1 December, 2009

# PHILIPS

## HiTag2 Universal keys programmer

### v. 3.1



#### Purpose:

Hitag-2 programmer is universal key programmer, with additional option of key programming from dump. Just insert blank key or appropriate transponder you need to program. Device detects transponder type and will do everything automatically!

#### Distinctive features of Hitag2 programmer:

ALL types of Hitag2 transponders are fully supported

Widest range of supported cars, using Hitag2 protocol

Deep research work, has allowed us to make device, as much as possible correctly adding keys in the car, without damage to its functionality!

#### Key generation from dump is available for the following cars:

Make	Immobilizer type	EEPROM/MCU	Login is visible	Radio remote programming possibility	Cars for USA market are supported
BMW	CAS1/2/3/3+	912/9S12	-	Yes	Yes
AUDI	KESSY	93C86	Yes	Yes	Yes
VW	KESSY	93C86	Yes	Yes	Yes
PORSCHE	KESSY	93C86	Yes	Yes	Yes
BENTLEY	KESSY	93C86	Yes	Yes	Yes
CHRYSLER	SKIM	95040/95080	Yes	Yes	Yes
LAND ROVER	EWSx	9S12	-	-	Yes
NISSAN	NATS	95080	-	-	Yes
OPEL	CIM	9S12/93C66	Yes	Yes	Yes
RENAULT	UCH	93C66	Yes	Yes	Yes
SAAB	CIM	93LC66	-	Yes	Yes

#### Supported transponder types

PCF7936 PCF7941 PCF7942/44 PCF7943 PCF7945 PCF7946 PCF7947 PCF7952

#### Supported transponder modes:

Password mode Crypto mode

#### Supported protocols:

Manchester Biphase

#### Software window view and description of the buttons:

Action Transponder	- WHI - 1940										
Menu	11	Transponder memory	(TM)		12402						
Load TM & CRK	PHILIPS	Pg.6 5/N	F8 A1 18	11	R						
	Æ	Po.1 - CRYPTO LO	4D 49 48	52	PM						
Load TN nnly		Pg.2 - CRYPTO HI	20 28 47	4E	RW						
Save TH as	HITAG-2	Pg.3 ··· CFG/PSW	0E AA 48	54	RW						
Read all TM pages	device	Pg.4 USER 0	46 5F 4F	48	RW						
Write all TM pages	V 3.0	Pg.5 USER 1	55 55 55	55 🔳	RW						
white all the bages		Pg.6 USER 2	AA AA AA	AA I	RM						
Write CFG byte	Hardware status	Pg.7 USER 3	FF FF FF	FF 📕	RW						
Advanced functions	Ready	PEA REKLOW	00 00 00	00	THE W						
		Past - max entry	00.00 00.	00	R W						
Transponder mode	Transponder type	Pys- RGF	00 00 00	100 121	1813						
Password mode     Crypto mode	@#CF7936 OPCF7941	rg.r	00 00 00	00	10						
TD coding protocol	coding protocol OPCF7942/44		Crypto Key & Serial Number								
Manchester	OFCF7945	S/N F8	A1 18 11	0	ed S/N						
Bahase	O PCF7946 O PCF7947		and the second s	The summer state of the							
	OPCE7952	100 C 100 C 100 C	Contraction of the local division of the loc	and a second second	CRK from						
Exit	Autodetect type	CRYPTO HI	4F 4E	Fact	BRY CRK						

Load TM & ... - Download "container" with transponder dump and crypto passwords Load TM only - Download transponder dump only

Save TM as ... - Save "container"

Read all TM pages - To read all of transponder's fields

Write all TM pages - To write all of transponder's fields

Write CFG byte -To read transponder's configuration field

Advanced functions - Key generation by loaded dump

Transponder mode - Transponder's work mode

**Password mode** - Password mode without additional data encryption **Crypto mode** - Data encryption mode

TD coding protocol - Data coding protocol Manchester - Self-synchronizing protocol with synchro impulses Biphase - Bi-phase modulated protocol

Exit - Exit

**Transponder type** - Types of supported transponders **Autodetect type** - Autodetecting of transponder type

**R** - To read exact transponder's field**W** - To write exact transponder's field

Read S/N - To identify transponder (read serial number) Load CRK from... - Download crypto passwords from file Factory CRK - Set factory default crypto passwords

#### Key generation (Advanced functions):

Key adding procedure is described for BMW E70 as for sample. Other models have identical procedure.

- 1. Read EEPROM or MCU dump from immobilizer
- Insert blank key/transponder into Hitag2 programmer and press "Read all TM pages" button. Programmer will read all of transponder fields automatically, led from the right side should lit green (it

#### means

transponder is blank and ready to be programmed). If you are using PCF7936 type of transponder switch it to **"Crypto mode"** with help of **"Write CFG byte"** option.

