

# Achieve the impossible

# Abrites Diagnostics TAG Key Tool User Manual

Version: 2.4

www.ABRITES.com



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	List of r	evisions	
Date	Chapter	Description	Revision
01.10.2015	ALL	Total update of the manual. Cloning added	2.2
13.09.2017	9	CAS4 Key Preparation update	2.3
23.08.2018	7	Added cloning of DST+ (G chip), M48 Fixed key and Temic 8C	2.4



# **1 INTRODUCTION**

Congratulations for choosing our product!

PROTAG programmer together with the Abrites TagKeyTool software will allow you to use your Windows based PC as a powerful programmer for transponders and tool for programming of transponder based keys.

The PROTAG programmer is a hardware unit produced by Abrites Ltd. intended for programming of transponders via your AVDI interface.

PROTAG programmer should be used with ABRITES software produced by Abrites Ltd.

ABRITES is a trade mark of Abrites Ltd.

### 1.1 Scope of the manual

This document describes the software and hardware installation of your transponder programmer named "PROTAG Programmer" and corresponding software named "Abrites Tag KeyTool".

The document is applicable for the transponder programmers from Abrites Ltd. - ZN002.

#### 1.2 Your transponder programmer

The PROTAG programmer:



### **2** SYSTEM REQUIREMENTS

Minimum system requirements – Windows Vista+, Pentium 4 with 512 MB RAM USB port with supply 100 mA / 5V +/- 5%

# **3 GETTING STARTED**

We suppose that your AVDI interface is configured and fully working.

You can receive an optional separate installation file of your "Abrites Tag KeyTool" software for your AVDI and PROTAG programmer.

The software is a windows executable file named 'SetupTagKeyTool\_VVxxxx.exe' where VVxxxx is your interface identification number.

## 3.1 Software installation steps

Please start the executable file below to initiate the installation procedure and follow the onscreen instructions.

Depending of your operation system and settings you can be asked to confirm starting of installation procedure.



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

😼 Setup - ABRITES Diagnostic Software	• 🗙
License Agreement Please read the following important information before continuing.	
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.	
Licence Agreement	<u> </u>
1. Subject Matter of Agreement	=
1.1. The subject matter of the agreement is the transfer of a non-exclusive and non-transferable right of use of the software and hardware supplied by Abritus 72 Ltd to the licensee. The functional scope of the software and hardware devices connected with it shall be taken from the performance specification.	
2. Scope of Licence	Ŧ
I accept the agreement	
◎ I do not accept the agreement	
< Back Next > C	Cancel

Read the license agreement and select "I accept the agreement" if you accepting all. Then press the "next" button.

If you not agree press cancel to interrupt installation procedure.

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



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





Press the "Next" button to proceed.



If you do not want desktop icons uncheck the checkbox about creation of icons. Press "Next" button to proceed.



Press "Install" and wait until installation complete.

Be sure that the checkbox about the installation of the interface's USB drivers is set especially if you are installing for the first time.

Press "Finish".



Depending on the setting of your operation system you can be asked to confirm installation of USB drivers.

Press "Yes".



Wait until the installation of USB driver finishes.

## 3.2 Connection of the PROTAG programmer to the interface

Once your AVDI interface is ready for work you can connect the PROTAG programmer to the

PC through one of the available USB ports of your PC.

### 3.3 Starting of the software

When the programmer is ready and connected to the PC you can start some of the applications from your installation package. Each of these applications will notify you that the PROTAG programmer is found and will use PROTAG programmer when it is needed.

If you are using TAG Key Tool application will appear following screen:

PABRITES Tag Key Tool 10.5	www.a	brites.com	×
autodetect     Sokymat 8E ▼	ID 784A8874 R		
	Data Bank Page Ø 0100 R W	Secret Key Bank Crypto Key 000000000000000000000000000000000000	Write <u>K</u> ey
Detect/ <u>R</u> ead	Page 1 7000 R W		Unlock
<b>A</b> <u>P</u> rogram	Page 3 0000 R W		
	Page 5 0905 R W	Blank operation	
<u>S</u> ave	Page 6 8231 R W	status:	Frank CUK
× Exit	Reading successful.		

