

# 2018



## **K-TAG Instruction Manual**

Viezu Technologies Limited www.viezu.com 3/20/2018

## Viezu K-TAG Tuning Guide

Using Ksuite, and Performing General Bench (KTAG) Tuning Tasks

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### Installation and Updating

### Please note if you have already installed Ksuite to use the K-Tag (Kess V2) you will not need to repeat this step again.

To install the Ksuite 3.0 software onto your PC please enter this link into your web browser:

### https://viezu.com/software

Allow this link to download in full and then run the execution file.

The software may ask for your permission to run (this will depend on your computers security settings)<sup>1</sup>. Click the **Yes** button to proceed with the installation process.

User Account Control Do you want to allow this app from an unknown publisher to make changes to your device?	×
Setup.exe Publisher: Unknown File origin: Hard drive on this computer	
Show more details	_
Yes No	

Windows Security prompt, press Yes to proceed with installation

The installation will begin automatically and the installation wizard will start.

<sup>&</sup>lt;sup>1</sup> The given image is from a Windows 10 system – other versions of Windows will be very similar, and will mention 'User Account Control'.



K-Suite 3.0 installation wizard, first window

The license agreement is provided first in English and then in Italian.

The '*l* accept the agreement' toggle button and the **Next** button will be unavailable <u>until you have scrolled to</u> the very bottom of the License Agreement section.

After scrolling the bottom of the license agreement, select **Next** to proceed.

etup - K-Suite		_		×
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Please read the following important information b	efore continuing.			9
Please read the following License Agreement. You		erms of th	is	
agreement before continuing with the installation				
LICENSE AGREEMENT AND WA CONDITION		RMS AI	ND ^	
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I accept the agreement				
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K-Suite 3.0 License Agreement window, before and after

The next window lists changes from the previous versions of K-Suite. Click Next to proceed.

🥭 Se	tup - K-Suite	_		
In	formation Please read the following important information before continuing.		R	
	When you are ready to continue with Setup, dick Next.			
	Version 3.03		^	
	Bug Fixing			
	Improved device connection			
	Fixed Virtual Reading issues			
	Fixed K-TAG programming issues			
	Fixed saving last selection in vehicle lis	ł	¥	
	< Back Nex	t >	Cancel	

The next window lists your installation directory. Please use the default installation suggestion unless advised otherwise.

Click Next to proceed.

Setup - K-Suite	_		×
Select Destination Location Where should K-Suite be installed?		(	K
Setup will install K-Suite into the following folder.			
To continue, click Next. If you would like to select a different folder,	click Br	owse.	
C: \KSuite30	В	rowse	
At least 66.2 MB of free disk space is required.			
< Back Next	>	Ca	ncel

The next window is a confirmation for your install location. Select **Install** to proceed.

💩 Setup - K-Suite	_	· 🗌	×
Ready to Install Setup is now ready to begin installing K-Suite on your co	mputer.		R
Click Install to continue with the installation, or click Back change any settings.	if you want to r	eview or	
Destination location: C: \KSuite30			^
<		>	Ŷ
< Back	Install	С	ancel

The installation wizard will now proceed to install the K-Suite 3.0 software onto your computer system.

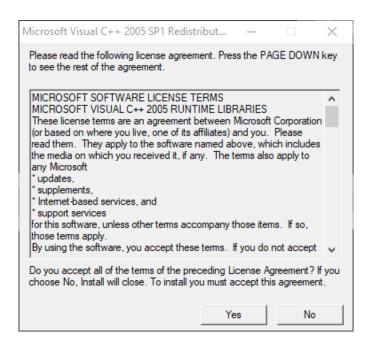
This process is expected to take less than 5 minutes but usually around 30 seconds.

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cel

The installation wizard proceeds to install K-Suite 3.0

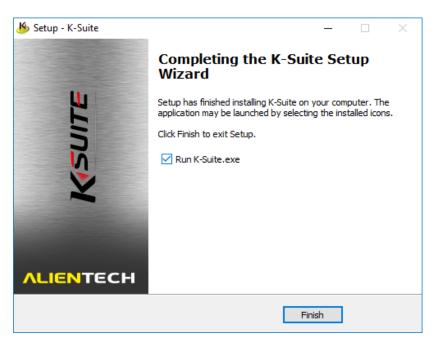
During the installation, the installer may pause and present the below window.

#### Select Yes to continue with the installation.



Once the installation process is completed, the installer will finish on the below window, confirming that the installation has completed and that K-Suite is ready to be run immediately.

Press Finish to complete the installation process and start the K-Suite 3.0 program



The final window of the K-Suite 3.0 installation wizard

### Using K-Suite 3.0

After completing the installation, the K-Suite application may automatically begin launch as you close the installer.

### Before opening K-Suite, it is advised that you have the K-Tag plugged into your computer system.

### Opening K-Suite for the first time & Accepting automatic updates

If this is the first time you have opened K-Suite, or a newer version has become available, the K-Suite software will prompt you to update it shortly before it opens.

Issues during the reading and writing process can be caused by an out-of-date system and if Technical Support is required we will require an up to date system to help resolve the issue.

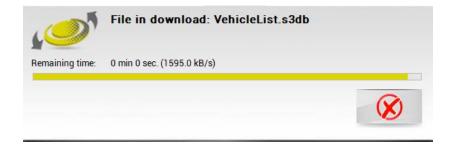
If you start an Online Update please allow the process to complete fully. The only time it will fail will be due to weak internet connection or a system failure. <u>Please check both of these before you begin.</u>

If the software asks you to update, Viezu Technologies recommends that you always select the green check to install any available updates.



