInterface_C
ommon.exe

3. "SetupInterface_17xxxx_PASSTHRU.exe" (or 16xxxx)

where 17xxxx (or 16xxxx) is your interface identification number.

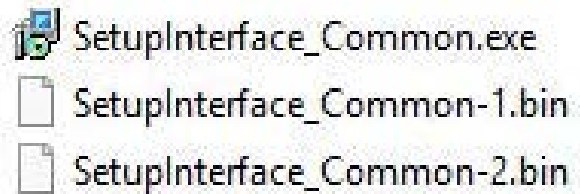
Software installation steps

Please follow the bellow given instructions when installing the software for your AVDI interface.

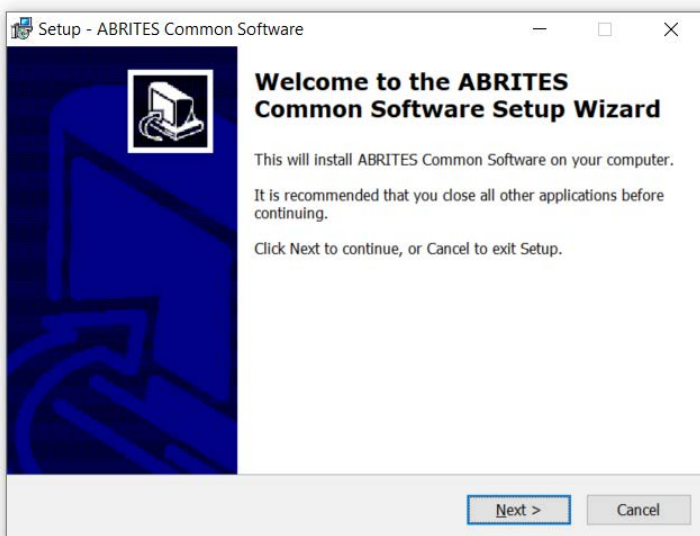
Important! All executable files (.exe) mentioned above must be executed consequently(1,2,3) for the installation to be complete. Otherwise the software might not function as expected!

Step 1. Download all the parts of the common setup files in one folder.

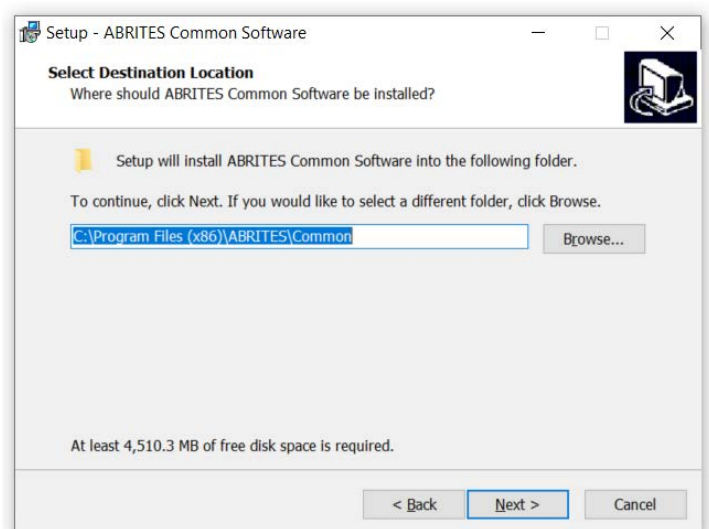
Start the executable file "SetupInterface_Common.exe" and follow the onscreen instructions.



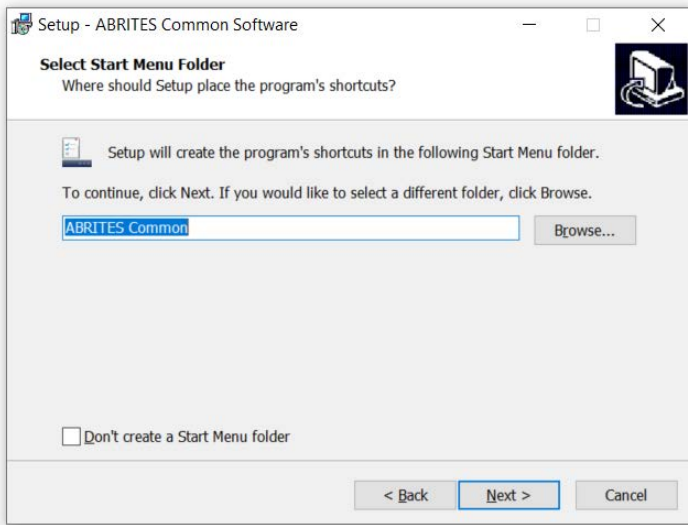
IMPORTANT! Make sure that they are all downloaded in the SAME folder and their names are EXACTLY as they are named on the image above. If you have "SetupInterface_Common-1 (1) or (2)", as Windows would name them if you have two files with the same name, the installation WILL NOT be completed.



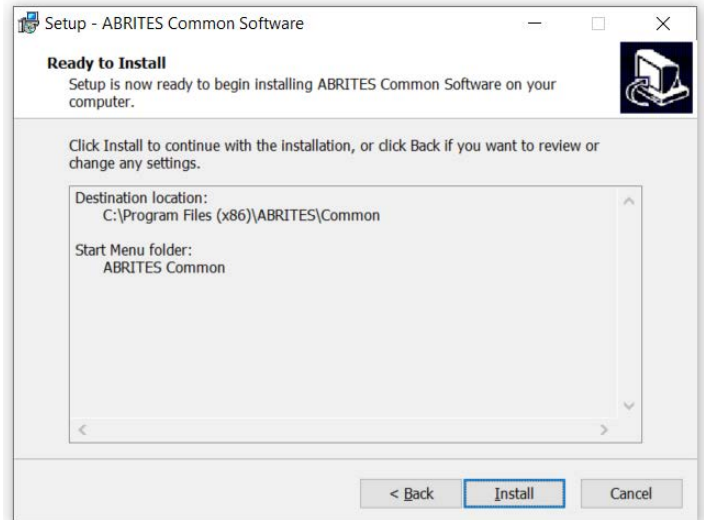
Press the "Next" button to proceed with the installation.



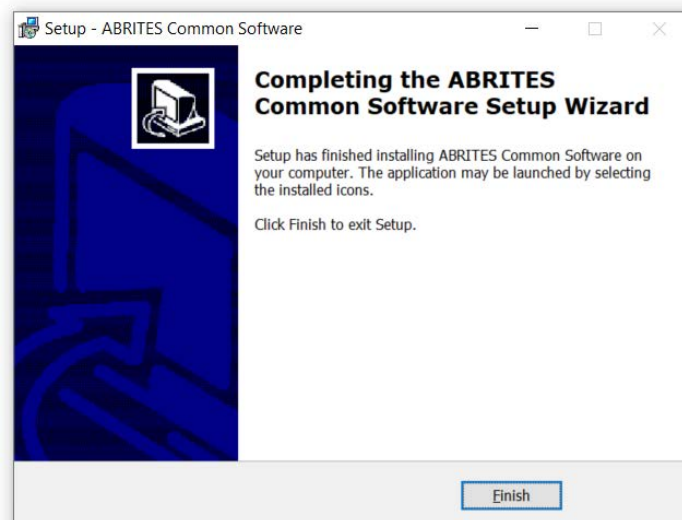
Press 'Next'.



Press 'Next'.



Press 'Install' and wait for the installation to complete.



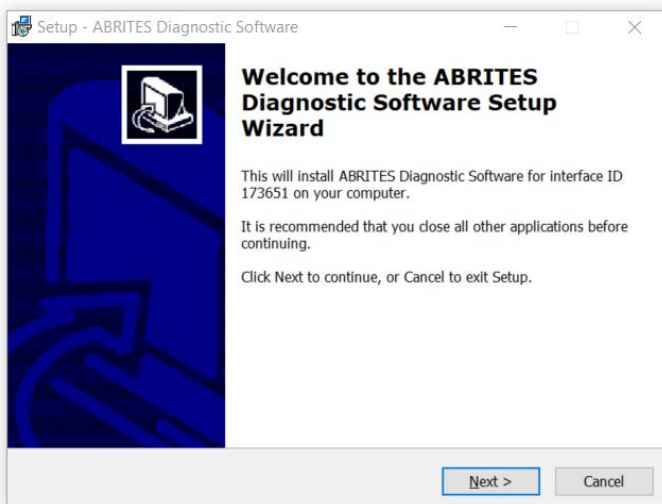
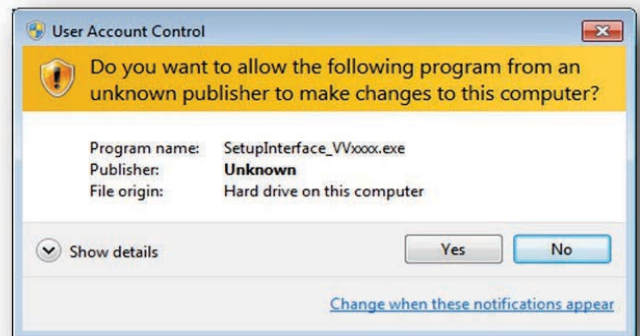
Press 'Finish'.

Step 2.

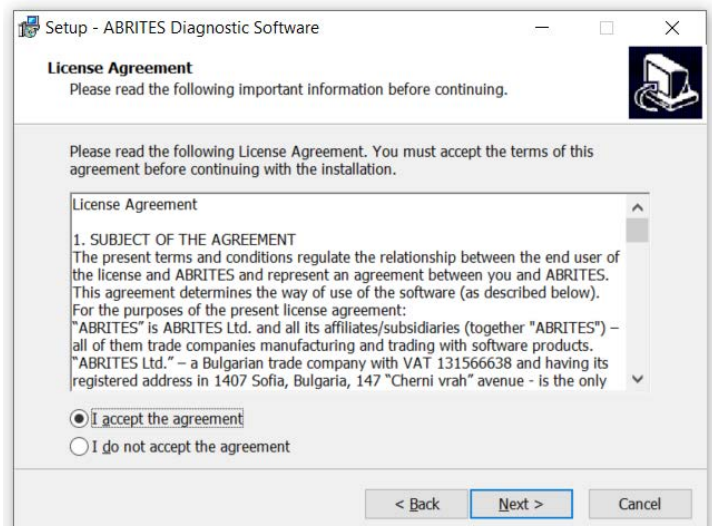
Please, start the executable file 'SetupInterface_17xxxx.exe' (or 16xxxx.exe) to initiate the installation procedure and follow the onscreen instructions.



Depending on your operational system and settings you may be asked to confirm the start of the installation procedure or to type in your administrative credentials.

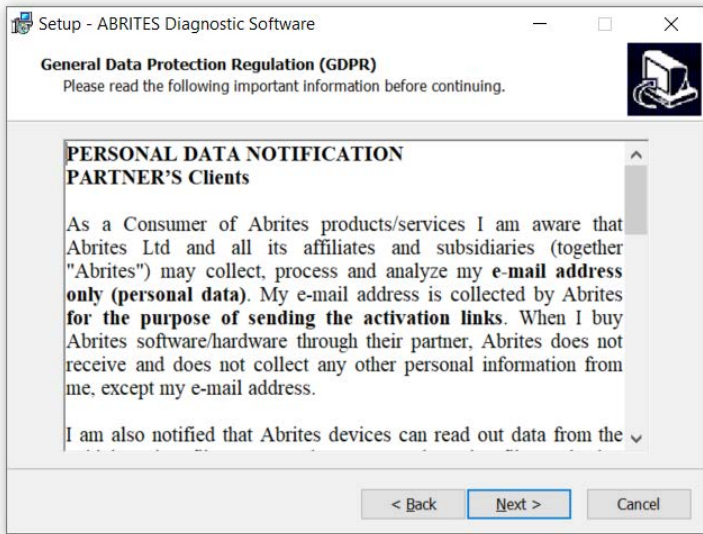


Press the "Next" button to proceed with the installation.



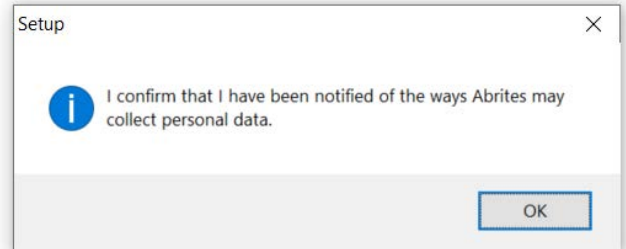
Read the license agreement carefully and select "I accept the agreement" if you accept it. Then press the "Next" button.

If you do not agree press the "Cancel" button to interrupt the installation procedure.

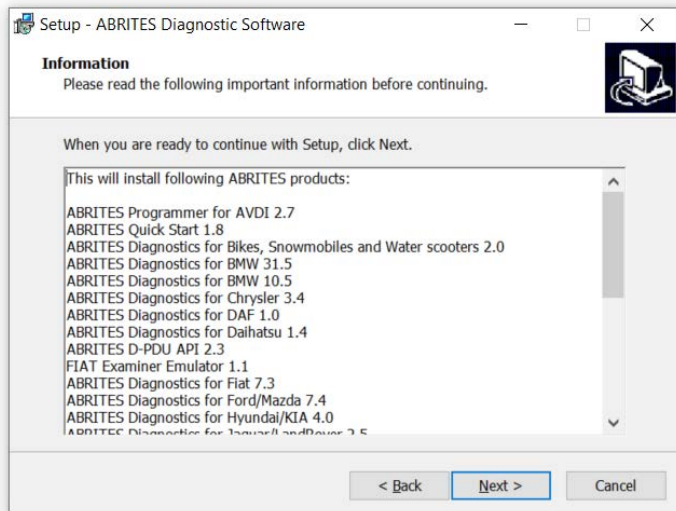


Read the General Data Protection Regulation (GDPR) and press the "Next" button.

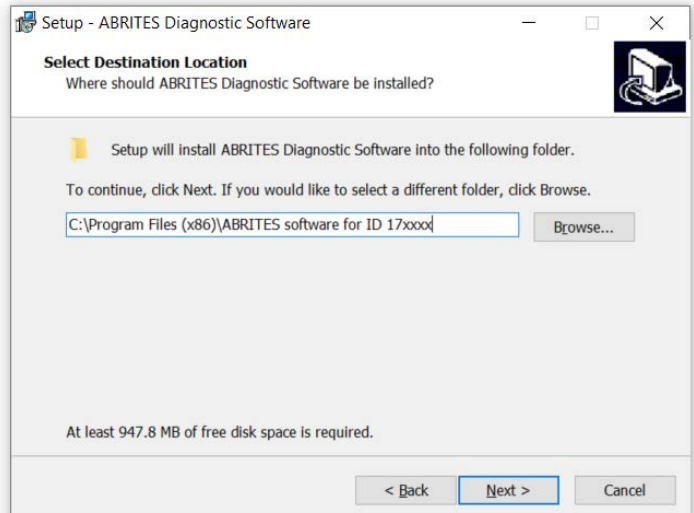
If you do not agree press the "Cancel" button to interrupt the installation procedure.



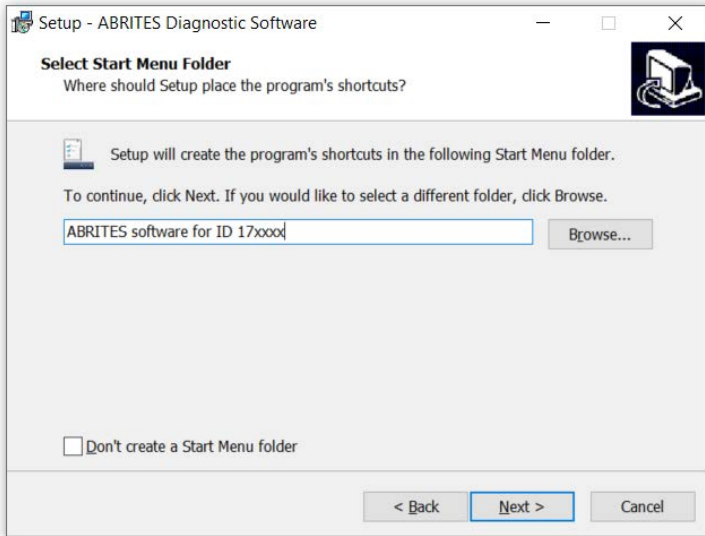
Confirm the GDPR by pressing the "OK" button.