From the drop down list you can select some of needed transponders types or utilities which you needed.

ABRITES Tag Key Tool 10.5	W	vww.abrites.com	
ABRITES Tag Key Tool 10.5 autodetect Sokymat 8E PIT Hitag 2 Hitag 2 eep Hitag Pro Hitag VAG1 Hitag AES Hitag 3 Audi 8E eep Megamos 13 Megamos 48	ID 784A0074 R Data Bank Page 0 0100 R 4 Page 1 7000 R 4 Page 2 7FFF R 4	www.abrites.com  Secret Key Bank Crypto Key 000000000000000000000000000000000000	Write <u>K</u> ey <u>U</u> nlock
Megamos AES Sokymat 8E Tiris 4C Tiris 4D Tiris 4E Tiris DST+ Tiris AES Temic 11 Temic 12	Page 4 00FF R V Page 5 0905 R V Page 6 0231 R V	W Blank operation W Status:	<u>B</u> lank chk
Temic 8C T5/Nova ID Cards IR Key Key Tool Key Reset Production	Page 7 F800 R V		

You have also the ability to access additional EEPROM memory of the keys, to prepare a key ready for starting of the vehicle using 'Key Tool', to prepare transponders ready for programming by diagnostic equipment – 'Production' and also you can prepare a 'cloning' of a key using function 'Key Cloner'.

# 4. TAG KEY TOOL - WORKING WITH DIFFERENT TRANSPONDERS

Once an option is selected from the drop down list you will find a screen with options which allows you to read and program the fields of the transponder.

The main buttons named "Read/Detect" and "Program" are intended to read and program the whole memory of the transponder if that is possible.

Many types of transponders are read-only and the button "Program" is used to prepare a compatible transponder which can emulate the target transponder.

Bellow is the emulation list:

Megamos 13 can be emulated with T5 or PIT transponder.

Temic 11/12 can be emulated with T5.

Texas 4C can be emulated with TPX1 (available from version 5.2 of TagKey Tool) .

Texas 4D/4E can be emulated with TPX2.

HITAG-2 can be emulated with TPX3/TPX4 (available from version 5.2 of TagKey Tool) .

The small buttons "R" and "W" are intended to read or program only separate fields from the transponder memory.

When working with transponder please be informed about corresponding transponder specification. Many of the fields from transponder memory can be programmed only once.

It is very important to place the transponder when you read or program.

## IMPORTANT: Transponders or keys should be kept in the right place in the PROTAG programmer.

# 5. TAG KEY TOOL – KEY TOOL AND PREPARATION OF A KEY BY DUMP OF IMMOBILIZER SYSTEM

"Key tool" is a utility intended for preparation of a key when a dump from immobilizer system of the vehicle is present.

	Transponde	r Memory-		Seg	Mode	М	PWM	Size	PWS -	- Conf
Hitag Pro 🔻	Identifier		R	50	undefined		Г			R
Altag 2	SKØ			S1	undefined	I	Г		Г	W
Hitag 2 eep	SK1		W	S2	undefined	I	Г			
litag VAG1	SK2			S3	undefined	I	Г			
itag AES	SK3			S4	undefined	I	Г		Г	
udi 8E eep	TSI A			S5	undefined	I	Г		Г	
egamos 13 egamos 48	TSI B			S6	undefined	I	Г			Manchester
egamos AES okymat 8E	TSI C			S7 🗌	undefined	I	Г		□ c	Biphase
iris 4C iris 4D	SK 00000	00000000000	0000000	000000	000 Au	th De	efaul	t		WR USER
iris 4E	00000000 0	0 00 00 00	00 00	00 00	00 00 00 0		30 00			
iris AES	00000010 0	0 00 00 00	00 00	00 00	00 00 00 0	0 00 00 0	00 00			
emic 11	00000020 0	0 00 00 00 00		00 00		3 00 00 U 3 00 00 0	10 00 10 00		•••••	
emic 12	0000000000000	0 00 00 00 00		66 66	AA AA AA AA	a aa aa a	10 00			
emic 8C	00000050 0	0 00 00 00	00 00	00 00	00 00 00 00	0 00 00 0	00 00			
5/Nova	00000060 0	0 00 00 00	00 00	00 00	00 00 00 0	0 00 00 0	<u>10 00</u>			
	00000070 0	0 00 00 00	00 00	00 00	00 00 00 0	00 00 0	00 00			· · · · · · · · · · · · · · · · · · ·
D Cards										
D Cards	<									>