The updater prompt seen as the program starts. Always keep K-Suite updated to the latest version.

Clicking the green checkmark will proceed to update your software. Allow this process to complete. The software will download the newer and latest version available, and install it automatically.



The software will now continue to open at the latest version available and begin to start up.

The animated K-Suite splash screen will indicate that the software is now loading.



The animated K-Suite splash screen

### Getting to Know the System

There are several different options areas of the system we may require you to use. This section of the pack talks you through how to use and when you may be prompted to use them.

### Navigating the K-Suite Software

The Version Information to the bottom left of the screen is there for your reference. We always recommend that you keep the program up to date.



The main window of the K-Suite 3.0 software

The options displayed on screen are as follows.

- **Vehicle List** will take you to a reference table for the properties and advised configuration when performing tune operations on the supported vehicles.
- **Protocol List** will take you to a reference table for information regarding the ECU present in a supported vehicle, such as the ECU brand, version, type, protocol number, and required accessories for tuning.
- **Settings** provides account management, language selection, Unit-of-measurement selection, software release and legal notes, and a manual update check feature.
- **Support** provides options for downloading logs, acquiring support, and downloading older versions of the K-Suite software.

Each of the available options are described further individually in the following sections of this document.

### Vehicle List

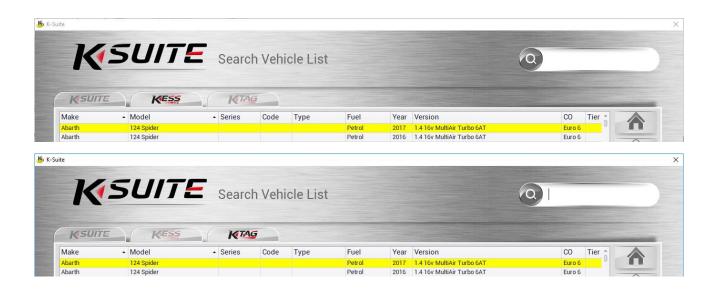
The available vehicles selection gives the client all the vehicles available on the system. If any vehicles are greyed out, it means that they are not available on the system. If you are in any doubt about any of the available vehicles please contact the Technical Team who will be more than happy to assist.

				nicle List								
KSUITE	K	E <u>55</u>	K	TAG								
Vehicle type	Make			Model		Series	Code	Туре	^	Fuel	Year	
Car	Abarth			124 Spider						Petrol	2016	
Bike	Alfa Ror	meo		500							2017	0
Truck	Alpina			500 Assetto Co	rse							
Tractor	Aston N	Aartin		500 Esseesse								
Boat	Audi			500C								
	Bentley			595 Competizio								
	Buick			695 Tributo Fe	rrari							
	Dulck			Grande Punto					-			
Version 1.4 16v MultiAir		CO <sub>2</sub>	Tier	Engine	Moc		Code			hp	nm 250	
1.4 16v MultiAir		Euro 6		Fiat	Mult	IAIr	552532	268		168	250	
1.4 TOV MUITIAII		Euro o										
ECU Brand	ECU Version		Туре	KESSv2 Prt.	Reading	Patch	Acces			ccessory descrip	tion	
Magneti Marelli	8GMK	ECM		576	No	No	14430	IOKCAN	0	BDII cable		
				576	No	No						

Clicking in the search field will switch to a tabbed list of the supported vehicles for KESS and K-Tag tools. Typing into the search field will search the supported vehicles and their properties, gradually filtering the output to be relevant to your search query.

-	SUIT	Searc	II veili	cie List				seat leon 5F 20	15 1.
Ksur	TE KESS	KTA	G						
Make	<ul> <li>Model</li> </ul>	<ul> <li>Series</li> </ul>	Code	Туре	Fuel	Year	Version	CO Tier 🚊	
Seat	Leon		5F1		Diesel	2015	1.6 TDI 5MT	Euro 6	
Seat	Leon		5F1		Diesel	2015	1.6 TDI 5MT	Euro 6	
Seat	Leon		5F1		Diesel	2015	1.6 TDI 7AT	Euro 6	Ö
Seat	Leon		5F1		Diesel	2015	1.6 TDI Ecomotive 6MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.8 TSI 6MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.8 TSI 6MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.8 TSI 7AT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.8 TSI 7AT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.0 TSI Ecomotive 6MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.2 TSI 5MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.2 TSI 6MT	Euro 5	
Seat	Leon		5F1		Petrol	2015	1.2 TSI 7AT	Euro 5	
Seat	Leon		5F1		Petrol	2015	1.4 TGI 6MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.4 TGI 7AT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.4 TSI 6MT	Euro 5	
Seat	Leon		5F1		Petrol	2015	1.4 TSI 6MT	Euro 5	
Seat	Leon		5F1		Petrol	2015	1.4 TSI 6MT	Euro 5	
Seat	Leon		5F1		Petrol	2015	1.2 TSI 6MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.2 TSI 7AT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.4 TSI 6MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.4 TSI ACT 6MT	Euro 6	
Seat	Leon		5F1		Petrol	2015	1.4 TSI ACT 7AT	Euro 6	47
A C	Loop		661		Discol	2015	1 C TOL GAT	Fire C	

Depending on the tool you have, you can select the tab for your device to filter vehicles specific to it during your search.





The Home button will return you to the main window

### Protocol List

The protocol option appears as below. This lists all available vehicles via their family and ECU type.