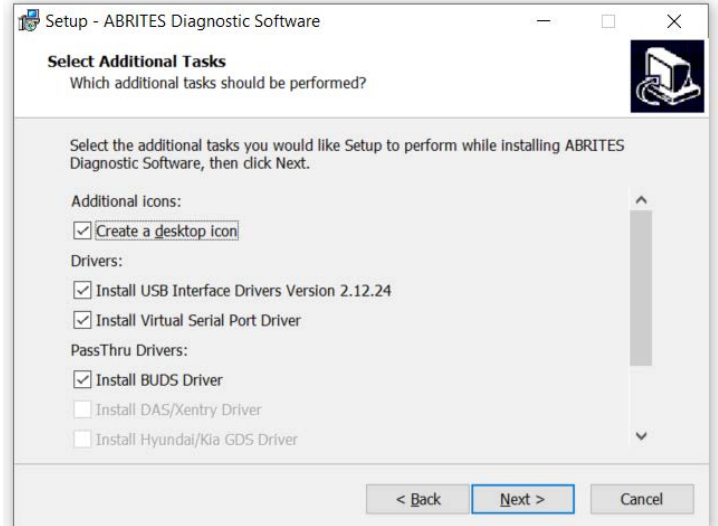
Press the "Next" button to proceed with the installation.



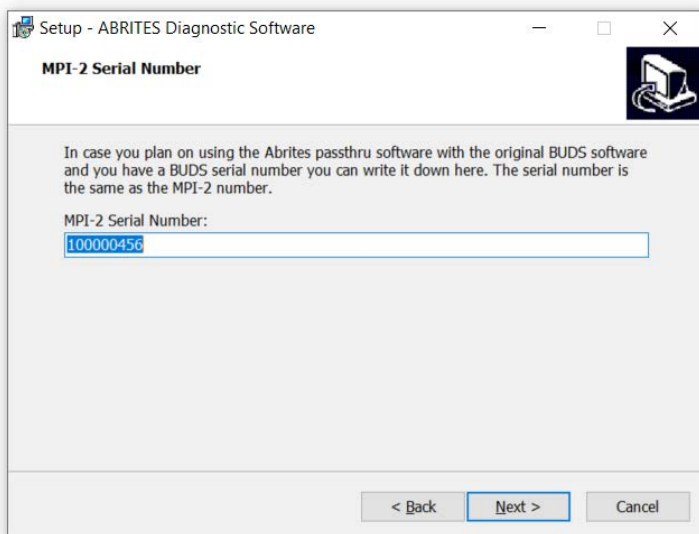
Press the "Next" button to proceed with the installation.



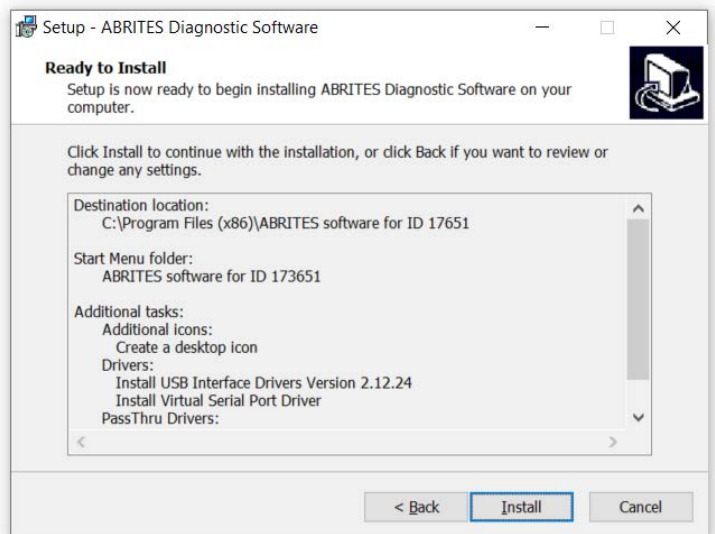
Press the "Next" button to proceed with the installation.



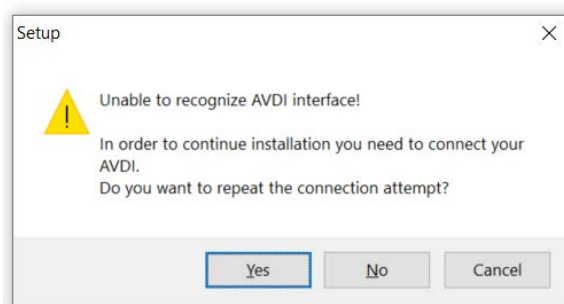
If you do not want desktop icons – uncheck the check box about the creation of these icons. Press the "Next" button to proceed.



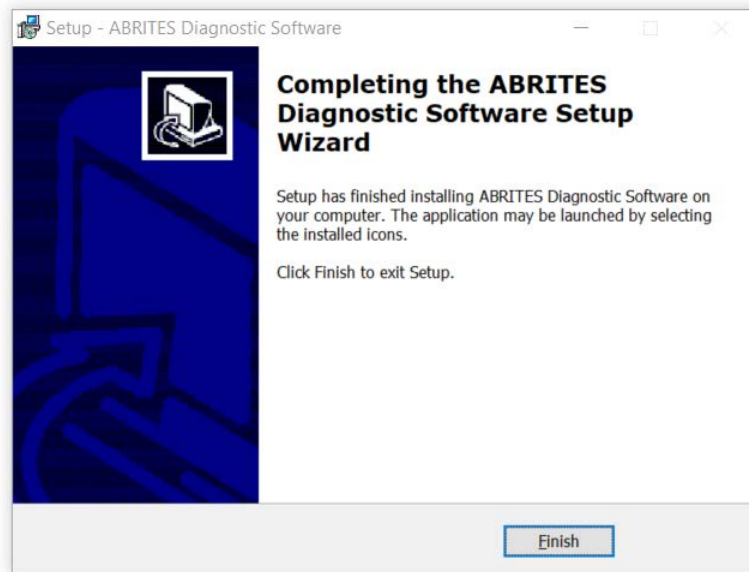
Press the "Next" button to proceed.



Press the "Install" button.



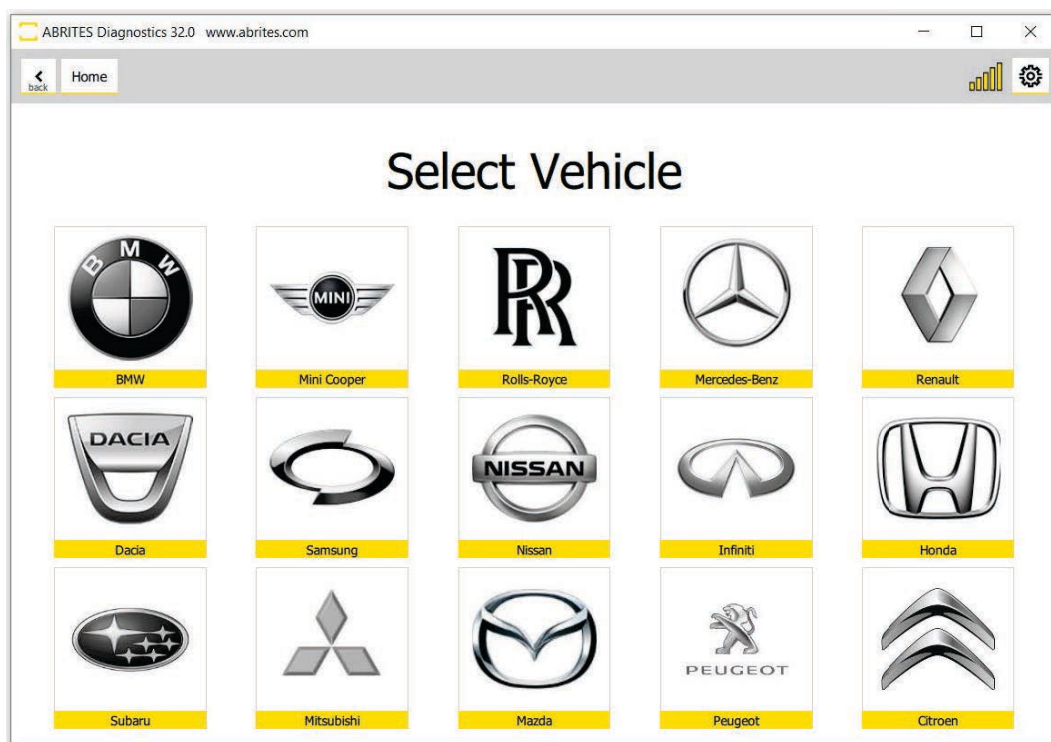
If you do not have your AVDI connected to the PC during the installation you will see this message. Connect your AVDI and press "Yes".

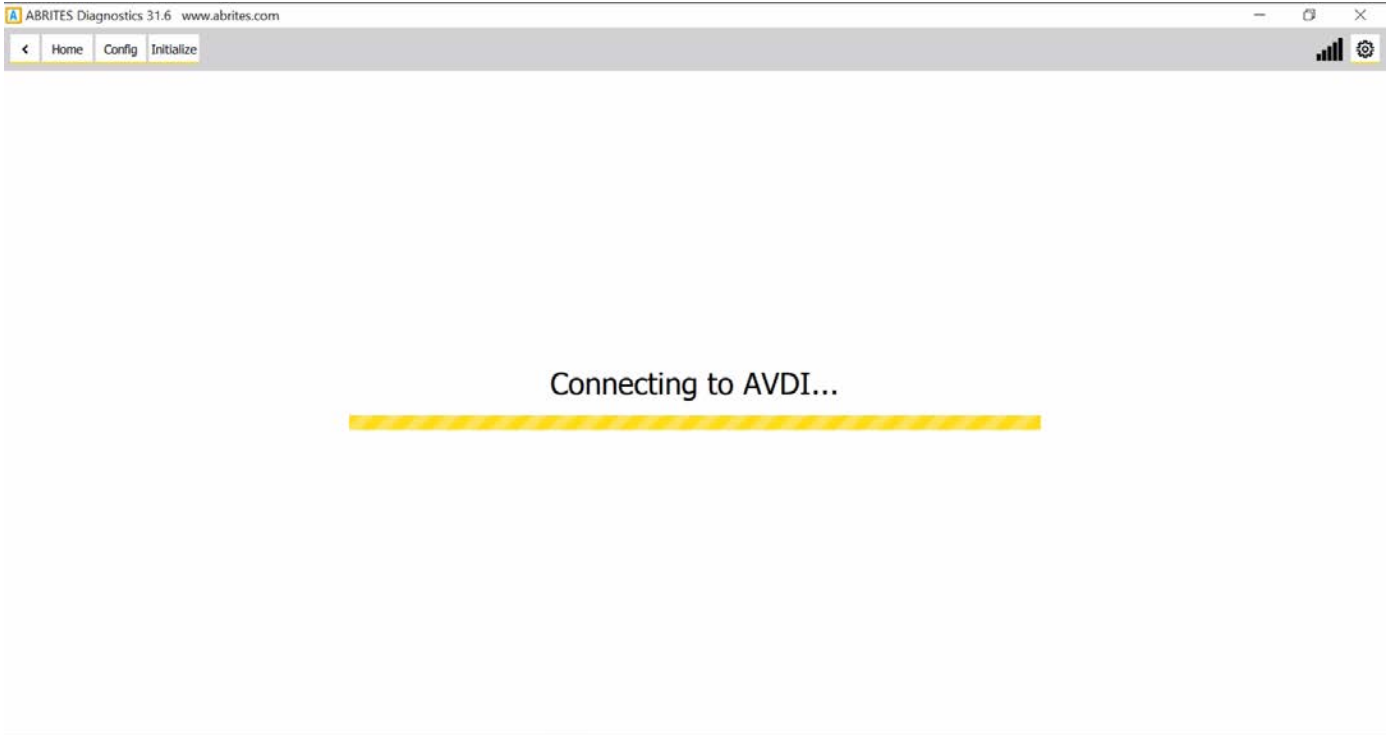


When the installation is completed the wizard will create an "Abrites Quick Start for ID17xxxx (or 16xxxx) desktop icon.

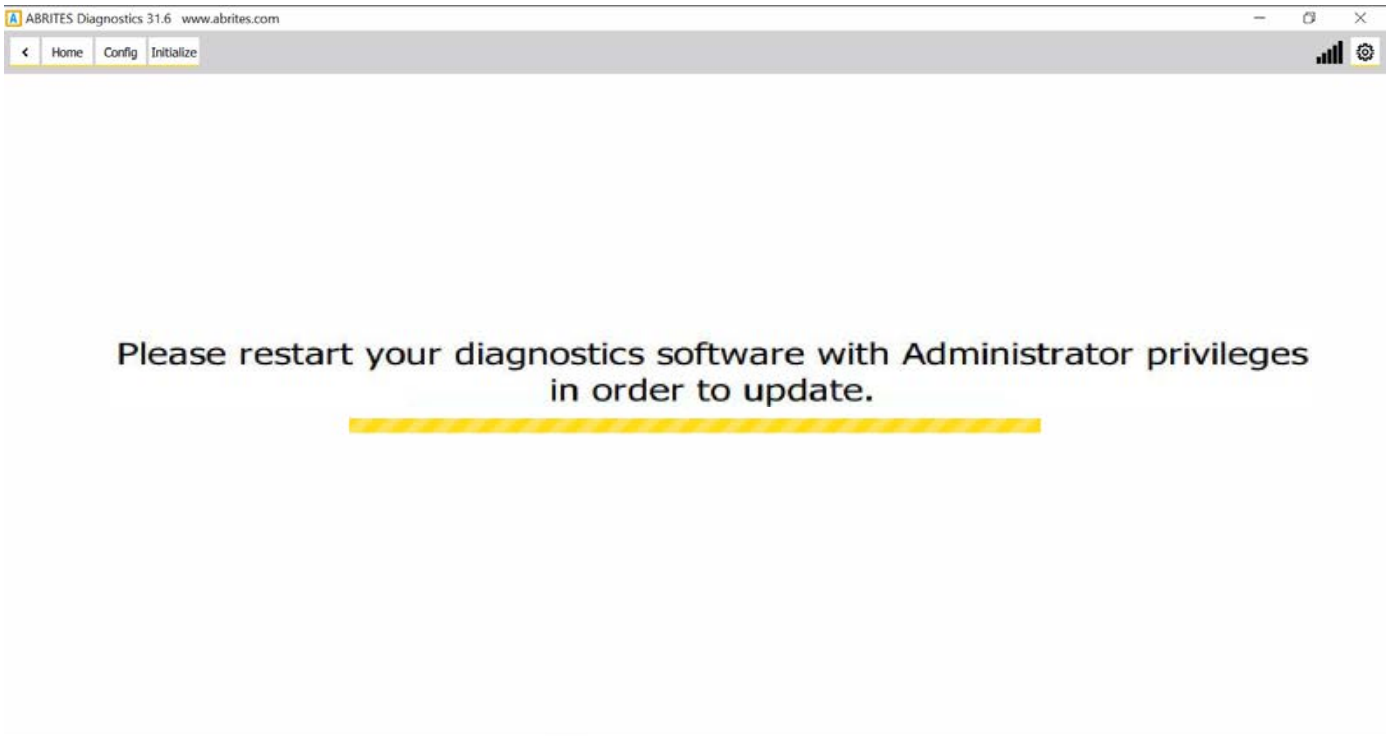
New generation Abrites Online Diagnostics for BMW/Mini, Renault/Dacia, Honda, Mercedes-Benz, Mitsubishi, Nissan, RollsRoyce, Subaru, Ford/Mazda, PSA

During the half of 2014 Abrites ltd. released a new generation of online diagnostic software. The Software is currently distributed together with the older platform. The new generation software (versions 31.5 and later) requires Internet access due to the large calculations performed by the Abrites server instead of the user's computer.