From the list of transponders and functions of the main screen you can select this utility.

Once you select the "Key tool" option a screen will appear with a drop down list where you can select your model and immobilizer system.

Abrites - Key Tool	www.abrites.com	- 0	×	Abrites - Key Tool	www.abrites.com	-	
Vehicle	Model			Vehicle Mo	del		
Audi A Audi A	3. White Immobox 93C46. T5/TK5551 or PCF7935. 3 Micronas VDO CDC32xx - Key by Eeprom/flash dump			Audi - Fi Aston Mar	nd 7th Component Security Byte f tin (2003-2009). ECU ST77014. Te	rom working key xas 4D.	
Audi A Audi A Audi A	3 Micronas VDO CDC32xx - Dealer key by Eeprom/flash 4. White Immobox 93C46. T5/TK5551 or PCF7935. 6. White Immobox 93C46. T5/TK5551 or PCF7935.	h dump		Bentley A Bentley C Bentley C	rnage. Immo Kostal 68HC911EA9. P ontinental. KESSY 93C86.PCF7936 ontinental.Dealer's key. KESSY 9	CF7935 or remote key. 3C86.PCF7936.	_
Audi A Audi A Audi A	6 2004+. Key by dump of EZS - 9512.ID 8E. 6 2004+. Dealer key by dump of EZS - 9512.ID 8E. 6 2004+. Unlock key by dump of EZS - 9512.ID 8E			Bentley C BMW ALL B BMW EWS1.	ontinental.Dealer's key by dump IKES. ECU Bosch M58BW0160. PCF79 PCF7935	of ECU.PCF7936. 36	
Audi A Audi A Audi A	<ol> <li>White Immobox 93C46. T5/TK5551 or PCF7935.</li> <li>2003+. KESSY 93C86. PCF7936 or remote key.</li> <li>2003+. Dealer's key. KESSY 93C86.PCF7936.</li> </ol>			BMW EWS2. BMW EWS3. BMW EWS4.	PCF7935 68HC911EA9. PCF7935 or EML PCF7935 or EML		
Audi A Audi A Audi A	3 2003+. Dealer's key by dump of ECU.PCF7936 Llroad 2004+. Key by dump of EZS - 9S12. ID 8E Llroad 2004+. Dealer key by dump of EZS - 9S12.ID 8	BE		BMW CAS1. BMW CAS2. BMW CAS3.	PCF7936 or remote key. PCF7936 or remote key. PCF7936 or remote key.		
Audi A Audi Q Audi Q	llroad 2004+. Unlock key by dump of EZS - 9S12.ID 8 7. Key by dump of EZS - 9S12.ID 8E 7. Dealer key by dump of EZS - 9S12.ID 8E	BE		BMW CAS4 BMW CAS4 BMW CAS4	Series 1 F20 (2011-). FCF7939 or Series 5 F10/F11 (2010-). PCF793 Series 5 GT F07 (2010-). PCF7939	remote key. 9 or remote key. or remote key.	
Audi Q Audi T Audi T	7. Unlock key by dump of EZS - 9512.ID 8E T Micronas VDO CDC32xx - Key by Eeprom/flash dump T Micronas VDO CDC32xx - Dealer key by Eeprom/flash	n dump		BMW CAS4 BMW CAS4 BMW CAS4	Series 6 F12/F13 (2011-). PCF793 Series 7 F0x (2008-). PCF7939 or Series X1 (2010-). PCF7939 or re	9 or remote key. remote key. mote key.	
Audi Ra	B Micronas VDO CDC32xx - Key by Eeprom/flash dump B Micronas VDO CDC32xx - Dealer key by Eeprom/flash	h dump	•	BMW CAS4 BMW CAS4	Series X3 F25 (2011-). PCF7939 of with XEP100 MCU (5M48H mask). PC	r remote key. F7939 or remote key.	