		Protocol List			Q	
KESS Vehicle type Car Bike Truck Truck Tractor Boat	KTAG Type ECU Engine TCU Gears Patch All	Make Abarth Alfa Romeo Alpina Aston Martin Audi BMW Bentley Buick Cadilale Chevrolet Chrysler Chrysler Chrysler Chrysler		ECU Brand Bosch Magneti Marelli Magneti Marelli	ECU Version ME7910 BCMF BCMK	
KESSv2 Prt. 121	Patch No	Accessory 144300KCAN	Accessory description OBDII cable			

Clicking in the search field will switch to a tabbed list of the supported vehicles for KESS and K-Tag tools. Typing into the search field will search the supported vehicles and their ECU properties (Brand, Version, type and Protocol), gradually filtering the output to be relevant to your search query (Just like the vehicle list search).

<b>N</b> -	UIIL	Search Protoco	l List			
KESS	KTAG					
Vehicle type	Make	ECU Brand	ECU Version	ECU Type	KESSv2 Prt.	â
Car	Abarth	Magneti Marelli	8GMK	ECM	576	
Car	Abarth	Magneti Marelli	8GMK	ECM	576	0
Car	Abarth	Magneti Marelli	8GMK	ECM	532	
Car	Abarth	Magneti Marelli	8GMK	ECM	532	
Car	Abarth	Bosch	ME7.9.10	ECM	121	
Car	Abarth	Magneti Marelli	8GMF	ECM	243	
Car	Abarth	Magneti Marelli	8GMF	ECM	243	
Truck	Aebi Schmidt	Bosch	EDC16C39	ECM	302	
Bike	Aeon	Delphi	MT05.02	ECM	583	
Tractor	Agco	Motorola	CM554	ECM	562	
Tractor	Agco	Bosch	EDC7UC31	ECM	223	
Tractor	Agco	SisuTronic	EEM2	ECM	448	
Truck	Agrale	Bosch	EDC7C1	ECM	284	
Truck	Agrale	Bosch	EDC7C1-12.72	ECM	191	
Truck	Agrale	Bosch	EDC7C1-15.75	ECM	191	
Truck	Agrale	Continental	CM2220A	ECM	518	
Truck	Alexander Dennis	Continental	CM2150E	ECM	290	
Car	Alfa Romeo	Bosch	M1.5.5	ECM	4	
Car	Alfa Romeo	Bosch	EDC15C5	ECM	3	
Car	Alfa Romeo	Bosch	ME7.3.1	ECM	5	
Car	Alfa Romeo	Bosch	EDC15C7	ECM	1	
Car	Alfa Romeo	Bosch	EDC16C39	ECM	55	47
4	Alfa Damaa	Daaah	ED01600	5014	6.4	

Depending on the tool you have, you can select the tab for your device to filter ECU information specific to your vehicle or tool during your search.



### Settings

The Settings page allows you to view and modify aspects of the K-Suite program.

! <u>There are sections of the options window that you should avoid modifying unless under the</u> <u>specific instruction of Viezu Technical Support</u>

K-Suite				>
KSUITE	Settings			
				Â
0	Account Management	My Tools	Language	
ŶŶ	Unit of measurement	Release Notes	Updates	
	Legal notes			
			ΛL	TECH

#### Account Management

The account management section lists account and subscription information.

If the account management option is greyed out, ensure that your device is connected to your computer system.

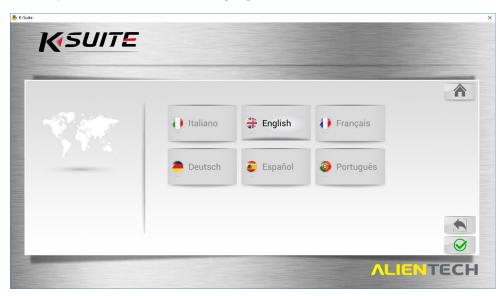
The account management page will not be required unless advised by Viezu Technical support.

#### My Tools

The My Tools section lists device version, serial number and customer code. It will also list a summary of the supported protocols by vehicle and a subscription status summary.

### Language

The language section provides a selection of 6 languages.



#### Unit of Measurement

The Unit of Measurement section provides switches for the measurement types given in the software.

The enabled units of measurement is entirely down to personal preference. You may prefer to enable and/or disable provided units relevant to your geographic location.

uite		And the second designed in the second designe
KSUIT	Units of Measurement	
	Enable parameter display on vehicle list.	1
	Engine displacement (cm³)	
	Engine displacement (cui)	
	Engine Power (kW)	
	Horse Power (PS/CV)	
	Horse Power (hp)	
	Engine Torque (Nm)	
	Engine Torque (ftlb)	
		$\bigotimes$
		<b>ALIENTECH</b>

#### Release Notes

The Release notes page will not normally be required.

### Updates

The Updates section provides a button to manually check for available updates which will attempt to update the software if an update is available.



The manual update button will return this message box if no update is available.

Viezu Technical support may advise you to ensure you are running the latest version of the K-Suite 3.0 software. The manual update feature can assist with this.

### Legal Notes

The Legal notes section will provide Licence and Privacy Agreement summaries for your information.

### Support

This window is particularly useful for Master dealers, but for clients you will need to contact us directly <u>technical@viezu.zendesk.com</u>



### LOG

Accessing the logs of the KESS/KTAG device is an important part of the problem solving if there is an issue of the reading or writing of the ECU. For this reason, it is important that you know how to access the log files stored on the device.