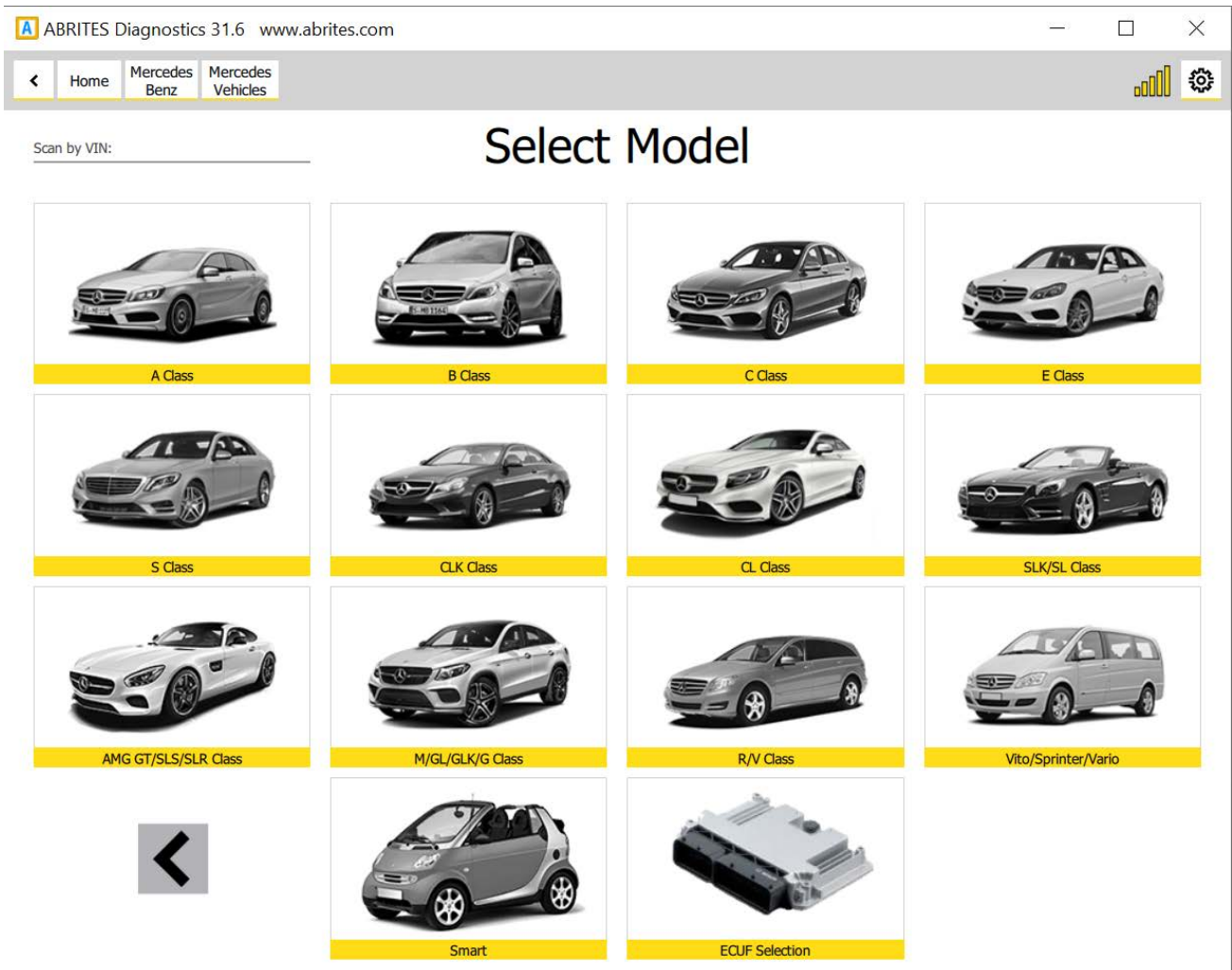
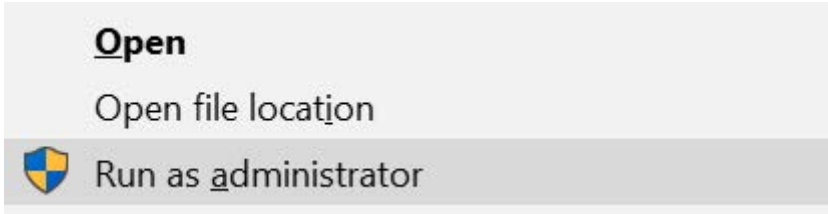


When the software is launched it will display the messages for server connection and AVDI connection.



When new updates are available the Abrites software has to be run as **administrator**. If more than one component need to be downloaded the software has to be run it one more time as **administrator**. Right click on the

Abrites Quick Start icon on your desktop and select "Run as administrator".



As soon as the interface is recognized and all updates are installed the list of available models will be displayed.

Please, be informed that the installation includes a copy of the user's manual to which you could refer at any time. It is stored in the following location:

Start menu -> Program Files -> ABRITES -> Common -> AVDI Common User's Manual

You could use the interface for any given diagnostics by going to the following location:

Start -> Program files -> ABRITES software for ID17xxxx(or ID16xxxx) -> choose one of the folders named by brand or open the "ABRITES Quick Start.exe" file.

ABPROG

You could access the ABPROG Programmer for AVDI by going to the following location:

Start -> Programs -> ABRITES software for IDxxxxxx -> ABPROG -> ABPROG.exe.

ZN030-ABPROG + ZN031-M35XXX/SPI/I2C Adapter + ZN046(key renewal adapter for Hitag 2 keys) + ZN034(ABPROG flat cable) together with Abrites EEPROM Programmer software allow you to erase and write SPI EEPROM memory with and without incremental registers.



*A detailed user manual is included in the following directory:

Start menu -> Program Files -> ABRITES -> Common -> ABPROG

PROTAG

You could access the PROTAG programmer software by going to the following location:

Start -> Programs -> ABRITES software for IDxxxxxx -> TagKeyTool -> ABRITES Tag Key Tool.exe



*A detailed user manual is included in the following directory:

Start menu -> Program Files -> ABRITES -> Common -> Tag -> Tag Key Tool Common User's Manual

2. Quick Start

The Abrites Quick Start for IDxxxxxx where "xxxxxx" is the ID of your AVDI is a simplified user interface which allows you to start working with the AVDI in a much quicker manner. After the installation is complete you should have a **Quick start icon** on your desktop as well as a start menu shortcut.



Interface preparation and connection to the PC

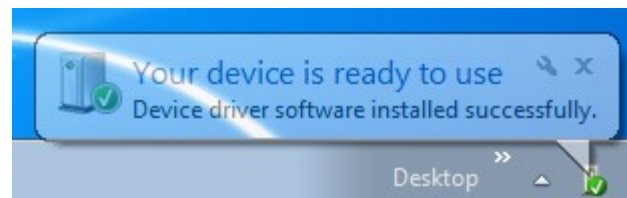
Connect the USB cable from the AVDI package to the interface.



Connect one of your diagnostic cables (OBDII, Deutsch etc.) to the interface.



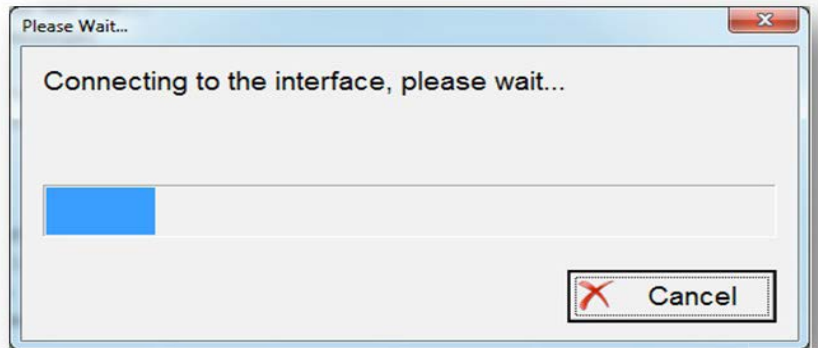
Connect the main USB connector(CB104) to your PC.



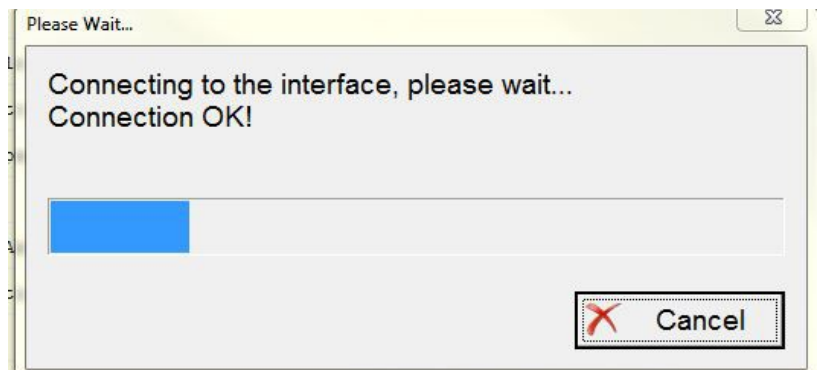
If you are connecting the interface to your USB port for the first time wait until Windows notifies you that the drivers are installed successfully. Please, take into account that if you reconnect the interface to another USB port of your PC for the first time you might need to wait again until Windows confirms your successful installation.

You are ready to run some of the diagnostics.

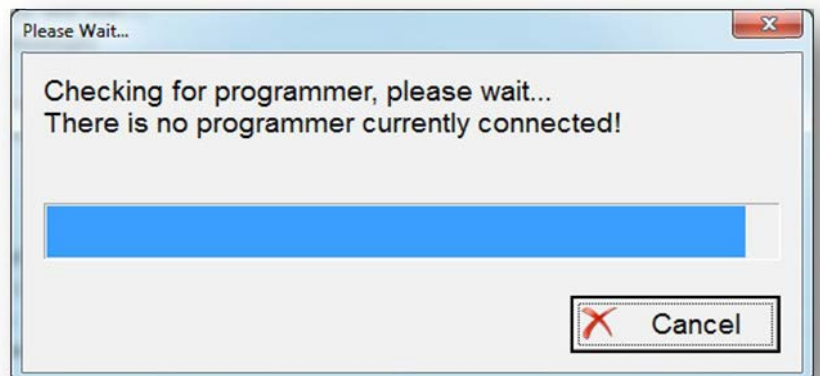
When you start a diagnostics you should see this:



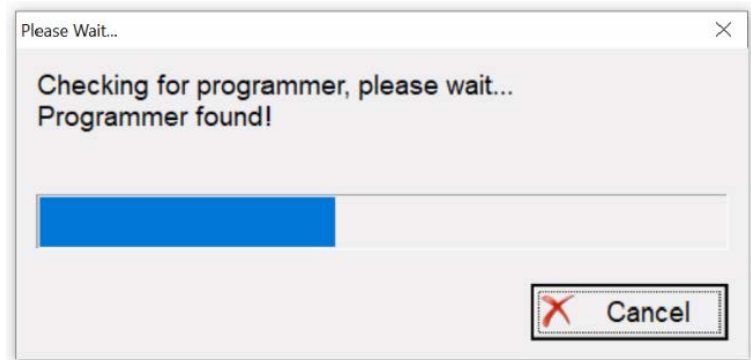
This means that the connection to the interface is OK:



The software checks for connected PROTAG programmer:



If you HAVE connected the PROTAG programmer you should see this message that the PROTAG programmer is successfully recognized and you can start working:



3. USING AVDI WITH A VIRTUAL MACHINE (VM)

If you like to use your AVDI interface (software) with a virtual machine here are some preliminaries that should be made.

Install AVDI software on the VM

After you have loaded and played the VM on which you would like to use your AVDI interface, please install the ABRITES Software for the AVDI interface which you want to use on the VM. This is done exactly as the installation on your host PC (see [3.1 Software installation steps](#)).

Be sure that the checkbox about the installation of the interface's USB drivers is set, especially if you are installing the Abrites Diagnostic Software for the first time on this machine.

You should see the following window:

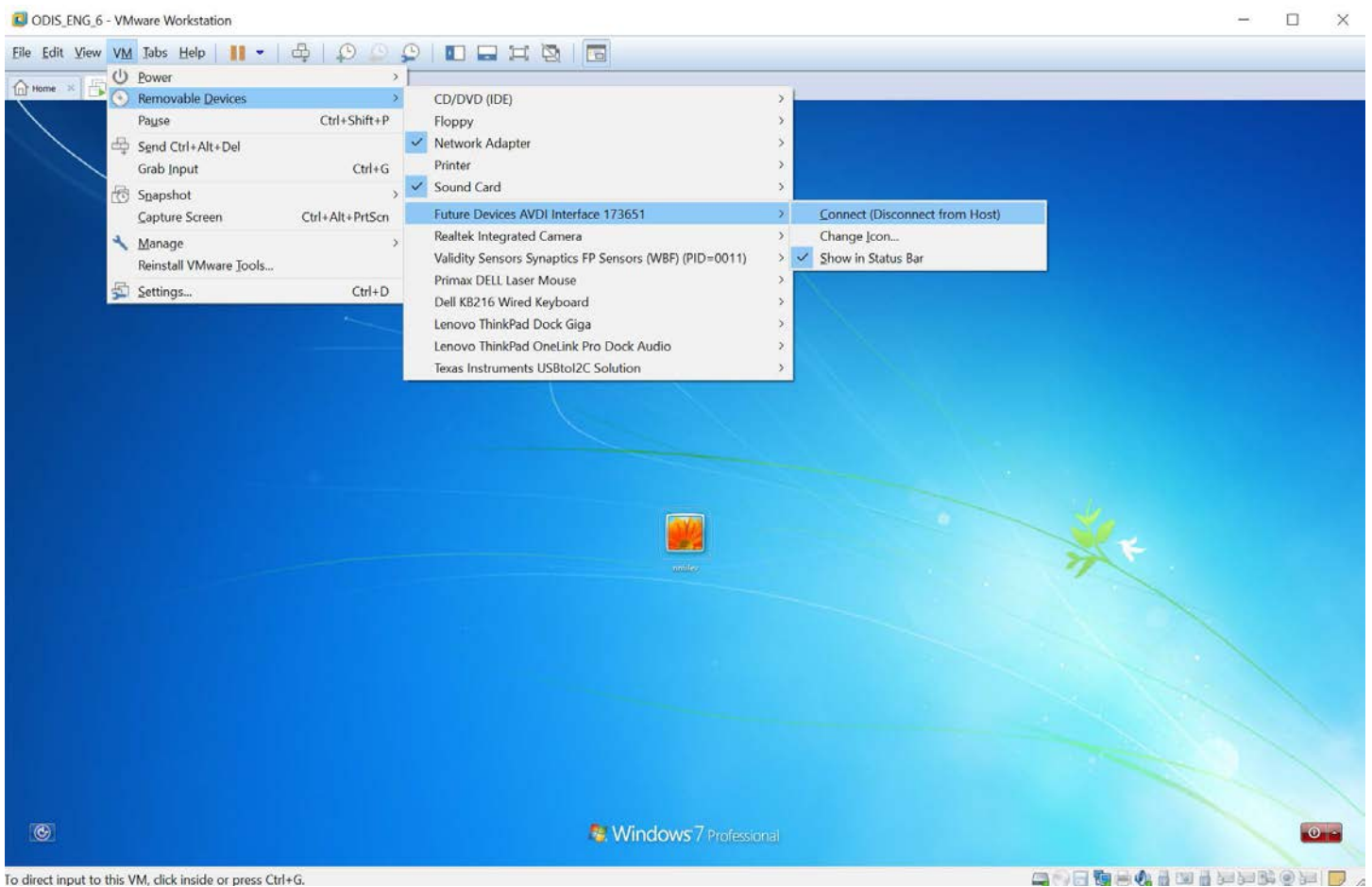
Wait for the drivers to be installed.

Connect AVDI to the VM

After the ABRITES Software is installed on the VM and you have connected the AVDI interface to an USB port of your PC you should redirect this port to the VM, otherwise you cannot use the AVDI interface on the VM!

This can be done in the following way (example with VMware):

From the main menu of the VMware player, select “Virtual Machine” → “Removable devices” → “future devices avdi interface 17xxxx(or 16xxxx)” → “Connect (Disconnect from host)”.



Here 17xxxx(or 16xxxx) is your interface identification number.

You will be shown a message informing you that the USB device will be unplugged from the host machine and connected to the virtual machine.

If you like to disconnect the AVDI interface from the VM (so you can use it on the host PC) you can either close the VM Player or do it through the VMWare menu “Virtual Machine” → “Removable devices” → “future devices avdi interface Vvxxx” → “Disconnect (Connect to host)”.

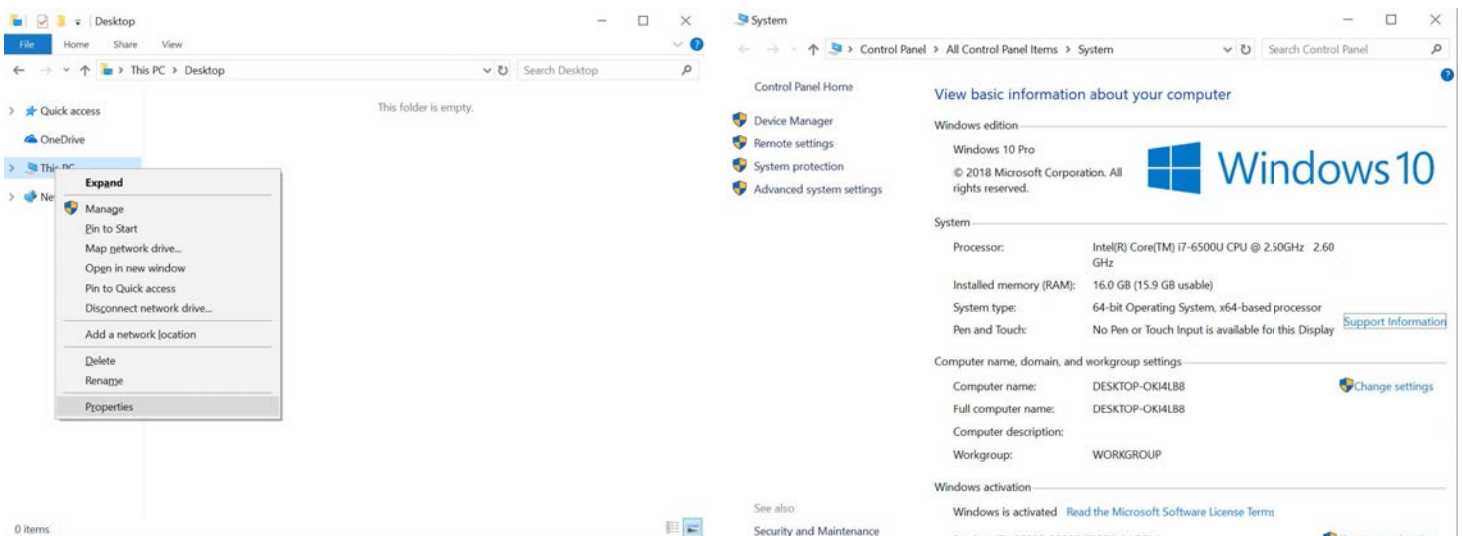
Shut down the VM

After you have finished working with the Virtual Machine you should perform “**Shut down**” of the Operating System. This applies also when using the J2534 Passthru driver on Virtual Machines.