In the list you can see the model, immobilizer module, type of memory where is stored key data and needed transponder/key for programming.

When a model is select your next step should be to load the file containing the immobilizer data (dump).





When a dump is loaded you should select the exact key position you want to program.

You will have to to place then your transponder/key in the PROTAG programmer and to press the button "Prepare Key".

Once the programming of the transponder is finished, if it is needed, you will be asked for the file name of the modified dump.



NOTE: Because different programmers can read from the immobilizer dump differently – NORMAL or SWAPED, if after programming the transponder/key does not work, you will need to SWAP the dump and load it back into the software and program a new key or transponder.



# 6. TAG KEY TOOL - PRODUCTION UTILITY AND PREPARATION OF A KEY READY

#### FOR PROGRAMMING BY DIAGNOSTIC EQUIPMENT

"Production" is a utility intended for preparation of transponders ready for programming by diagnostic equipment.

From the list of transponders and functions of the main screen you can select this utility.

From the screen "Production" utility you have to choose which type of transponder key you want to be prepared. Then simply place your transponder/key on the PROTAG programmer and to press the button "Program".

Transponder Type	
ID46 KIA Remote key 7946.	
ID67 Master Key 1 Toyota. Texas 4D.	
ID67 Master Key 2 Toyota. Texas 4D.	
ID67 Master Key 3 Toyota. Texas 4D.	
ID67 Valet Key Toyota. Texas 4D.	
ID68 Master Key 1 Lexus. Texas 4D.	
ID68 Master Key 2 Lexus. Texas 4D.	
ID68 Master Key 3 Lexus. Texas 4D.	
ID68 Valet Key Lexus . Texas 4D.	
ID69 Yamaha. Texas 4D.(JMA TP31)	
ID70 Master Key 1 Toyota Europe. Texas 4D.	
ID70 Master Key 2 Toyota Europe. Texas 4D.	
ID70 Master Key 3 Toyota Europe. Texas 4D.	
ID70 Valet Key Toyota Europe. Texas 4D.	
TA1 Mercedes ML W163. PCF7935.	
TA10 BMW/Rover/Mini. EWS2 and EWS3 key 1. PCF7935.	

When the programming of the transponder finishes, if it is needed, you will be asked for the file name of the modified dump.

Abrites - Transponder Production	www.Abritus72.com	×
Transponder Type		
ID69 Yamaha. Texa	s 4D.(JMA TP31)	<b>•</b>
Model : Yamaha: BT1100 ( (2005+), FZS1000 ( TDM 500, T-MAX 60 (2004+), XVS 650 D	Bulldog (2005+), JFR 1300 (2005+), FZ 2005+), Majesty 400, MT-01, MT-03, Pr 0, XJR 1300, X-MAX 125, XTR, XVS 1 ragstar (2004+), YZF-R1, YZF-R6	1 (2006+), FZ6 rad 1000S, 100 Dragstar
Transponder : Texa	s Crypto TIRIS 4D	
		÷
Program		Exit

Information about the needed transponder is displayed.

August 2018

# 7. TAG KEY TOOL - CLONING OF A KEY

The "Key cloner" function allows you to prepare a clone of some keys. Supported keys/ transponders for cloning currently are: Megamos 13, Temic 11, Temic 12, Toyota/Lexus/Scion Texas TIRIS 4D, all types of ID33, Megamos 48 <u>FIXED KEY</u>, DST+ (G chip) and Temic 8C

When a key is placed in the PROTAG programmer press the button "Read/Detect". The PROTAG programmer will read and identify the key and will then inform you what kind of transponder you need to place in the programmer to prepare a cloned transponder.