Clicking on the LOG button in the Support window will begin the logs



The K-Suite software accesses your attached device for its logs.

- **Download Last LOG** Button Collects the most recent log from the device and provides a save window for a .KLG log file.
- **Download All LOG** Button Collects all available logs from the device and provides a save window for a .KLG log file<sup>2</sup>.



Viezu Technologies <u>are very likely to request log files</u> for a recent Read/Write operation in conjunction with the ID and Read files.

This is to assist us in any support tickets that you may submit.

### Support Area

The support area options are intended for master dealers primarily.

If you should require support, we ask that you contact Viezu Technologies using <u>technical@viezu.zendesk.com</u> or any of the methods described in the last section of the document.

<sup>&</sup>lt;sup>2</sup> The KESS device may not support a download of all logs.

### **KTAG Button**

Should your KTAG device be connected properly via USB and be detected, the KTAG button on the main widow will have a blue outline highlight. Click this button.



You will proceed to the Vehicle Type Selection Window. Click on your vehicle type to continue.

		KTAG		
Vehicles				
	2			
Microcontrollers				
MOTOROLA MPC5xx	MOTOROLA NEXUS MPC5xxx	MOTOROLA MC68xxx	MOTOROLA HC12	MITSUBISHI MHxxx
INFINEON TRICORE	ST10	NEC 76Fxxxx	RENESAS SH705xx	FREESCALE MPC5xxx
RENESAS M32				COMING SOON
Customer code: C8725 - Serial: L11046891				Software: 3.03 - Firmware: 11.007

### No action is taken on the ECU even after your vehicle is selected.

For more information on starting the vehicle selection and tuning process, see the later section: *Before Tuning* 

### Before Tuning

Before you begin tuning we must ensure the ECU is safely removed from the vehicle.

- Get the vehicle into a safe place because the vehicle will be unlocked with the ECU Out.
- Open the bonnet of the vehicle
- Leave the driver door ajar, this way you can still access inside the car without having to use the door handles.
- At this point remove the keys from the area, we do this for two reasons:
  - 1. Stops accidental touching of the keys
  - 2. Modern cars have automatic recognition, we don't want this activated when the ECU is removed.
- At this point allow the vehicle to power down naturally, what we mean by this is leave the vehicle around 15 to 20 minutes without touching any electrical components or disconnecting the battery.
- You can use this time to locate the ECU and remove anything non-electrical such as engine covers, screws and bolts. Don't disconnect the battery in this time frame.
- Once the vehicle has powered down naturally and the keys are well away from the vehicle in a safe place you are now safe to remove the ECU.
- Depending on the vehicle there may be a security cage around the ECU that needs removing so you can remove and disconnect the ECU.
- In most cases the ECU lid will need to be removed, you need to ensure you do this extremely careful not to damage anything while your removing the lid. To check if you do need to remove the lid of the ECU please see the KTAG manual as detailed later in this guide.

If you have any doubts then contact Viezu Technical Support, who will be able to help you further.

### Preparing the ECU and KTAG Bench for tuning

To begin the tuning procedure, from the main K-suite window, click on the KTAG button to proceed to a Vehicle Selection window. Select the vehicle type from the 5 options available to proceed to a Vehicle

Selection



<sup>&</sup>lt;sup>3</sup> The KESS/KTAG button presents you with a Vehicle Selection window that *looks* identical to the Vehicle List window from the main form, but the windows are actually different.

### Selecting a Vehicle

The vehicle selection screen operates the same way to the Vehicle List from the main window, but allows you to proceed towards tuning operations (ID, Read, Write, etc) based on a vehicle selection you make.

The Green/Red light under "Enabled" indicates the state of your K-suite license. This shows if your current license has this protocol enabled. We recommend that you keep the tool in license.

KIA	<b>G</b> Ve	hicle L	list					C	2	
KTAG	KESS									
Make			Model	Series	Code	Туре ^	Fuel		Year	
Caterham Chery			C-Crosser     DS3		A55		Diesel Petrol		2010	
Chevrolet			DS3 DS3		A55 A56		Peuol		2012	Ö
Chrysler			DS4		B75				2012	
Citroen			DS5		B81				2014	
Dacia			Jumper		U5	1			2015	
Daewoo			Jumper		U9					
Dodge			• .lumner	(2nd)	119	-				
Version	CO <sub>2</sub>	Tier	Engine	Model	Code	-	cm <sup>3</sup>	hp	nm	
1.4 8v e-HDI 70 EGS	Euro 5		PSA DV	DLD-414	8HR ([	OV4TD)	1398	67	160	
1.6 8v HDi 110	Euro 5									
1.6 8v HDi 90	Euro 5									
ECU Brand ECU Ve	rsion ECU	Туре	K-TAG	Group	- Enabled	Accesso	Dr Acces	ssory desc	arintion	
Bosch EDC170	All a second sec	i ype	219		Active		LIM AC Po			1
Looon Loon	Low		215	Internet of the offer	- Houre	144300T		in cable	(cr ouppi)	<b>H</b>
						14P600K		unction c	able	0
						14P600K	TO4 Adapt	er for nos	itioning frame	

For example purposes, the ECU on which the screenshots provided are based is a Citroen.

Typically, for a selected vehicle only one ECU will be available (The lower-left selection pane). K-Suite will select the first available by default, but you may have to select another.

For the Units of Measurement, more or fewer values may be listed for you based on the settings given under the *Main Window -> Settings -> Unit of Measurement* (See a previous subsection: *Unit of Measurement* for more information)

Use the selection panes to highlight every applicable detail for your vehicle, and then press the green checkmark button in the bottom-right to begin.