3. Press [ Advanced functions ] button to access car select menu and available additional options.

вми	BNW functions for PCF7	
AUDE	IMMO: EEPROM function	5
VOLKSWAGEN	Key maker	<ul> <li>automatically make new keys from CAS EEPROF</li> </ul>
PORSCHE	VIN / odometer	- read/write VIN and odometer value
BENTLEY	Keys: additional function	02
CHRYSLER	Read key info	• read info from key (VIN, odometer, etc.)
LAND ROVER	Remote control	- read/write remote control data
NISSAN	EEPROM data	- read/write additional EEPROM in key
OPEL		
RENAULT	Special functions	- key preparation for programming via OBD2
SAAB	BMW Explorer	by using "BHW Explorer" software
OTHER		
CLOSE		

#### Note:

Quantity of available options directly depends of transponder type. For ex. "Read Key info", "Remote control",

"EEPROM data" are unavailable for BMW keys with PCF7936 transponder inside.

4. Choose "Key maker" option, and load immobilizer dump.

ELLOL	
8	Can't detect EEPROM configuration. Continue only if you sure that correct KESSY EEPROM is loaded NOTE: Try to swap bytes in file
	[ OK

#### Note:

If you see this reminder (unable to recognize downloaded dump configuration), try to press [Swap bytes] button at the bottom of the screen.

5. If dump configuration is recognized successfully, you will get the following message:

Inform	ation	
Ų	EEPROM configuration	n: OK
	ОК	

And HEX-editor windows showing downloaded data will appear.

:000x0	PP	00	88	FF	05	40	08	14	30	08	00	28	00	09	26	00	0 0909<00 (00r0 🔥
0x010:	FF	FF	FF	FF	FF	FF	FF	00	FF	09	FF	FF	FF	FF	FF	FF	0 0
0x020:	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	7F	FF	FF	FF	
0x030:	19	97	FD	AD	71	88	88	Ċ9	36	38	34	B2	57	40	63	EØ	OSEnqMi-6:4-9Lep
0xD401	7B	96	OD	15	FF	09	FF	FF	D4	14	R2	44	1E	16	99	51	(UDS D LEEDCOUQ
0x0501	CD	10	BC	30	20	71	06	58	34	98	48	24	FF	re	FF	FF	LON< Pri: Inf P
:030x0	¢2	AF	38	C8	BE	81	43	DF	74	38	49	17	FO	42	cc	74	ToSLr-t?IOEB;z
0x070:	3¢	73	86	E 6	21	88	01	45	17	BA	¢¢	BA	94	01	34	54	<exu!jdes;;; #t:t<="" td=""></exu!jdes;;;>
:080x0	78	76	1F	8¢	18	90	72	50	FF	EÀ	FF	FF	99	19	60	83	"vOMObrP to Date;
:020x0	DB	40	96	01	58	£9	88	25	19	1D	11	51	76	<b>D</b> 4	90	BC	-ОЩО(щьейОО2vL9-
: DAGxC	11	10	DS	29	7E	74	76	3F	37	47	81	BC	SB	E9	95	90	жа-)-tv?76К-[фХЬ
DXDBO:	1.B	68	7B	B6	FF	FF	FF	FF	99	19	6D	B3	DB	0A	96	01	ык() Щйт)-ОЩО
1000x0	5B	E9	88	AS	19	11	13	SA	76	D4	9D	BC	11	AO	DS	29	[m-e3002v19-xa-)
:DXODO:	78	74	76	37	37	47	θÅ	BC	58	24	95	90	40	6.8	78	86	~tv?76K-[\$Xbak{]
:030x0	88	BC	FF	17	99	39	60	83	DB.	0A	96	01	58	89	86	A.5	- Щйл;-ОЩО(л-е
OxOFO:	19	10	07	5Å	76	D-4	90	₿Ċ	11	40	<b>D</b> 5	29	78	74	76	37	iCD2vLS-na-) ~tv?
0x100:	37	47	81	BC	SB	E4	95	90	18	68	7B	86	FF	FF	FF	FF	7GK-{фXbak(}
0x110:	99	49	6D	83	DB	OA	96	01	SB	E9	BB	25	19	10	09	52	Цйта;-ОЦО (щьейОО 2
0x120:	76	D4	9D	BC	**	AO	DS	29	7E	74	76	37	37	47	81	BC	vL9-xa-)-tv776K-
0x130:	SB	E4	95	90	40	61	7B	16	FF	FF	FF	FF	99	19	60	B3.	(OXbak() IDEs;
0x140:	DB	0Å	96	01	58	89	BB	AS	19	10	08	5A	76	D9	9D	BC	-ОЩО[ш¬ейОО2vLЭ-
0x150:	1.1	<b>à</b> 0	05	29	78	74	76	38	37	47	84	₿¢	58	E4	95	90	sa-)~tv?7GK-[\$%b 😽
	ncel		3					Ŭ.			cters			0.20			tions Continue >

Purpose of the buttons in "Make key from EEPROM" window:

"Cancel" - return to previous window

"Swap bytes" - Rearrangement of bytes for definition of EEPROM configuration

"Advanced functions" - Additional options (Depending on the version used by you; reception of Login, editing of VIN-number, editing of mileage)

"Continue" - Transition to programming data in a key or transponder

6. Press [ Continue > ] to start key/transponder programming. You will see the following message. Insert blank key into programmer and press [ OK ].