If your PC is connected to the Internet, you've the ability to clone all kind of TIRIS 4D transponders, not only Toyota/Lexus/Scion Texas 4D (ID67, ID68, ID70).

## HITAG 2 transponders onto TPX3/ TPX4 cloning.

The Abrites PROTAG programmer now offers an easy cloning of HITAG 2 transponders onto TPX3 and TPX4 transponders. This function requires Internet connection



# - Cloning of 4D transponders

# 1. Offline:



ABRITES Tag Key Tool 7.1	www.abritus72.com	-23-
<pre>     autodetect     Key Cloner     ▼ </pre>		
A·B·R·I·T auto <mark>m</mark> ptive solutions	To clone a key simply place your key on the programmer and press button 'Detect/Read.	
	Supported transponders for cloning:	
Detect/ <u>R</u> ead	HITAG-2	
	Megamos Fixed ID13	
L	Temic 11	
Program	Temic 12	
- 9	Temic 8C (Ford,Mazda)	
	ID33 all types	
(Inon	Texas Fixed 4C	
open	Texas Crypto ID67, ID68, ID70 - Toyota / Lexus / Scion	
	Texas Crypto TIRIS 4D all types. Needed INTERNET connection	
	Texas Crypto TIRIS 4E all types. Needed INTERNET connection	
<u>S</u> ave	Megamos Crypto 48 – fixed key	
×		
<u>E</u> xit	Key is succesfully cloned.	

# 2. Online







# - 4E transponder cloning online:

ABRITES Tag Key Tool	www.abritus72.com	8
ABRITES Tag Key Tool  AUDIT Coner  AUDIT Co	To clone a key simply place your key on the programmer and press button 'Detect/Read. Attention H H H H H H H H H H H H H	
<b>X</b> Exit	Texas 4E found	

# - 5E transponder cloning online:

ABRITES Tag Key Tool	www.abritus72.com	×
Abulis tay key tool autodetect Key Cloner A:BRITE:S autoretive soutions	To clone a key simply place your key on the programmer and press button 'Detect/Read. Supported transponders for cloning: HITAG-2 Megamos Fixed ID13 Temic 11 Temic 12 Temic 8C (Ford,Hazda) ID33 all types Texas Fixed 4C Texas Crypto 1067, ID68, ID70 - Toyota / Lexus / Scion Texas Crypto 1067, ID68, ID70 - Toyota / Lexus / Scion Texas Crypto TIRIS 4D all types. Needed INTERNET connection Texas Crypto 1815 4E all types. Needed INTERNET connection Megamos Crypto 48 - fixed key	
× <u>E</u> xit	<pre>{ey is succesfully cloned.</pre>	



# 8C transponder cloning:

ABRITES Tag Key Tool	www.abritus72.com	23
■ autodetect         Key Cloner         ■ BRITES         automotive solutions         Detect/Bead         L         Program         Detect/Bead         L         Brogram         Save	To clone a key simply place your key on the programmer and press button 'Detect/Read. Supported transponders for cloning: HIT Ready for programming! Place a TK5561 transponder and press OK to proceed. Tem Tem Tem Tem Texas Fixed 4C Texas Crypto 1067, ID68, ID78 - Toyota / Lexus / Scion Texas Crypto 1067, ID68, ID78 - Toyota / Lexus / Scion Texas Crypto TIRIS 4D all types. Needed INTERNET connection Texas Crypto 48 - fixed key	
× Exit	Temic 8C found	
ABRITES Tag Key Tool	www.abritus72.com	×
ABRITES Tag Key Tool autodetect Key Cloner ABRITE E-S outor office solutions Detect/Read Program Saue	www.abritus72.com To clone a key simply place your key on the programmer and press button 'Detect/Read. Supported transponders for cloning: HITAG-2 Megamos Fixed ID13 Temic 11 Temic 12 Temic 8C (Ford,Mazda) 1033 all types Texas Fixed 4C Texas Crypto 1D67, ID68, ID70 - Toyota / Lexus / Scion Texas Crypto TIRIS 4D all types. Needed INTERNET connection Texas Crypto TIRIS 4E all types. Needed INTERNET connection Megamos Crypto 48 - fixed key	