Set latency timer

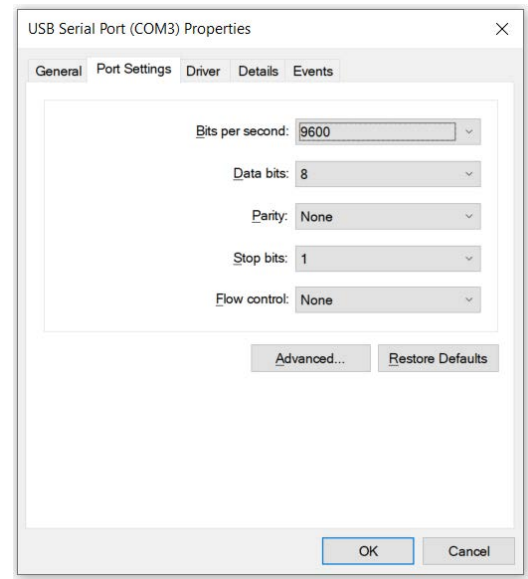
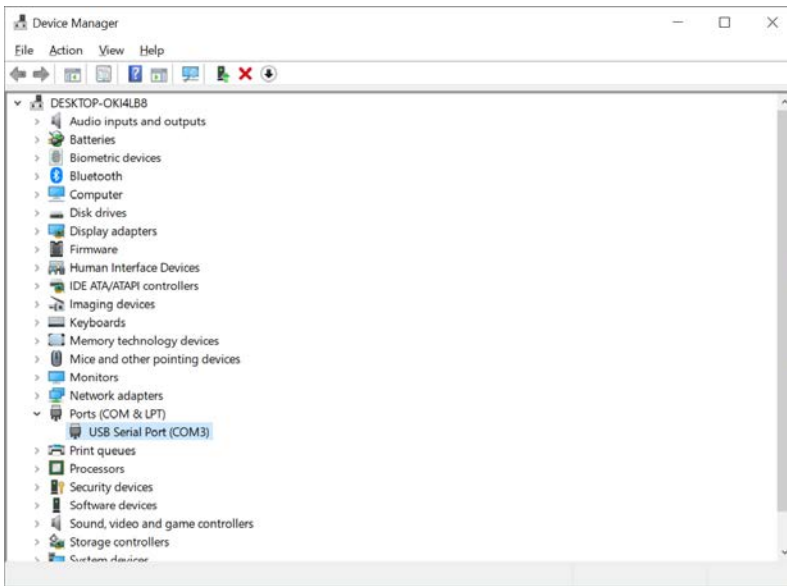
Another prerequisite before you start using the AVDI interface on the VM is to set the latency timer of the COM port where the AVDI interface is recognized to **1ms**.

This can be done in the following way:



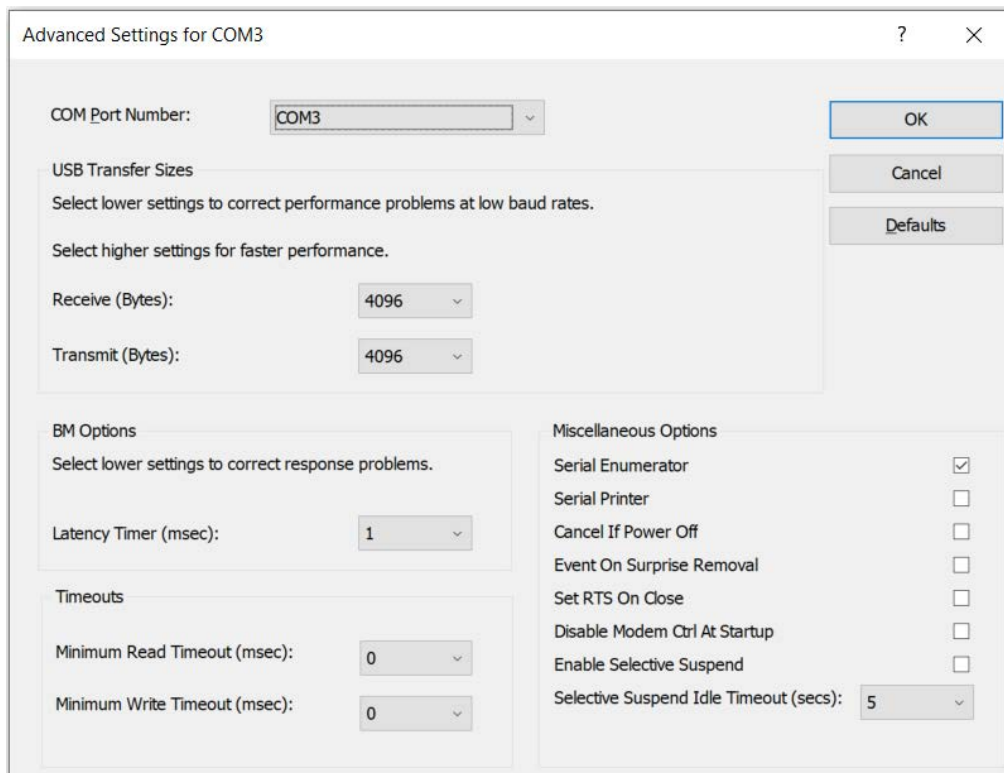
Open Windows Explorer then right click on “**This PC**” (“My computer”) and select “**Properties**”.

From the “**System properties**” window select “**Device manager**”.



In the opened window select **"Ports (COM & LPT)"**. Your AVDI will appear in the list as "USB Serial Port (COM xx)" where "xx" can be different number. Double click on it.

From the screen select **"Port settings"** and then press **"Advanced"**.



Make sure **"Latency timer"** is set to 1.

Please, note that if you connect your AVDI to a different USB port you should do these steps again.

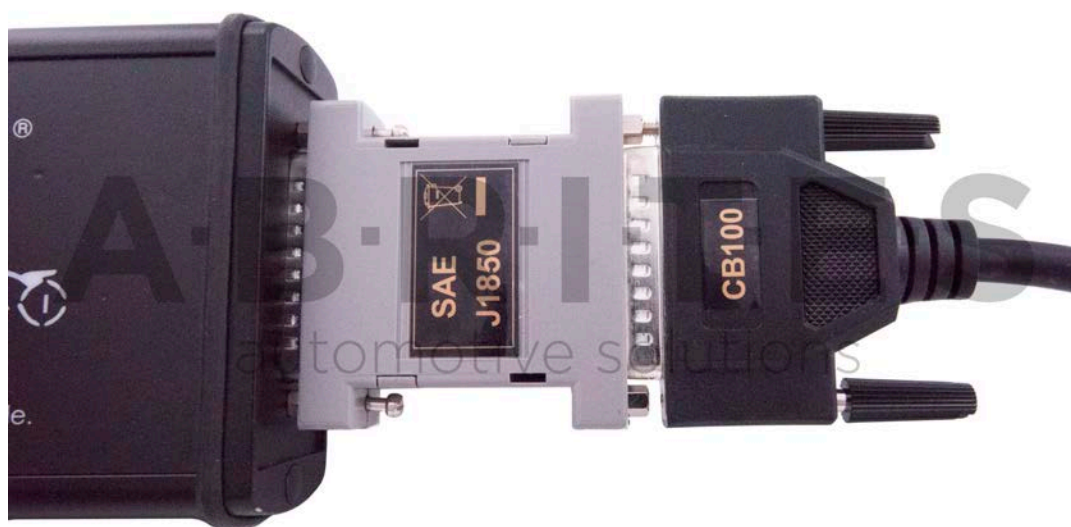
WORKING WITH J1850 ADAPTER

Abrites J1850 adapter is intended to support SAEJ1850 PW 10.4 kbps and PWM 41.6 kbps protocol standards.

Adapter must be connected **between AVDI and OBD2 cable** using the DB25 sockets.

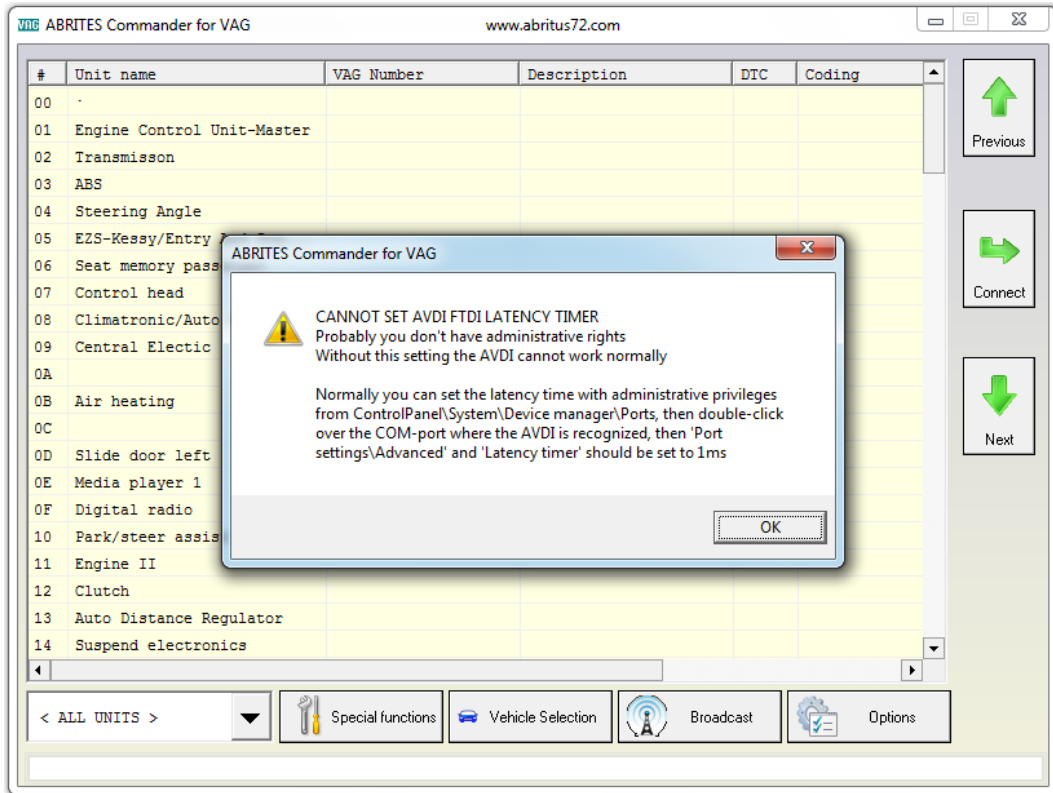
No additional settings are required.

The **J1850** adapter



4.TROUBLESHOOTING

LATENCY TIMER – PROBLEM



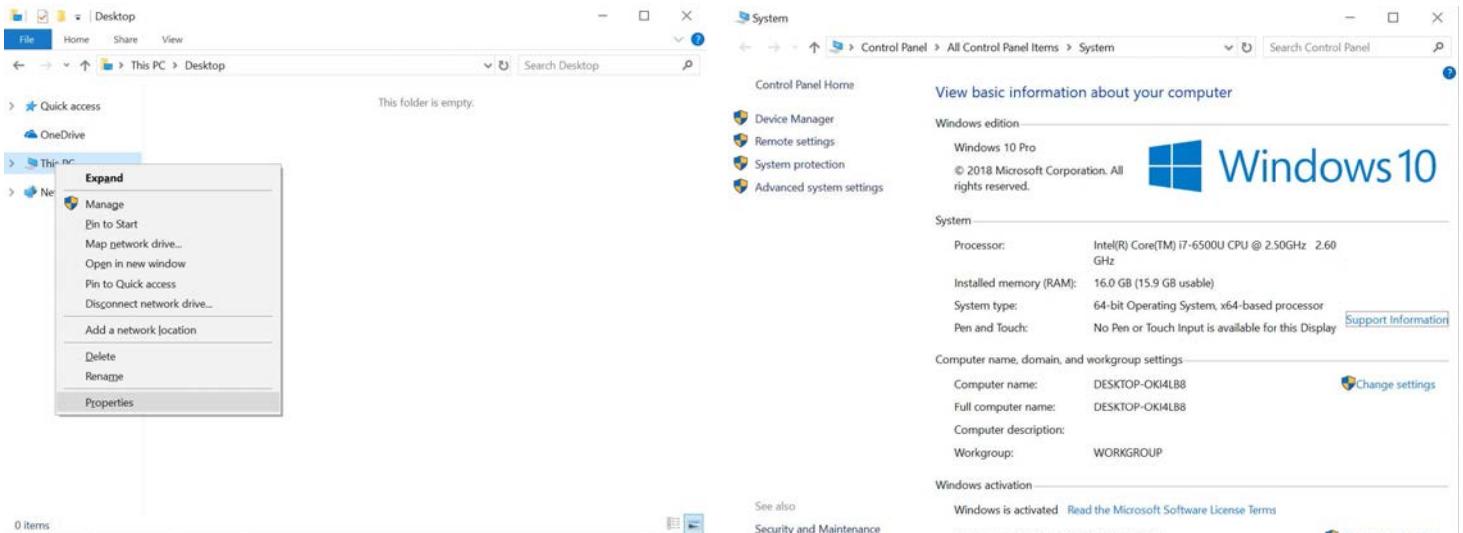
Sometimes depending on the user rights in Windows you may see the following message:



You have two options for this – first is to run the application as an administrator

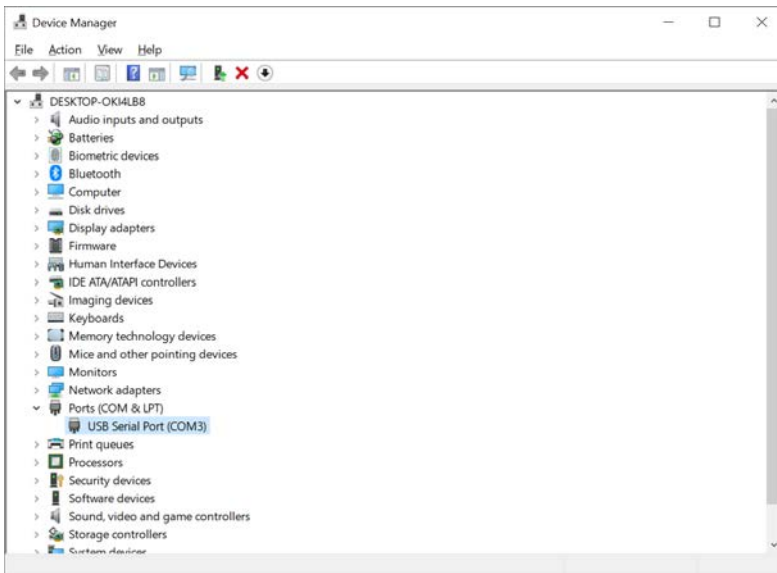
Or to change the port settings:

1. Connect your AVDI to an USB port of your PC

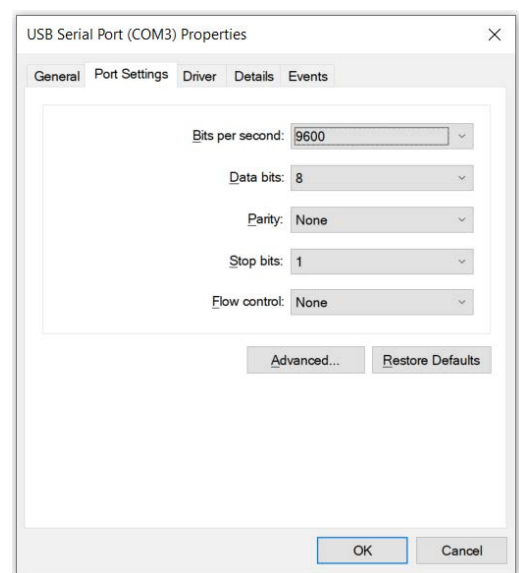


Open Windows Explorer then right click on **"This PC"** ("My computer") and select **"Properties"**.