KI		ve		IOT					C		
KTAG	K	55						1			-
Make				Model	Se	eries Code	Туре	Fuel		Year	
Caterham Chery				C-Crosser		A55		Diesel Petrol		2010	
Chevrolet				DS3		A55 A56		Feuor		2011	Ô
Chrysler				DS3 DS4		B75				2013	0
Citroen				DS5		B81				2014	
Dacia				Jumper		U5				2015	
Daewoo				Jumper		U9					
Dodge				Jumper	(3	2nd) [19	-				
Version		CO:	Tier	Engine	Model	Code		cm <sup>3</sup>	hp	nm	
1.4 8v e-HDI 70	EGS	Euro 5		PSA DV	DLD-414	8HR	(DV4TD)	1398	67	160	
1.6 8v HDi 110		Euro 5									
1.6 8v HDi 90		Euro 5									
ECU Brand	ECU Version	ECU T	Type	K-TAG	Group	- Enabled	Accesso	Acce	ssory desc	ription	
Bosch	EDC17C10	ECM		219	INFINEON TRICORE			LIM AC PO			
							144300T1		on cable		=
							14P600K	T02 Multi	function ca	able	0
							14P600K	T04 Adap	ter for posi	itioning frame	

No actions will be taken on the ECU at this time.

### Accessing and using the KTAG ECU Tuning Manuals

Once you have selected the vehicle you wish to tune if you click on **tuning manual**, accessible by clicking on the open-book image positioned above the green checkmark on the right hand side of the screen. This will open a window containing a manual specific to the vehicle you have selected.

In the manual, special considerations will be listed, including:

- Pictures of the physical ECU (Circuit board and casing), for you to confirm it is the correct hardware.
- Pictures of the circuit board identifying the boot pinouts, which you will need to connect to during the read/write operations
- Pictures of the pins within the plugs, which will be used to connect the coloured KTAG wires to the plug pins

\*

The first section of the manual has a warning message in red explaining the risks involved in opening an ECU and incorrect procedure can damage the ECU. It also strongly recommends that after opening the ECU that you reconnect it to the vehicle to ensure the vehicle still starts – it important that after you test it you allow the vehicle to power down before disconnecting the ECU again.

The manual then shows pictures taken of the physical ECU.

You will see images of the metal casing, the circuit board, the plugs, and any additionally related hardware you may require.

These pictures are to assist in confirming that the ECU you will be working on is the correct one.

### **Ensure you are selecting the correct ECU model by referencing the pictures in the manual.**

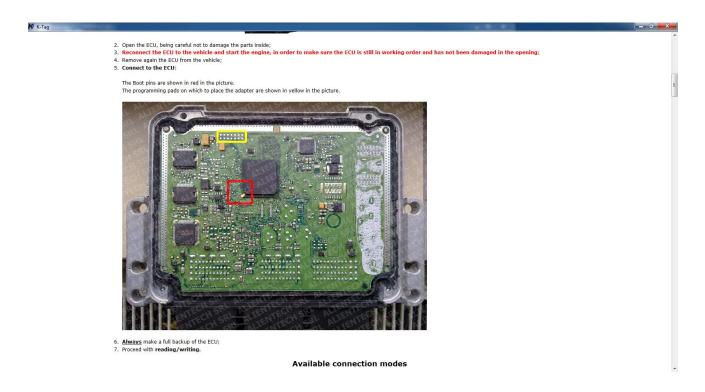
### If you are unsure about any of the instructions please contact Viezu Technical Support before proceeding

🛠 K-Tag	- 🗆 🗙
Family 219: Bosch EDC17C10 TC1797 PSA	TAG
Warnings	
To use this communication protocol you need to remove the ECU from the vehicle and open it. It is a risky operation, to be done with great care and extreme caution to avoid damaging to be used a second and the second	the ECU
beyond repair. After opening the ECU and before proceeding with reading and/or programming, you are strongly advised to reconnect the ECU to the vehicle and start the engine, to make sure the ECU in working order.	<u>) is still</u>
To use this protocol, you need to connect a cable to the ECU connector and solder one or more wires to the programming pads. Incorrect connections or poorly made solderings can damage the ECU, often beyond repair.	
Under no circumstances Allentech shall be liable for any damage caused to the ECU in the opening, by connections and/or by soldering not in accordance with the recommendations and instructions stated in this manual.	
BY USING THIS PROTOCOL, YOU GIVE YOUR FULL AND UNCONDITIONAL ACCEPTANCE OF THESE TERMS AND CONDITIONS, YOU AGREE TO RELEASE ALIENTECH FROM ALL LIABILITY AN RENOUNCE TO ALL RIGHTS TO CLAIM ANY COMPENSATION.	ID YOU
Notices When writing the modified file, the checksum of the data may take several minutes, depending on your computer performance.	
when writing the modified file, the checksum of the data may take several minutes, depending on your computer performance.	
Instructions	
1. Remove the ECU from the vehicle;	

First view upon opening a KTAG vehicle manual (Vehicle specific)

Included for further physical identification are pictures of the circuit board.

Use these images again to check that you will be working on the correct ECU for the wiring schemas provided later.



#### Incorrect procedures on the wrong ECU may cause permanent damage.

Before proceeding to wire-up the ECU using the KTAG toolkit, ensure you have a stable power-supply using the power supply provided in the KTAG kit.