# - Hitag 2 Transponder Cloning











ABRITES Tag Key Tool	www.abritus72.com	53
ABRITES Tag Key Tool T autodetect Key Cloner A.B.R.I.T.E.S Quidor bive solutions Detect/Read Program	To clone a key simply place your key on the programmer and press button 'Detect/Read.	8
<u>Open</u> Save	Cancel Texas crypto 1907, 1906, 1970 - 1990ta 7 texas 7 stron Texas Crypto TIRIS 4D all types. Needed INTERNET connection Texas Crypto TIRIS 4E all types. Needed INTERNET connection Megamos Crypto 48 - fixed key HITAG-2 cloning in progress - reading original key	

















# 8. Porsche Panamera key by dump

- Read the 9S12XDP512 or 9S12XEP100 EEPROM using a programmer.

-Load the EEPROM dump in the Tag software and choose a position where you would like to write the new key.

Abrites - Key Tool		www.abrite	is.com				
Vehicle Model							
Porsche Panamera (970)							
	ି Key <u>0</u>	Used.	ID: D4E4A932				
Load Dump	ି Key <u>1</u>	Used.	ID: 69F4A932				
	۰ Key <u>2</u>	Not used.	_				
Prepare	् Key <u>3</u>	Not used.	_				
<u>K</u> ey	् Key <u>4</u>	Not used.	_				
	<u> Key 5</u>	Not used.	_				
Evit	ି Key <u>6</u>	Not used.	_				
	े Key <u>7</u>	Not used.	_				

- Place a new key in the PROTAG programmer and press the "Prepare key" button.

Abrites - Key Tool		www.abrite	es.com	
<b>√Vehicle</b> M	lodel			 
Porsche	Panamera (970	)		<b>_</b>
	-	·		
Load	ି Key <u>0</u>	Used.	ID: D4E4A932	
Dump	ି Key <u>1</u>	Used.	ID: 69F4A932	
	ି Key <u>2</u>	Used.	ID: 934D0532	
Prepare	ି Key <u>3</u>	Not used.	_	
<u>K</u> ey	् Key <u>4</u>	Not used.	_	
	ି Key <u>5</u>	Not used.	_	
Exit	ି Key <u>6</u>	Not used.	_	
	ି Key <u>7</u>	Not used.	—	

- The software will modify the dump and the user should save it to a new file.

- The modified dump needs to be written back to the Motorola MCU in the D flash section and the car will start.

# 9. CAS4 by dump

In order to prepare a CAS 4 key by dump you need to:

- Read the XEP100 MCU's EEPROM and save it to a file.
- Load the file into the TAG key tool and select the correct key position.
- Use PCF7939 transponder or a new remote key.
- Prepare the key.



- You will be asked to either read the working key or enter the DME/DDE ISN. Please use the checkbox option according to the situation (Working key or DME/DDE ISN). Once the option is chosen, please use the "Prepare Key" button to prepare the key for programming.

ABRITES Tag Key Tool 10.0	www.abrites.com	×
Abrites - Key Tool	www.abrites.com	- 🗆 X
Vehicle Model		
BMW CAS4 Seri	es 5 F10/F11 (2010-). PCF7939 or remote ]	xey. ▼
✓ The car has working key	Put the WORKING key and click on Read	Read Key
Load Dump	• Key 0       Used.       ID: 138C0032         • Key 1       Used.       ID: 48930032         • Key 2       Not used.       —	
Prepare Key	° Key 3 Not used. — ° Key 4 Not used. —	
Exit	<ul> <li>Key 5 Not used. —</li> <li>Key 6 Not used. —</li> <li>Key 7 Not used. —</li> </ul>	
	Key 8 Not used. —	