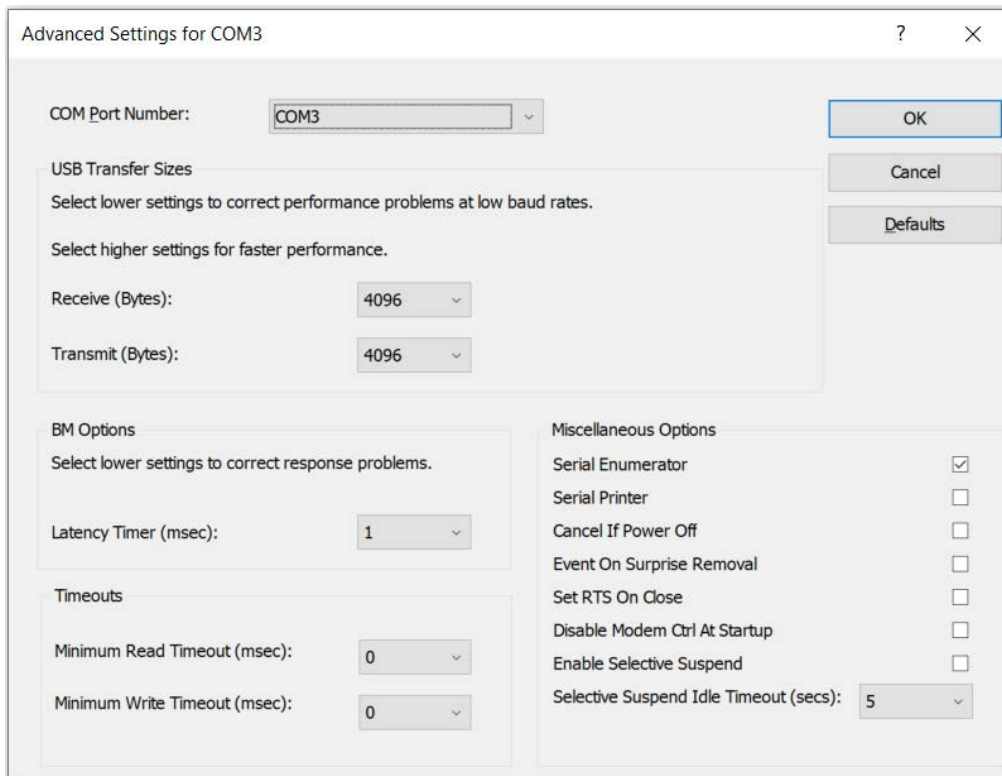
From the **"System properties"** window select **"Device manager"**.



In the opened window select **"Ports (COM & LPT)"**. Your AVDI will appear in the list as "USB Serial Port (COM xx)" where "xx" can be different number. Double click on it.



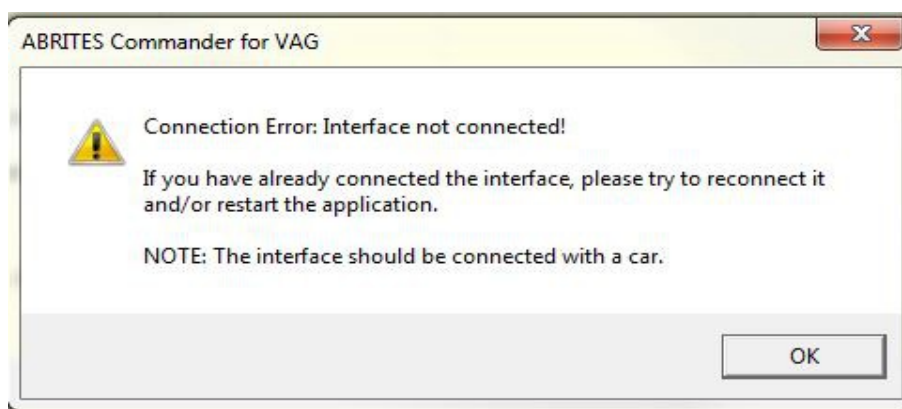
From the screen select **"Port settings"** and then press **"Advanced"**.



Make sure "**Latency timer**" is set to **1**.

Please, note that if you connect your AVDI to a different USB port you should do these steps again.

Interface not connected



If you see this message you need to check whether the interface is connected to the computer, if it is connected properly and you see this message again contact us at the following e-mail address : support@abrites.com

Internet synchronization (hardware update).

The latest AVDI Diagnostics update introduced a **mandatory update** of the hardware over Internet. This update is regular and should be performed at least once a month.

If the Internet update is not performed, the hardware will have limited functionality and will be not able to connect to vehicles until it is activated.

Please note that performing the Internet update is an essential initial step. For many of the functionalities of your AVDI you will not require to have an Internet connection to your computer but it is recommended to have your computer constantly connected to the Internet, especially when you are using a **function** which requires Internet connection or when you are using one of the **online software**.

The procedure for performing the AVDI Internet update is as follows:

1. Download and install the latest AVDI Diagnostics update and start the Abrites diagnostics.
2. This Internet update is performed automatically once the AVDI Diagnostics software is started. It is indicated by the message "**Performing Internet activation...**".
3. If the Internet activation is successful, the next time you start the diagnostic software, the message "**Performing Internet activation...**" should be not shown.

IMPORTANT: If the message "Performing Internet activation..." is not displayed the time you start the application, your hardware is ready for use. The Internet update will expire in one month when you will need to reconnect your computer to the Internet and make sure your interface performs the update when you start your Abrites diagnostic software.

4. If the message "Performing Internet activation..." continues to be shown the Internet update was not successful and the possible reasons for this issue might be:

- **No Internet connection** to the computer you are installing your software on. In that case please allow the connection of this computer to the Internet.
- **The date on your computer** is Incorrect. In that case please set the time and date on your computer to the current time and date at your location.

NOTE: Due to the time zone after running the latest SW update for the first time, the Internet update might not be successful in the first 1-2hours.

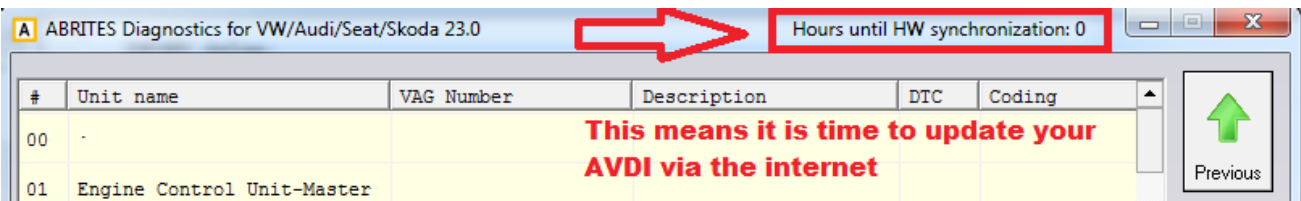
Effects if the Internet update is not performed:

- The AVDI hardware is recognized OK, but **no connection to the vehicle** is possible.
- Some diagnostic software might crash if you try to connect to the car.
- The **update** MUST be performed periodically (**every 30days**) in order for your AVDI to always work properly and not experience any of the symptoms above.

Make sure to connect your AVDI and allow it to perform its internet update every 30 days.

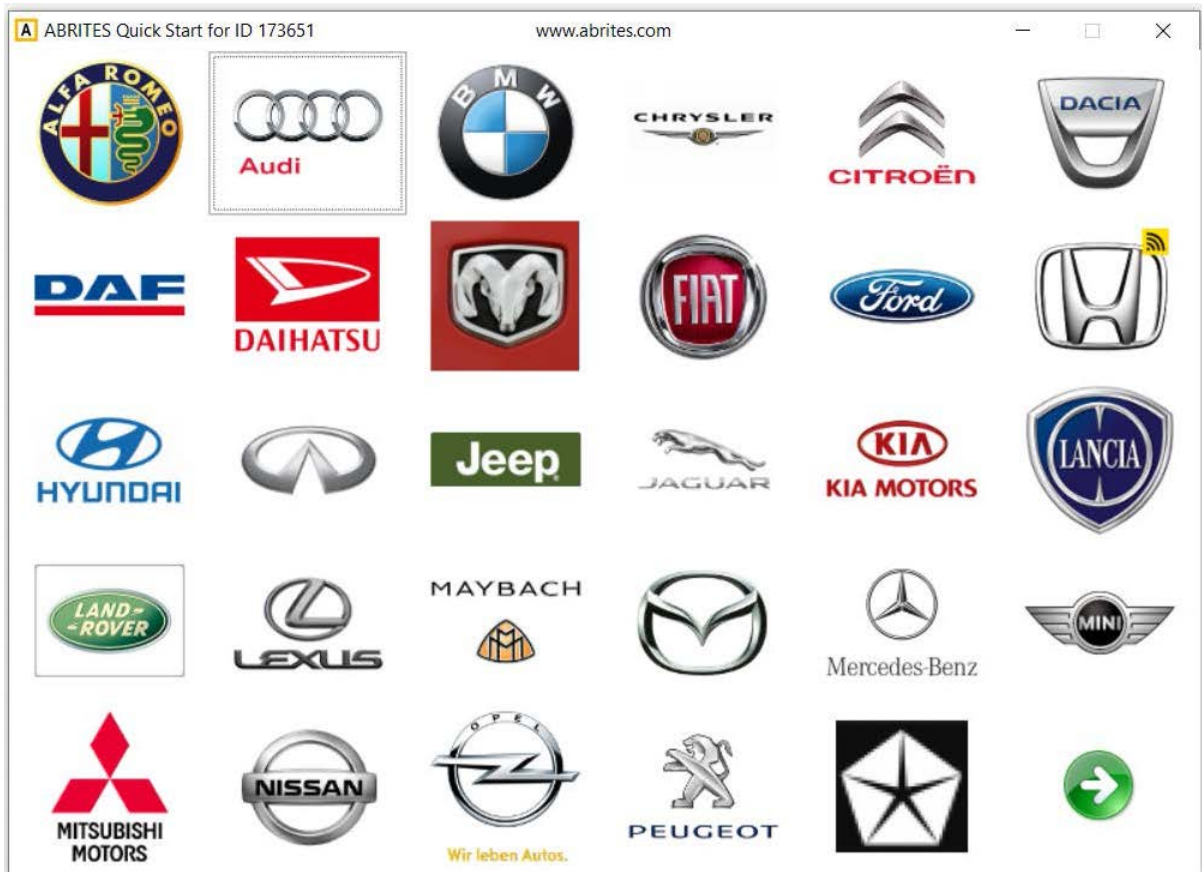
In case the procedure does not go as planned and you encounter an issue different to the ones above please contact support@abrites.com with a detailed description of the steps you took and their effect.

- Upon starting the Abrites diagnostics software in the top right hand side of the screen you will see how many days (or hours) you have until the next synchronization. In case you see the following message you will need to perform the online update of your hardware.

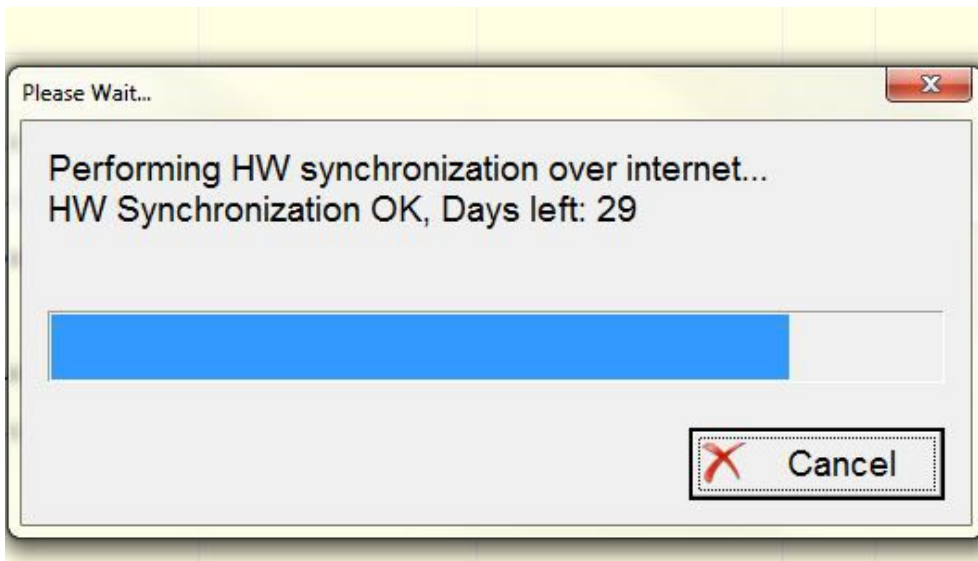


- Then perform the following steps (After making sure that you have a stable internet connection):

1. Start your Abrites diagnostic software(for example you can use the Abrites diagnostics for Audi)

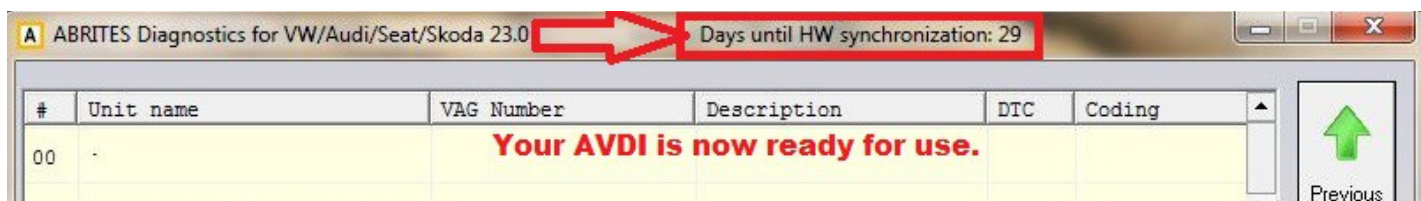


2. When you start the software you will see the following message:



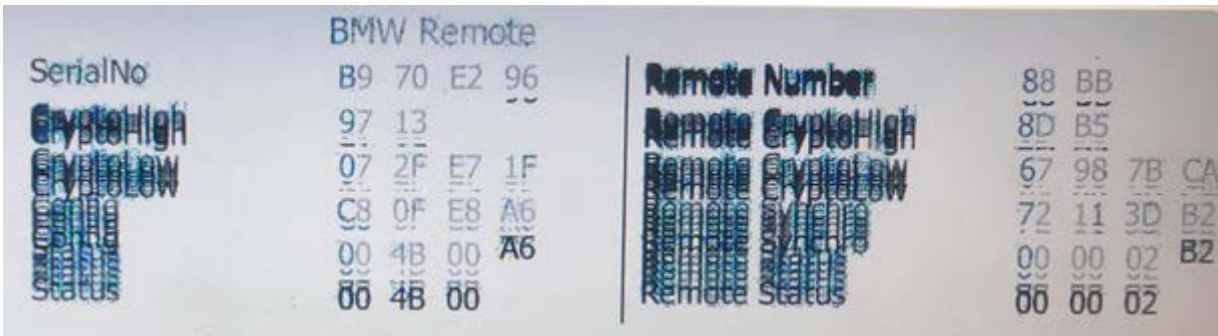
This means that your AVDI communicates with the Abrites **secure server** and the online synchronization is being performed.

3. Once the **synchronization is over** you will see the following message when opening the Abrites diagnostic software:

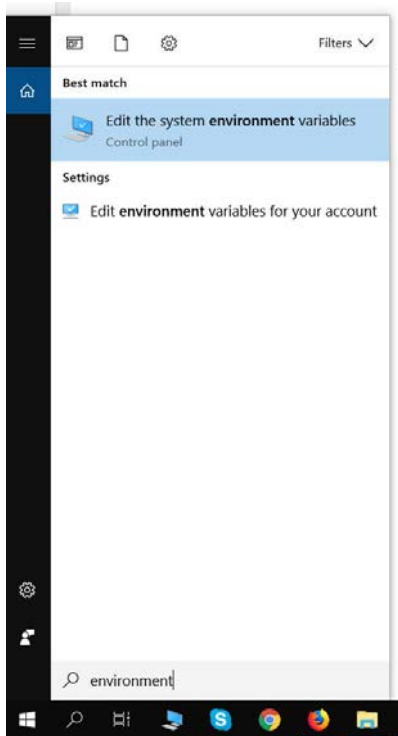


This means that the synchronization has gone according to plan and the AVDI is **ready to use**.