#### An unstable power source may cause permanent damage to the ECU.

### Using Manuals to assist in Wiring Pinouts and Plugs

Further pictures of the circuit board identifying the boot pin-outs will be given. These images are to assist you in connecting pins to pinouts.



#### Incorrect wiring of the pinouts may cause permanent damage to the ECU

The manual may include an image of the boot pinout already connected (Soldered in the example above).

### ! <u>The boot connecter wire is a GREY wire with a crocodile-clip, coming from the KTAG frayed-ribbon</u> <u>cable.</u>

The plugs are the part of the ECU that the car connects to.

In the square, plastic brackets are several pins which must be wired using the coloured wires from the KTAG frayed ribbon cable.

In the example given below, 5 coloured wires must be connected to the plug pins.

#### Incorrect wiring of the plug pins may cause permanent damage to the ECU 1

<b>PIN 4 = GN</b>	D			as a second
		(°	Description	
	Pin	Color	Description	
	Pin 2,19	Red	+12V	
	Pin 2,19	Red	+12V	
	Pin 2,19 Pin 4	Red Black	+12V Ground	

The pictures in the manual may highlight nearby-pins (Coloured light-blue above) for your convenience.

This is to assist in connecting the correct coloured wires to the correct pins within the plugs<sup>4</sup>.

The cables carrying power are the most important to get correctly wired. For the above example:

- The red wires connect to pins #2 and #19.
- The **Red** wires carry power
- The black wire connects to pin #4.
- The **Black** wire is the Ground.

### Incorrect connections can cause ECU damage, please double check connections before continuing.

If you have any doubt or are unsure about anything, please contact Viezu Technical Support before continuing.

<sup>&</sup>lt;sup>4</sup> The plug pins are numbered, and the identifying number may be written inside the plug casing.

### Selecting an Operation

Some of the buttons available in these screenshots may not be available on a client license of KTAG as we are using a Master KTAG.

After selecting a vehicle and confirming your selection with the green checkmark on the Vehicle List screen, you are presented with window containing various operations.

- ! <u>Clicking some of these buttons will interact with the ECU.</u>
- ! <u>Ensure that your power supply is stable and that your wiring is correct before clicking any of the buttons on this window.</u>

KTAG	Programming		
ECU Data	Main Functions	Selected Protocol	
Identify ECU	Read backup	BOSCH EDC17 C10 IROM TC1797 PSA (P219)	
	Write backup		
	Micro TC1797 (Maps)     Flash Not present     EEPROM TC1797	Processes	
Save ID	Read		
	Write		
	Special Functions		
	Clone ECU		
		0%	

- Identify ECU An ID operation, used to communicate and identify an ECU
- Save ID Collects the information from the ID operation to a file that can be saved
- Read Backup Performs a read operation for the connected ECU, yielding a READ file
- Write Backup Writes a given modified or stock file to the ECU

If at any point you feel the options provided are not complete, or you are unsure which option to select, contact Viezu Technical support (See final section of this document for contact details).

! <u>A stable power source is an absolute requirement when performing any of the given operations on</u> <u>a vehicle.</u>

### ID-ing a ECU

Some of the buttons available in these screenshots may not be available on a client license of KTAG

First step when tuning a vehicle is to perform and ID operation. The ID is used to identify the ECU present in the vehicle, and the properties surrounding it. All this information will be very useful in the tuning and/or mapping process, and so the K-Suite application will provide you with an ID file.

\*

The KTAG operations window lists ID information to the left under 'ECU Data'. The operations available are **Identify ECU** and **Save ID**.

Identifying an ECU is the first step.

ECU Dat	a Identify ECU
	Save ID

The Identify ECU operation will read from the ECU an ID file, and will summarise the information in the space below.



Once the read is complete, the ID file can be saved to the computer system by clicking on the **Save ID** button.



Save your ID file in a sensible place with a sensible name.

We recommend that you save the file with a name containing the <u>licence plate number of the vehicle</u> followed by the letters 'ID'.

K Save As		<b>×</b>
Seat leon demofolder	▼ 🍫 Search seat l	eon demofolder 🛛 🔎
Organize 🔻 New folder		
Favorites	Date modified	Туре
📃 Desktop 📄 id	12/02/2018 13:16	Text Document
🐌 Downloads		
🖳 Recent Places 😑		
🎍 V-Flash Tuning a		
🚍 Libraries		
Documents		
Music		
Pictures		
😸 Videos		
▼		Þ
File <u>n</u> ame:		•
Save as type: Text file (*.txt)		•
Hide Folders	Save	Cancel

Save as: [Licence\_Plate] ID

The ID procedure is now complete, and you will have saved your ID file in a sensible place.

### Reading a ECU

Some of the buttons available in these screenshots may not be available on a client license of KTAG

To perform a read operation, click the **Read Backup** button, and the operation will then begin.

KTAG	Programming		
ECU Data	Main Functions	Selected Protocol	
Identify ECU	Read backup	BOSCH EDC17 C10 IROM TC1797 PSA (P219)	
HW: 9666077280 SW: 9666729680 SW upg.: 9667373180	Write backup		
VIN: Replacement:	Micro TC1797 (Maps)	Processes	
Replacement: System: Engine:	<ul> <li>Flash Not present</li> <li>EEPROM TC1797</li> </ul>	ECU identification in progress Reading device info Reading Backup Reading Micro SECTOR-0x00000000	
Save ID	Read	SECTOR: 0x00004000 SECTOR: 0x00008000	
	Write	SECTOR: 0x0000C000 SECTOR: 0x00014000	
	Special Functions		
	Clone ECU		-01
		2%	

Upon completion of the read operation, you will be prompted to save the read file.