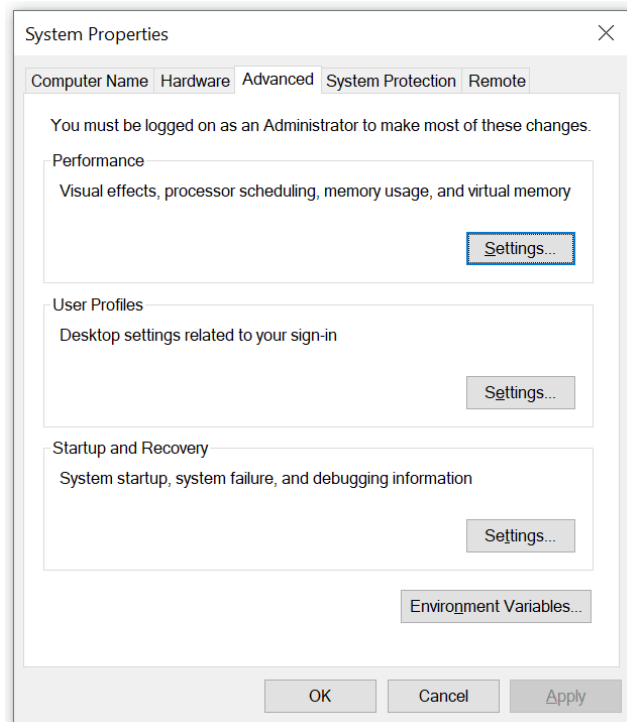
Graphic problem using the online software



This graphic issue could happen when you are using one of the Abrites online software such as BMW2. Here is the solution:

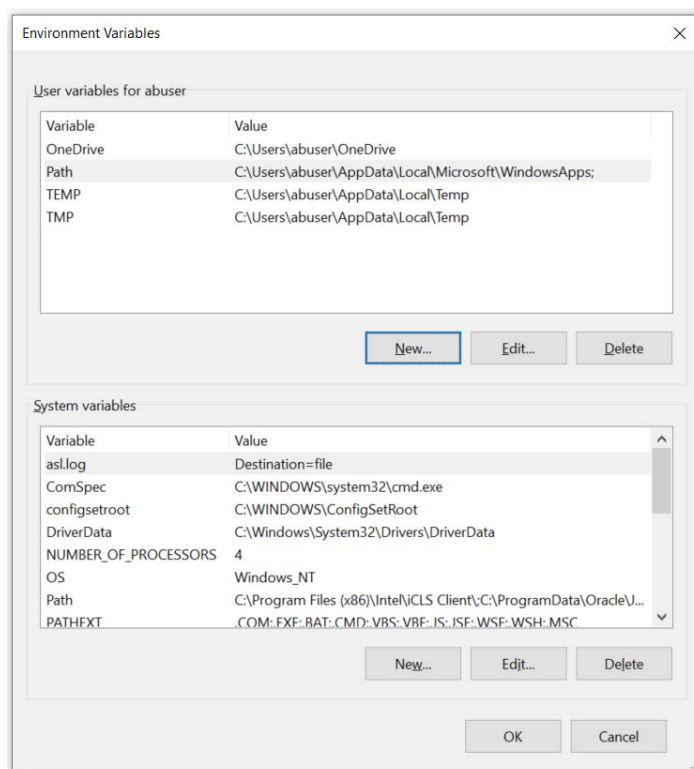


Type "environment" in the Windows search menu.

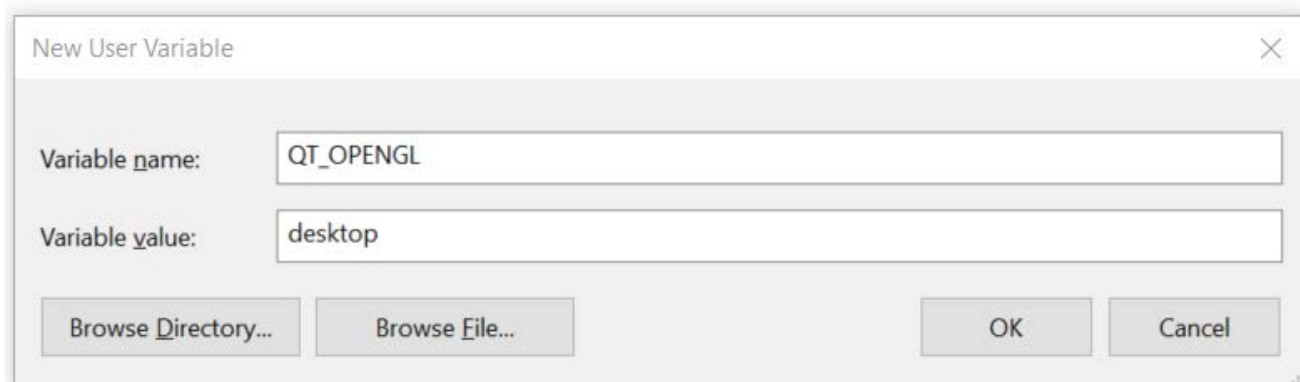


Go to the "Advanced" tab and select "Environment Variables"

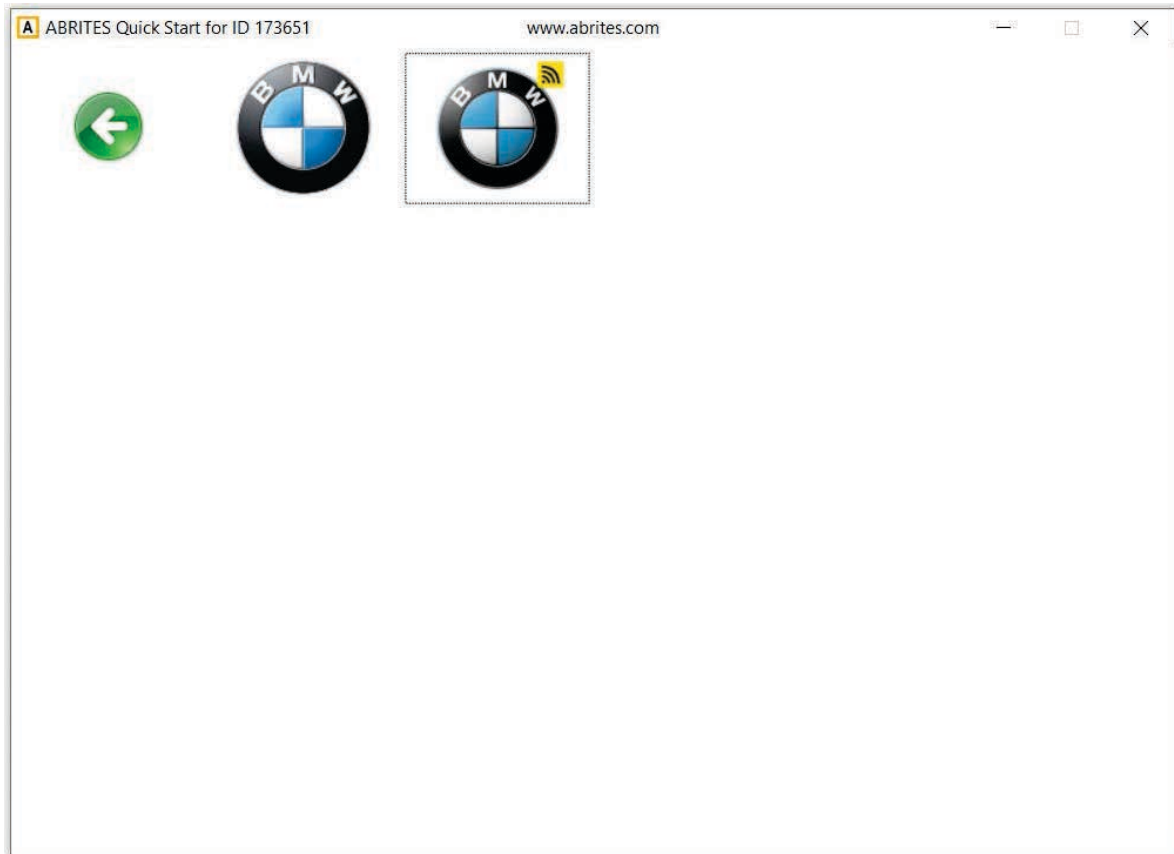
Press **"New"** under **"User variables** for 'your user name' "



Create a new variable named **"QT_OPENGL"** with value **"desktop"** (change it with "angle" or "software" if "desktop" does not solve the graphic issue) and press **"OK"**. Restart your PC.



Abrites online software not opening



It is not possible to open any of the Abrites online software after update. Here are the reasons:

1. Service Pack 1 or later not installed on the PC, make sure the latest version of SP1 is installed on your OC
2. Your PC is not updated.

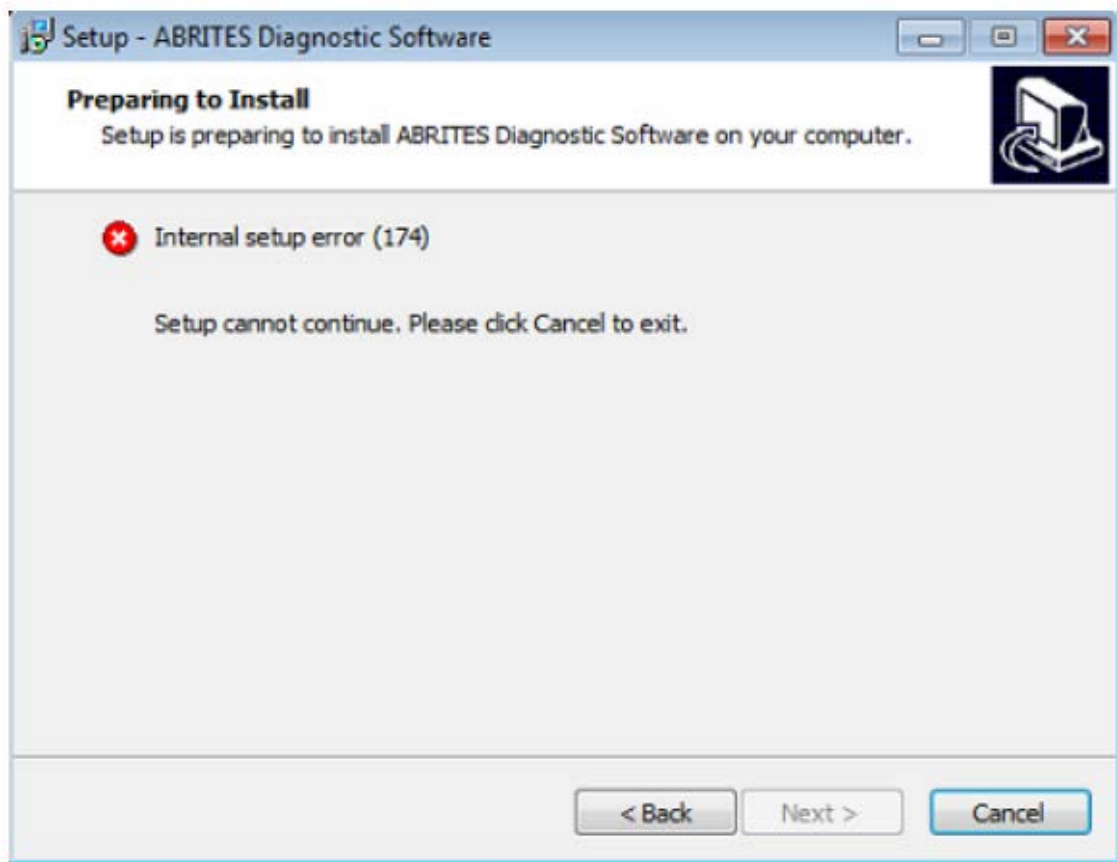
The solution for this problem would be to **install SP1** and **update** your PC to the latest available version from the "**Windows update**" menu.

IMPORTANT!

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

*You could try to apply the solution for the graphic issue also. Please refer to "Graphic problem using the online software".

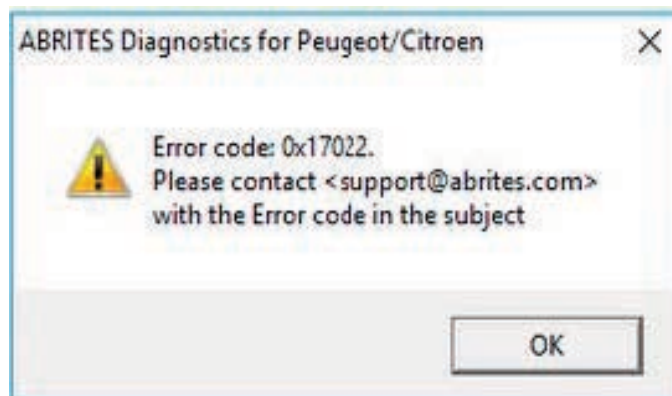
Internal setup error (174)



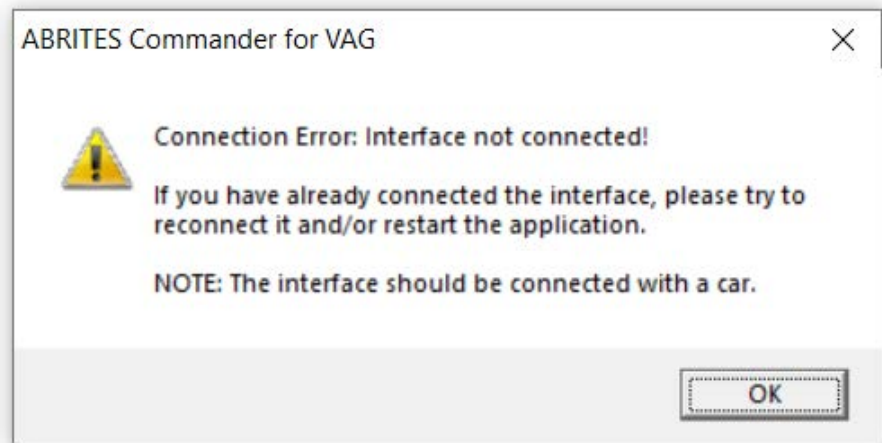
This error means that during the software build process your links haven't been built correctly.

The solution would be to generate **new software links**. You can request them by contacting us at the following e-mail address : **support@abrites.com**

Error code: 0x17022



The error means that there are **two versions** of the same software installed on your PC. Uninstall the Abrites software and reinstall it using the latest links only.

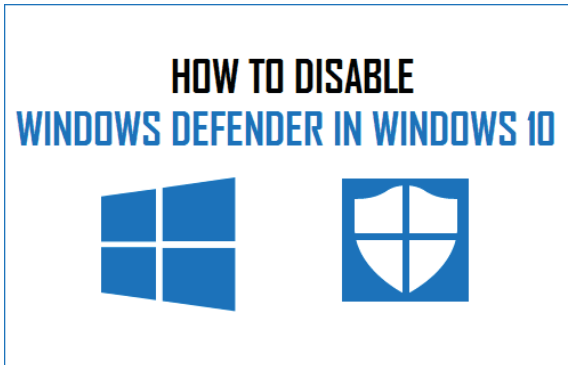
Connection Error: Interface not connected!

This error means that your Interface is not recognized. You will need to perform some troubleshooting steps before sending the Interface for repair:

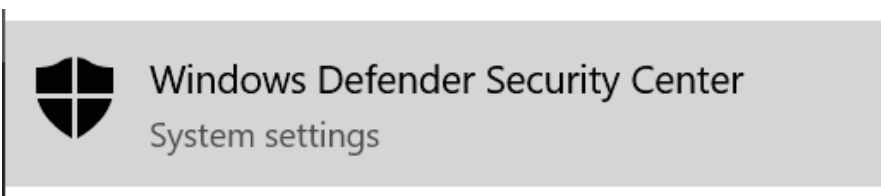
1. Make sure the software is properly installed and LED light of your Interface lights up.
 2. Remove all Abrites software and reinstall it from the latest links.
 3. Install the latest FTDI drivers:
<http://www.ftdichip.com/Drivers/VCP.htm>
- Next to "Windows*" you will find a setup executable which should be downloaded and then installed on your PC.
4. Disable all antivirus programs.
 5. Try with another USB cable provided by Abrites if available(your PROTAG uses the same USB cable as your AVDI Interface).
 6. Try on a different PC.

If that does not resolve the issue your Interface has to be repaired. Please contact us at the following e-mail address : **support@abrites.com**

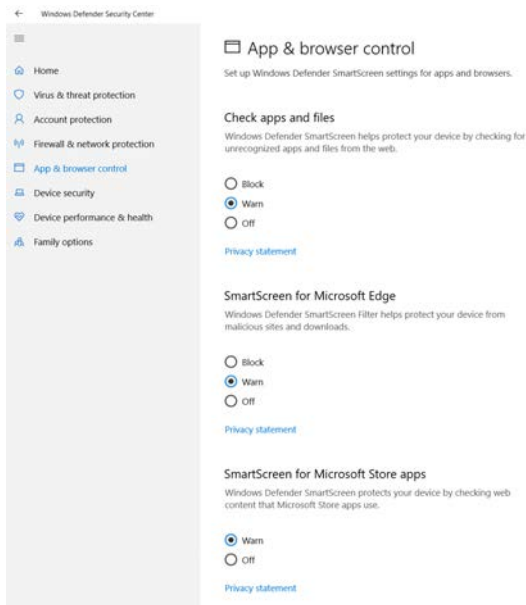
AVDI installation Windows defender Smart screen problem



If ever during installation you come across any issues with Windows defender and Smart screen we advise you to start the Windows Defender:



Go to the Smart screen options(type "app & browser control" in the search menu) and disable the blocking:



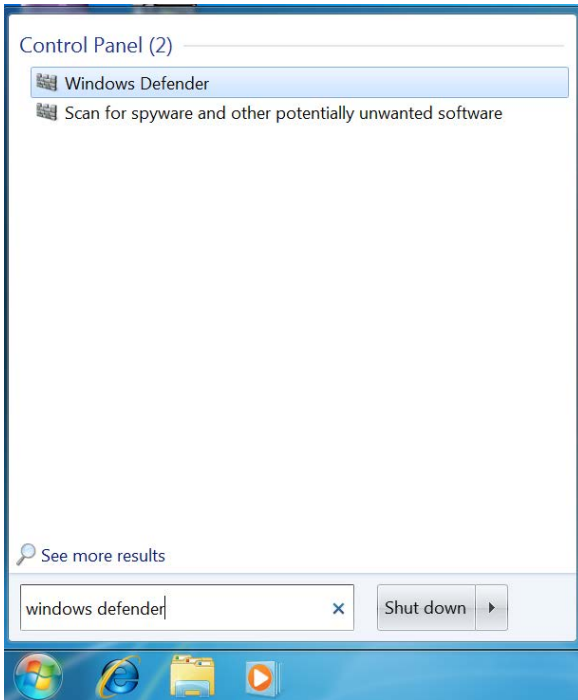
After reinstalling make sure to turn it back on in case real harm occurs.

Read more here:

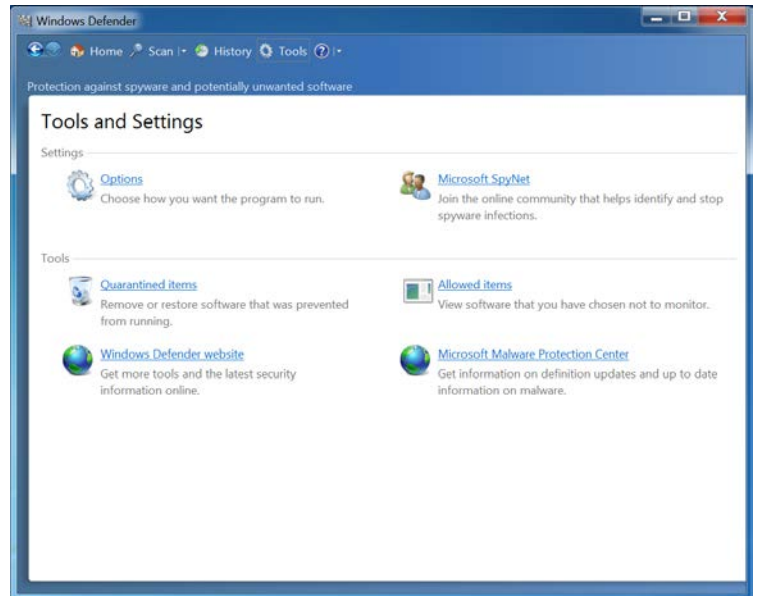
<https://www.microsoft.com/en-us/windows/comprehensive-security>

How to disable Windows Defender in Windows 7:

Type "Windows defender" in the search menu

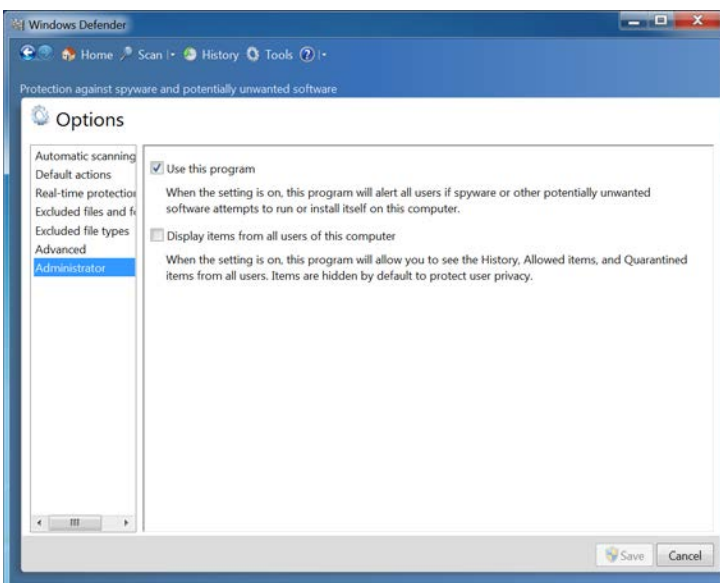


Select "Tools" followed by "Options"

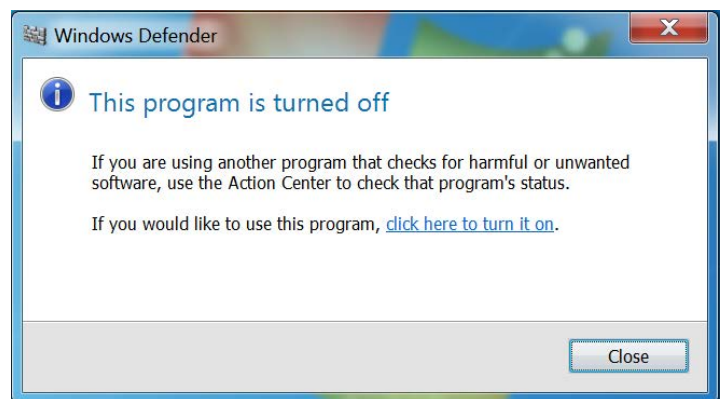


After reinstalling make sure to turn it back on in case real harm occurs

Select "Administrator" and uncheck "Use this program" followed by "Save"

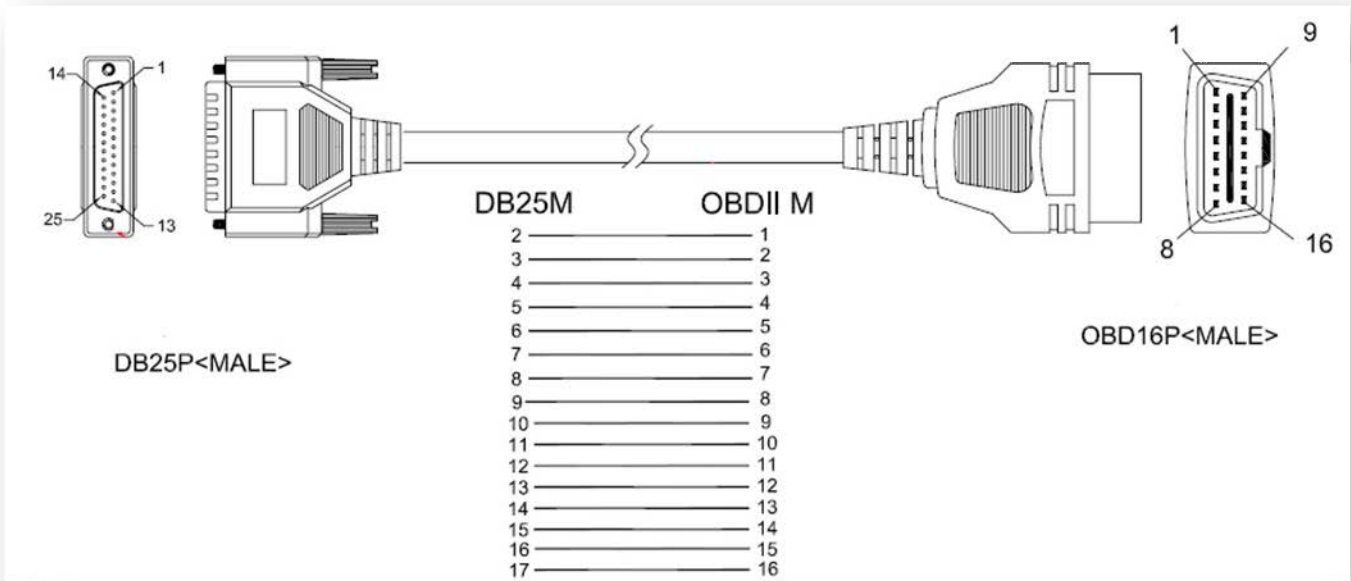


After reinstalling make sure to turn it back on in case real harm occurs. Please type once again "Windows defender" in the search menu and click "click here to turn it on"

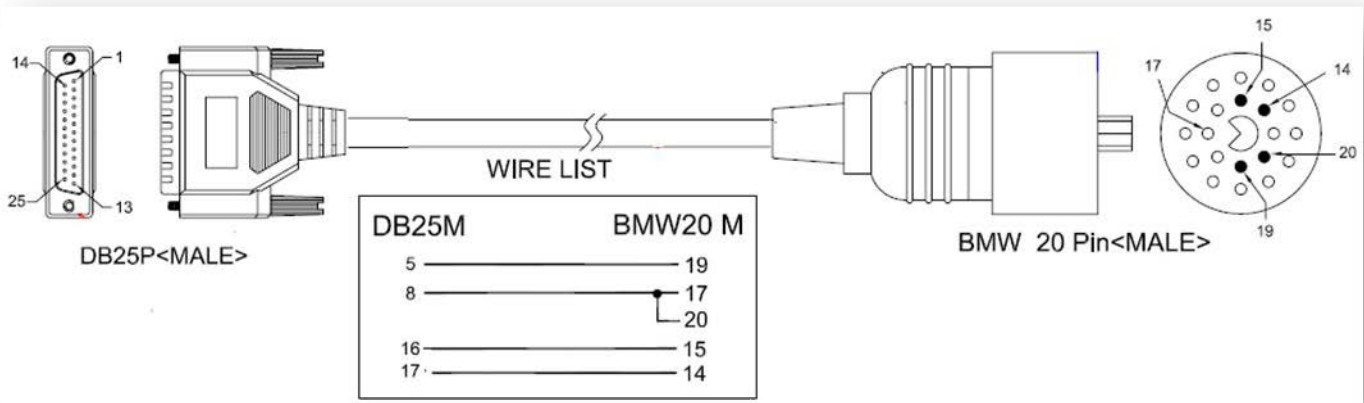


5. ADDITIONAL CABLES AND PRODUCTS

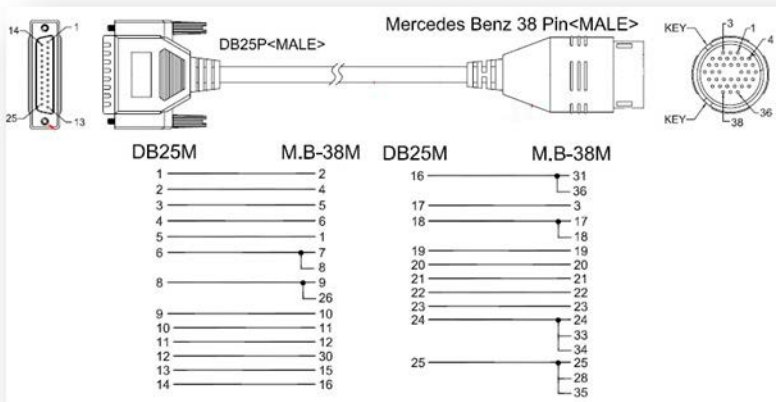
CB100 - AVDI OBDII cable (SAE J1962)



CB002 – BMW 20 PIN CIRCLE CABLE



CB003– Mercedes 38 Pin cable



CB004– Mercedes Sprinter 14 Pin cable

OBDII (F) □ 14 pin cable

- 4+5 □ 1
- 16 □ 3
- 7 □ 14
- 15 □ 4



CB005– Cable for connecting AVDI and ESL(ELV)

DB25(M) □ ESL

- 5 □ GND
- 8 □ K-line
- 17 □ +12V



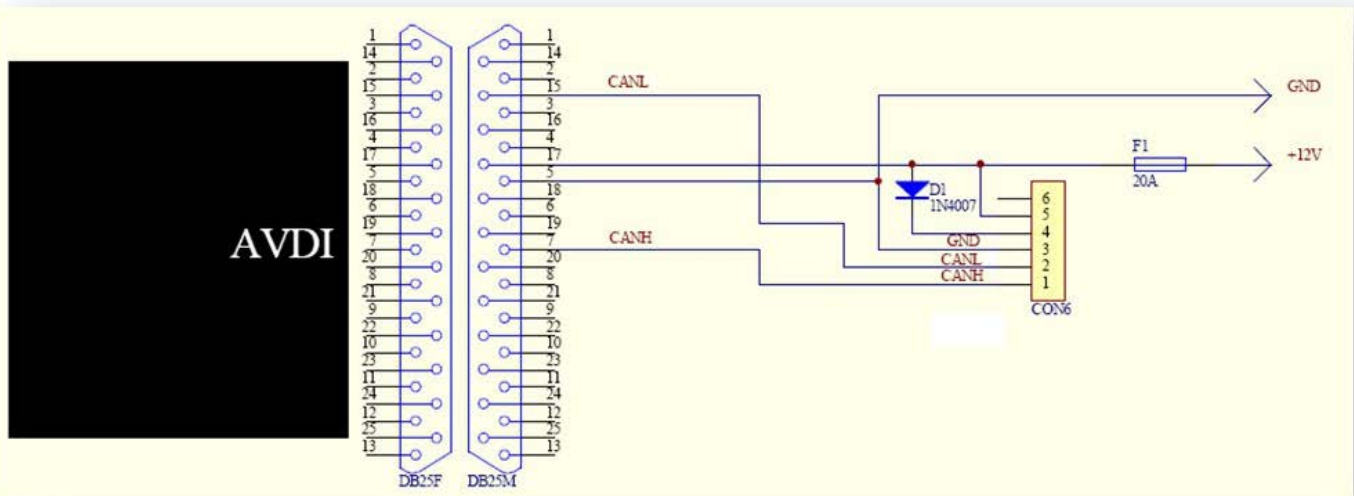
CB006– Cable for connecting AVDI and dashboard W203, W209, W211, W219

DB25(F) □ Dash connector

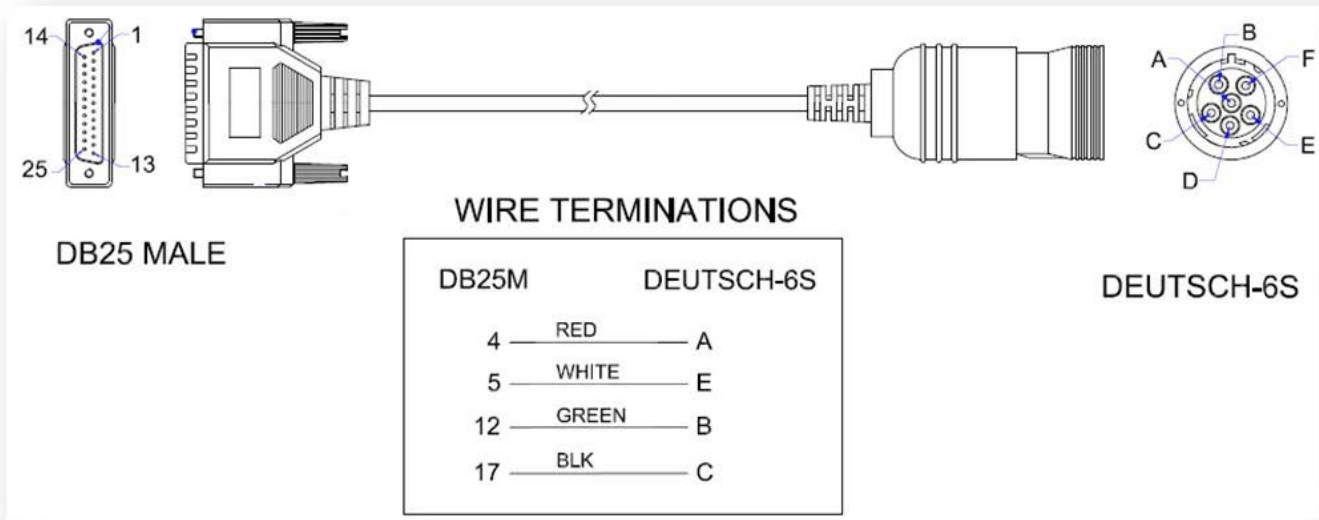
- 5 □ GND (Dash pin 1)
- 7 □ Can Hi (Dash pin 18)
- 15 □ Can Lo (Dash pin 17)
- 17 □ +12V (Dash pin 4+6)