K Save As				Prosentation	×
V ktag	demo folder	-	•	✓ Search ktag der	mo folder 👂 🔎
Organize 🔻 New	folder				•
☆ Favorites	Name	^	Date modified	Туре	Size
Viezu Technolog Iles	gʻ 🚍 🦳 ID		16/02/2018 09:33	Text Document	1 KB
2017 Tuning File					
2016 Tuning File 2015 Tuning File					
CFA					
📃 Desktop					
\rm Downloads					
Recent Places TEMP	-				
File <u>n</u> ame: F	READ FILE				•
Save as <u>t</u> ype:					•
Alide Folders				Save	Cancel

### Sending and a Receiving modified files to Viezu

There is two ways to send and receive files.

One way is to use our automated 24 hour pay as you go service at <a href="http://www.viezu-client-files.com/">http://www.viezu-client-files.com/</a>

This service allows you to submit and pay for your file online. Please note as this is a pay as you go service you can't use any keys that you have pre-brought on your account.

Alternatively, you can email the file to us and use credits that you have on your account.

### Emailing the File

When emailing the file to us using <u>technical@viezu.zendesk.com</u>, keep the subject title as simple as possible, "Vehicle License Plate" is a general suggestion. Include the file submission form in your email

Without these details we will not provide the modified file for you. We take all of the above into consideration when creating the modified file. For example, an engine with a bigger/hybrid Turbo may be able to run more Boost Pressure whereas an engine with high mileage would be given less to take into account wear and tear on the engines components. In this email we also ask that you include any additional information. For example:

Vehicle is used to tow a caravan Client wants performance and/or economy Client has a flat spot around a certain RPM

All of this information helps us to achieve the best possible modifications for your client. Once all the relevant information has been received the modified file will be produced. The Service Level Time is 60 minutes on receiving the original read.

### Receiving the File

Once the modified file has been created for your client, you will receive the file back via email. The file name will be as you saved it,

For example; "AB01 2CD VPERF" This is the modified file you will need to save to your computer, do not change the name of the file when saving.

Save the file to a location you have set aside for your Tuning Work and do not alter the File Type when saving. Once saved in the appropriate place, you have received the file and you are ready to write back to the vehicle.

### Writing a ECU

To write the modified file back to the vehicle you will need to select the vehicle in the same way that you did for reading. You will also need to remember to select the exact same vehicle and engine type that you did when you took the read. Not selecting the correct vehicle could cause an issue in the programming process.

Always re-check the KTAG manual as some ECU require different connections to reading, always refer back to the Alientech manual for further instructions.

### If you are ever unsure, do not proceed and contact the Viezu Technical Team.

Some of the buttons available in these screenshots may not be available on a client license of KTAG

The Write Backu	<b>p</b> button will b	egin the writing	process, starting	g with a file selection	on window.

KTAG	riogrammig		
ECU Data	Main Functions	Selected Protocol	
Identify ECU	Read backup	BOSCH EDC17 C10 IROM TC1797 PSA (P219)	
	Write backup		
	Micro TC1797 (Maps)     Flash Not present     EEPROM TC1797	Processes	
Save ID	Read		
	Write		
	Special Functions		
	Clone ECU		
		0%	

From the file selection window, you can select your modified file to be written. In this example, a modified file with a VPERF tuning is to be written. We select this file and click **Open** to continue.

K Open				Press			x
💭 🖓 📕 🕨 ktag demo	folder		•	✓ Search k	tag demo folo	ler	٩
Organize 🔻 New folder							0
☆ Favorites	Name	*	Date modified	Туре	Size		
🌗 Viezu Technolog	DEMO VPERF		16/02/2018 11:25	File		921 KB	
🔰 files 🗮	D ID		16/02/2018 09:33	Text Documen	t	1 KB	
퉬 2017 Tuning Files	READ FILE		16/02/2018 11:25	File		921 KB	
2016 Tuning Files							
2015 Tuning Files							
🔰 CFA							
TBDM							
🧮 Desktop							
🐌 Downloads							
📃 Recent Places							
🐌 TEMP							
INTERNET							
🌗 2018 Tuning Files 🔻							
File nar	me: DEMO VPERF						-
							5
				Open		Cancel	

It is at this point the writing operation will begin indicated by the progress window that will appear.



Behind the progress window on the main KTAG window, you will find an operation progress bar and an information box labelled *Processes*.

The progress of the writing operation will be indicated by:

- Information updating in the Processes information box
- The two-coloured progression bar growing to completion

This process can take several minutes to an hour.