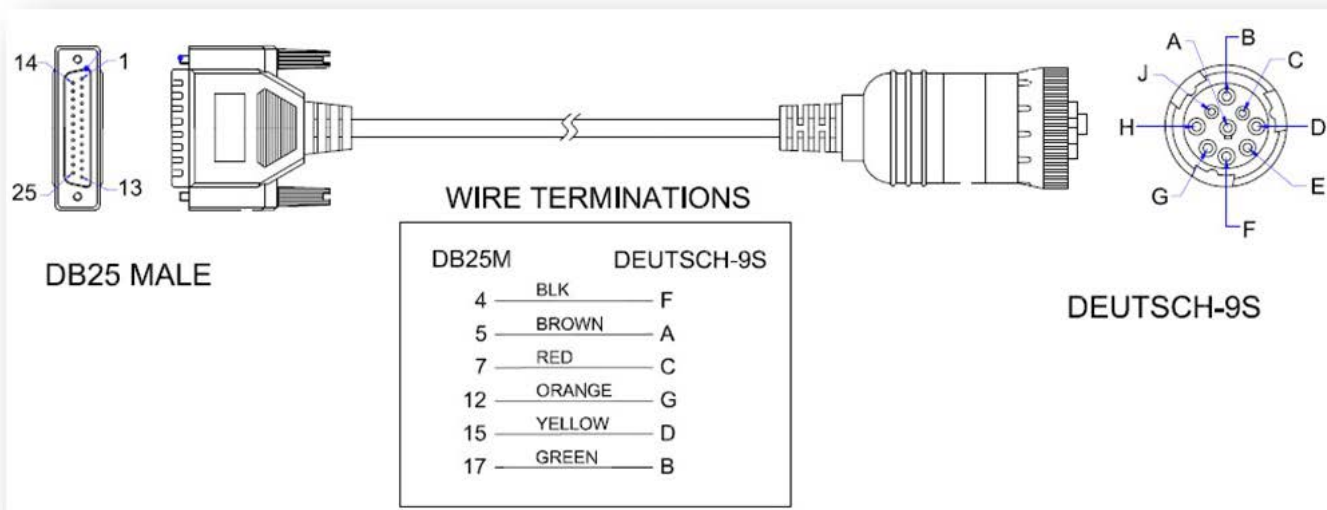
**CB007– Cable for connecting
AVDI and BRP**



Cable for connecting AVDI and Deutsch 6 pin



Cable for connecting AVDI and Deutchsh 9 pin



J1850 adapter



CB008 – Cable for AVDI cable for BMW bike diagnostic connector



CB009 – AVDI cable for connection with trucks Deutsch 6 pin (J1708)



CB101 AVDI extension cable for ABPROG (ZN030)



CB102 – EXT cable for 25 pin F/M



CB103 – OBDII Y cable M/2xF



CB104 - USB A-B cable



CB201 – AVDI cable for connection with Suzuki Marine Engines type 1



CB202 – AVDI cable for connection with Suzuki Marine Engines type 2 (round)



CB203 – AVDI cable for connection with Yamaha Marine Engines



CB204 AVDI cable for connection with Evinrude Marine Engines



CB205 Evinrude Flash Update cable



**CB301 – AVDI cable for connection
with Aprilia Bikes**

**CB302 – AVDI cable for connection
with KTM Bikes**



**CB303 – AVDI cable for connection
with Benelli Bikes**

**CB304 – AVDI cable for connection
with Suzuki Bikes (6 pins)**



**CB305 – AVDI cable for connection
with Harley-Davidson Bikes**



**CB306 – AVDI cable for connection
with Piaggio Bikes**



ZN002 PROTAG PROGRAMMER

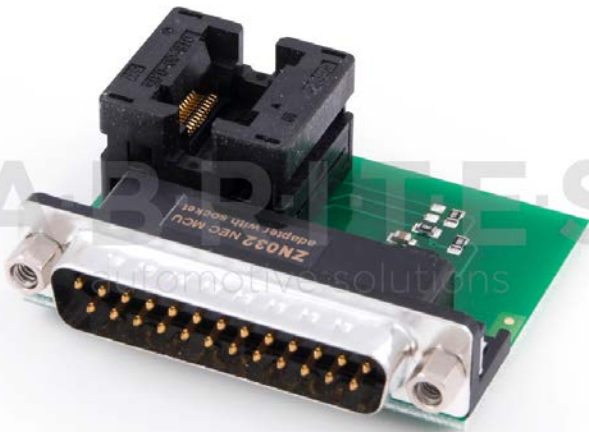


The PROTAG programmer needs to be connected to the PC via the intended USB cable only.

ZN030 ABPROG programmer



**ZN032 – ABPROG NEC adapter
with socket**



ZN033 – ABPROG NEC adapter



ZN036 – IR AVDI cable



Renault CAN adapter



ZN051 Distribution Box



The ZN051 Distribution Box is mainly used together with the MN026 Special function for Abrites Diagnostics For Mercedes and VN004 Special function for VAG. The main purpose is to export the password from the EZS 10 times faster than without the DS Box(MN026) and to read engine ECU in boot mode. It has a hidden relay, which cuts the ignition when needed and re-connects it once again automatically. The DS Box allows us to connect it clean between the AVDI and the OBD. In addition to the Fuse Relay that is now built into the Abrites Distribution Box, it's work can also be monitored by the built-in LED.

Using the ZN051 we also open the door for many new features. It allows us to work easily with boot mode on EDC17/ MED17 boot mode for the Abrites diagnostics for VAG and others as well.

The distribution box now also includes the option to be updated so all new future functions and features will be available immediately.

The ZN051 set contains 9 pieces, which are as follows:



Needle Connectors



DB25 Connector Cable



CAN HI and CAN LOW long cables



Fuse Adapter Cable ,Crocks Cable and 1 K-line Cable



Distribution Box

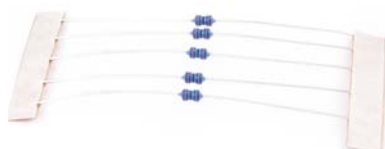


DB15 Boot Mode Connector Cable



Pin Connectors (Used for EM001 update)

The kit will also include 5 resistors.



Distribution Box connection ports:



1st two ports (Red and Blue) are for CAN HI and CAN LOW 6-14, the 2nd ports below them are for CAN HI and CAN LOW 3-11. These ports are mainly used when virginizing and adapting Mercedes TCUs and ECUs when using MN026.

Both Green ports K1 and K7 are used for the K-Line connection (K7 has to be used when exporting a password from Mercedes EZS when using the Relay method).

B+ and GND ports are used when updating EM001 Emulator.

The Relay Ports are both in red and this is where the Fuse Adapter is connected.

TA31 Abrites Extractor

The TA31 Abrites Extractor can be used to obtain the 7th byte in VAG cars. It is also used in some Hyundai/Kia cars to read the PIN code from a working key, together with the TA31 Abrites Extractor. Below you will find two photos of the TA31 Extractor and how it should be properly placed next to the ignition:



TA41 Subaru DST-AES Emulator

The TA41 Subaru DST-AES Emulator has the ability to emulate a Master key and be used as a key for Subaru H type bladed keys. It requires the Abrites ZN002 to be programmed.

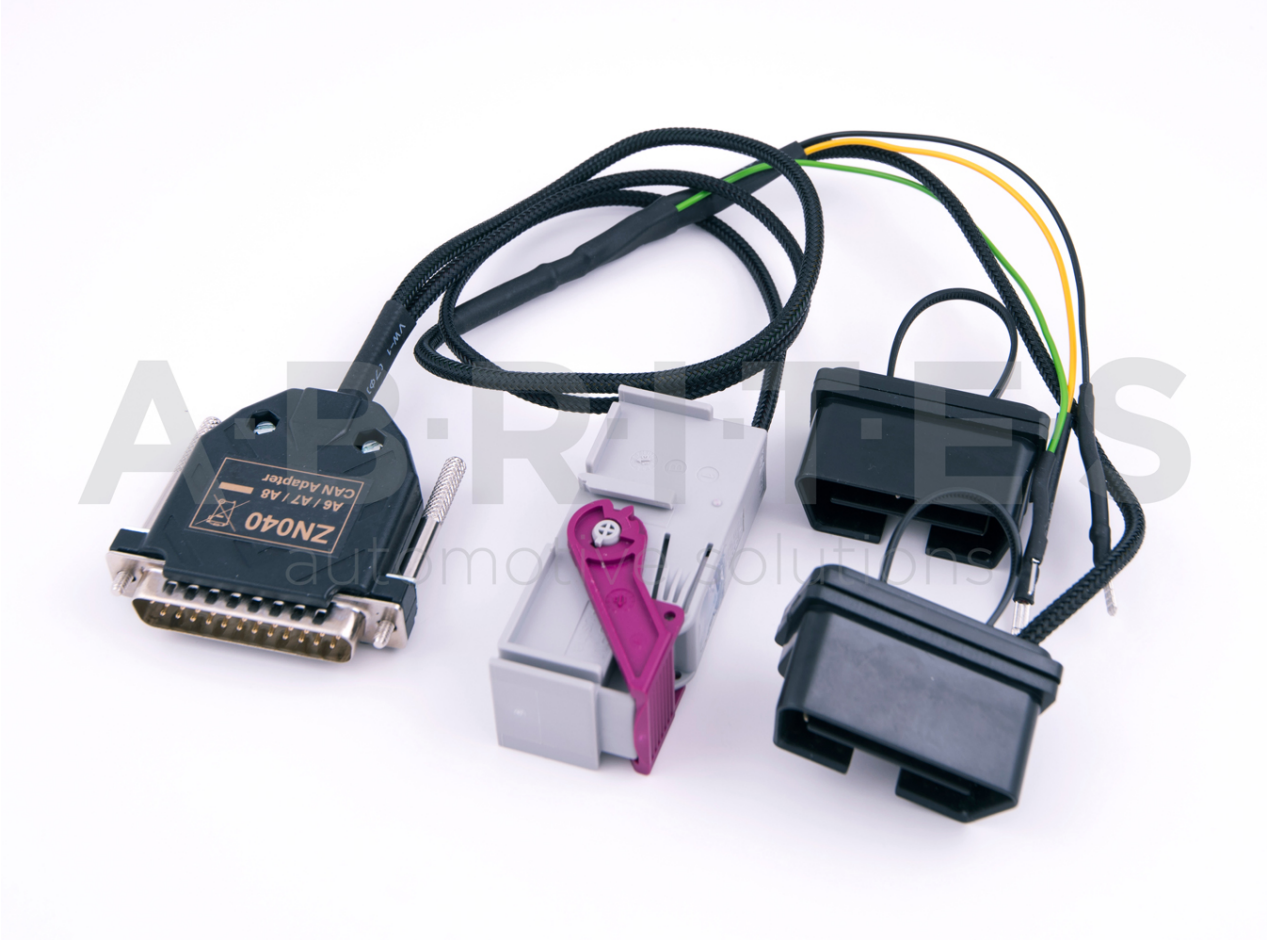
It is used together with the SB001 special function in Subaru ALL KEYS LOST H-type bladed (mechanical) key situations.

The TA41 can also be used and programmed as a key to the vehicle and used as one. It covers the functionality of the ZN066 however requires a PROTAG to do so.



ZN040-A6/A7/A8 CAN Adapter

The Abrites A6/A7/A8 CAN Adapter is used in order to make the ALL KEYS LOST procedure for Audi A6/A7/A8 easier providing all necessary connections (OBD,DB25 and CAN separator connector). The set has a separate OBD plug that shorts PIN 1 and 16 on the OBD connector of the car to force ignition while reading the ELV using the green K-line cable.



ZN046 - PCF for ABPROG

**ZN047 - Field Detector Renault
card 125 kHz**



**ZN048 - Field Detector Universal
Key 125/20 kHz**



**ZN052-Abrites cable set for adapting
IMMO parts used together with VN005**



**ZN053-AVDI Extractor Cable used with
VN006 special function**



**ZN054-Extension cable set for
direct CAN connection for VAG
vehicles**



ZN055 - ABPROG EWS3 adapter



ZN056-Honda K-line adapter



ZN057-EEPROM wire extender for ABPROG EEPROM/BCM adapter



ZN058-V850E2 adapter for ABPROG



ZN059-VAG VDO Cluster Adapter



ZN060 - VAG Micronas (new style connector) Cluster Adapter



**ZN062 - 12V/0.5A DC Power adapter
(used with ZN055 EWS3 adapter)**



**ZN063 - 12V/1A DC Power adapter
(used with ZN059 - mini DB - VDO and ZN060 - mini DB -
Mictronas)**

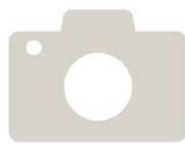


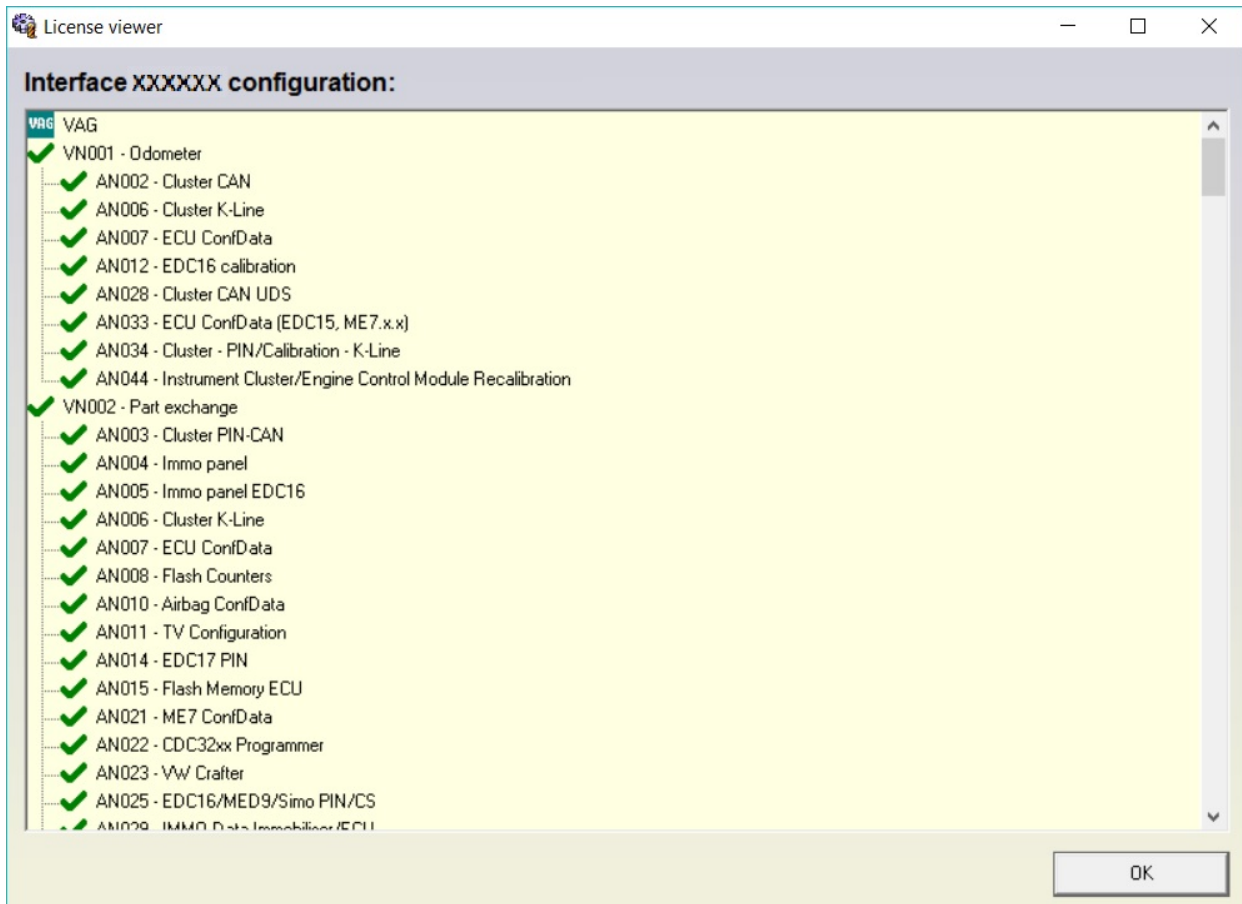
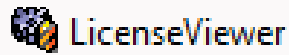
IMAGE
COMING SOON

ZN065 - PWM Voltage converter

The PWM voltage converter is to be used only in cases when reading an ECU on bench requires the PWMs to be powered with 5V, instead of the usual 3.3V. The PWM voltage converter is compatible ONLY with DSBox v. 2.3)."



06. LICENSE VIEWER



Using the license viewer you can check your licenses yourself at any time by typing "**License viewer**" in the Windows search menu.