ECU Data Identify ECU	Main Functions Read backup	Selected Protocol	
identity EGO	neau backup	BOSCH EDC17 C10 IROM TC1797 PSA (P219)	
	Weite bestung	BUSCH EDCTT CTUTINUM TCTT97 F3A (F219)	
	Write backup Micro TC1797 (Maps)	Processes	
	<ul> <li>Flash Not present</li> <li>EEPROM TC1797</li> </ul>	C. Uksers/Workshop/Desktop/ktag demo folder\DEMO VPERF ECU identification in progress	
Save ID	Read		
	Write		
	Special Functions		
	Clone ECU		-
		0%	
		ALIENT	EC
<b>KTAG</b> Pr	rogramming		EC
ECU Data	rogramming Main Functions	Selected Protocol	EC
			EC
ECU Data Identify ECU HW: 9666077280 SW: 966672860	Main Functions	Selected Protocol	EC
ECU Data Identify ECU HW: 9666077280 SW: 9667373180 VIN:	Main Functions Read backup Write backup @ Mcro TC1797 (Maps)	Selected Protocol BOSCH EDC17 C10 IROM TC1797 PSA (P219) Processes	EC
ECU Data Identify ECU HW: 9565077280 SW: 9665729880 SW: 904, 9665737180	Main Functions Read backup Write backup	Selected Protocol BOSCH EDC17 C10 IROM TC1797 PSA (P219) Processes C\Users\Wikehop\Desktopktag demo folder\DEM0 VPERF	EC
ECU Data Identify ECU HW: 9666077280 SW: 96672730180 VIN: Replacement: System:	Main Functions Read backup Write backup @ Micro TC1797 (Maps) _ Flash Not present	Selected Protocol BOSCH EDC17 C10 IROM TC1797 PSA (P219) Processes CV.Users Whickhop Desktop Mag demo folder DEMO VPERF ECU identification in progress Wring SECTOR knob000000 SECTOR knob0000000 SECTOR knob00000000 SECTOR knob000000000000000000000000000000000000	EC
ECU Data Identify ECU WY 9656077280 SW 9656729880 SW upg: 9656737180 VIN: Replacement: System: Engine:	Main Functions Read backup Write backup Micro TC1797 (Maps) Flab Micro TC1797 (Maps) EBPROM TC1797	Selected Protocol BOSCH EDC17 C10 IROM TC1797 PSA (P219) Processes C.\Users\Workshop\Desktop\Ktag demo folder\DEMO VPERF	EC

The writing operation is underway, indicated by the information box labelled "Processes" and the growing two-coloured progress bar Depending on how many sectors the ECU has you may see additional bars progress, after the first progress bar completes. Wait for all bars to finish before doing anything further.

KTAG		
ECU Data	Main Functions	Selected Protocol
Identify ECU	Read backup	BOSCH EDC17 C10 IROM TC1797 PSA (P219)
HW: 9666077280 SW: 9666729680	Write backup	
SW upg.: 9667373180 VIN:	Micro TC1797 (Maps)	Processes
Replacement: System:	<ul> <li>Flash Not present</li> </ul>	C.\Users\Workshop\Desktop\ktag demo folder\DEMO VPERF ECU identification in progress
Engine:	EEPROM TC1797	Writing     SECTOR: xx00000000     SECTOR: xx00004000     ■
Save ID	Read	SECTOR: 0x00008000 SECTOR: 0x0000000 SECTOR: 0x00010000
	Write	SECTOR: 0x00014000 SECTOR: 0x00018000
	Special Functions	SECTOR: 0x0001C000 SECTOR: 0x00020000
	Clone ECU	SECTOR: 0x00040000 SECTOR: 0x00080000 SECTOR: 0x000000000 -
		50%

The writing operation is complete when the progress bars are no longer growing, wait a few minutes first to ensure it has finished.

The *Processes* information box will indicate "Writing Successfully Complete" (You may need to scroll down to confirm this)

KTAG			
ECU Data	Main Functions	Selected Protocol	
Identify ECU	Read backup	BOSCH EDC17 C10 IROM TC1797 PSA (P219)	
HW: 9666077280 SW: 9666729680 SW upg.: 9667373180 VIN: Replacement: System: Engine:	Write backup  Micro TC1797 (Maps) Flash Not present EEPROM TC1797	Processes SECTOR: 0x00200000 SECTOR: 0x00210000 SECTOR: 0x00214000 SECTOR: 0x00216000 SECTOR: 0x00220000	2
Save ID	Read	SECTOR: 0x00240000 SECTOR: 0x00240000 SECTOR: 0x00280000	
	Write	SECTOR: 0x002C0000 SECTOR: 0x00300000	
	Special Functions	SECTOR: 0x00340000 SECTOR: 0x00380000	=
	Clone ECU	SECTOR: 0x003C0000 Writing successfully complete.	
		0%	

Once the ECU has finished writing then, the ECU will need to be resealed we recommend replacing the silicon to ensure that the unit is fully watertight once again. Then the ECU will need to be reconnected to the vehicle, only once you are sure that the ECU is correctly connected do you bring the keys back to the vehicle.

### Definitions (Glossary)

- **ECU** It can vary from different Bosch, Siemens, to Motronic ECUs. It is not necessary for you to know this before tuning the vehicle however it is something that is worth making a note of for future reference.
- **ORI file** An original file. An initial and unmodified read of a vehicle's ECU, sourced via the read operation of a KESS/KTAG or through Viezu technical support.
- **Protocol** A communications protocol identifying number. Every ECU has a protocol number, and there is a large range of numbers available

### Viezu Technical Team Contact Details

Emails are answered during both onsite and out of hour's operation times. Contact email addresses are:

### technical@viezu.zendesk.com

When contacting a team member directly please always cc the Technical Email Address. The Technical Email Address is copied to all members of the Technical Team; this will ensure your email is also seen in out of hour's service and picked up as soon as it is received.

Our operation hours are as follows (all times are UK) For file service: Monday - 07.00am to 21.00pm Tuesday - 07.00am to 21.00pm Wednesday - 07.00am to 21.00pm Thursday - 07.00am to 21.00pm Friday – 07.00am to 21.00pm Saturday - 07.00am to 18.00pm

During these hours our Service Level Times are **1 hour** from the receipt of the original file. The contact number for these hours is **+44 (0) 1789 774444**