- 7. Software will verify if inserted key is blank.
- 8. If key is blank, software let you to choose key number.
- 9. Device will write all necessary key data from dump to key.
- 10. After that, software suggests you to save new dump.
- 11. Write new dump back to immobilizer.

#### Additional options for BMW keys: "Read key info" option:

BMW keys based on PCF7942/44 type transponders contain internal memory in which is stored:

VIN -number Mileage Last stored running time Mechanical key code Remote frequency Key number

This data can be read with help of "Read key info" option from option list designed for BMW keys.



Choose desired option;

Refresh info - Reread key data Close - Close window

#### Additional options for BMW keys: Option "BMW EEPROM data":

Using this option you can read BMW key memory.

Menu	EEPROMIN	6em	ory (	eep	rom	bin)	-				_	_						
Read EEPROM	0x000:	#1	11	51	21	81	81	Ð1	51	51	21	11	82	nt	11	81	21	H M
Write EEPROM	Ox010:	B1	B1	31	B1	81	B1	81	81	31	81	81	Bž	91	B1	B1	31	*****
HINS SECTION	0x020;	37	33	ŦŦ	ŦŦ	28	55	OF	70	00	10	05	40	00	00	35	50	93 x0+5000+005P
Load file	0x030:	14	51	19	15	58	52	C6	02	77	27	15	86	EF	00	12	19	SHOOXE O 'ODHOO"
Save file	0x040:	00	07	02	00	57	42	41	ήE.	46	33	31	30	30	30	-	=	CCCCVBANF310G0
	Ox050;	100	-	-	-		19	01	10	14	66	01	04	30	34	17	35	5000722000475
	0x060:	40	43	53	57	30	00	00	00	00	72	27	23	03	£7	70	48	LCSUODDDD-w7D4pN
	0x070:	35	OD	09	63	07	<b>D</b> 9	00	18	20	04	FA	02	FF	FF	FF	FE	50000-00 0-0 t
	0x000;	C2	14	10	79	04	04	OΕ	02	10	00	84	96	12	01	15	80	730 • 00000 A 0000 5 A
	0x090:	84	01	12	03	24	80	84	11	24	01	23	88	84	02	4£	02	CRORA NO COLORA DO COLORA
	Ox0A0:	60	80	88	03	22	02	45	80	84	10	OΞ	01	43	C0	88	20	NTOODEY'DEY'DOOCTN
	0x000;	43	01	33	00	88	21	42	01	33	80	tio	00	00	00	00	00	BOSAR (BOSADDOCO
	OxOCO:	.00	00	00	00	90	00	00	00	00	00	00	00	0ß	00	00	00	000000000000000000000000000000000000000
	0x0001	0p	00	00	00	80	00	00	00	00	00	00	00	00	00	00	00	000000000000000000000000000000000000000
	OXOEO:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	000000000000000000000000000000000000000
	OxOFO:	00	00	00	60	00	00	00	00	00	00	00	00	00	00	00	00	000000000000000000000000000000000000000
	0x1001	09	05	15	57	2.1	82	AB	CA	3.3	61.	13	70	FF	FF	00	00	CDeW*Bx(r)rp CD
	0x110:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	000000000000000000000000000000000000000
	Ox120:	00	00	00	.00	80	00	09	00	00	00	60	00	08	00	00	00	000000000000000000000000000000000000000
	0x1301	00	00	00	00	00	00	00	00	00	00	80	00	00	00	00	00	000000000000000000000000000000000000000
	0x140:	08	01	TF	27	77	12	FF	**	00	00	00	00	40	00	00	00	00 0 00001.000
	Ox150:	19	07	06	12	86	83	47	00	09	91	17	16	28	30	00	CD	00000X1*0000000 (00= 👳
-	10000000	1.0	100	100	94.	2.20	322	100	100	100	0.92	22.57	-1.1	199.50	22.00	00.00	1200	CONTRACTOR CONTRACTOR CONTRACTOR

Choose desired option;

**Read EEPROM** - Transponder's EEPROM reading option. There's a block read status at the bottom of the screen, each one contains 32 bytes of EEPROM. *Red indicator means block is closed and cannot be written.* 

Write EEPROM - Transponder's EEPROM writing option.

Load file... - Load key dump from file.

Save file... - Write key dump into file.

#### Additional options for BMW keys: Option "BMW Remote control":

In BMW keys unlike of other cars, data of a radio channel are in external EEPROM and can be read/written using separate function.

Remote control data				
Key number i	1	00	80	
Secret Key (high) (	1	00	60	
Secret Key (low) :	00 00	00	00	
Synchronization :	00 00	00	00	
Configuration (	00 00	00	00	
Read W	rite [	Ver	+	Ť.
CI	ose		1	

Note: Remote control area will be closed after programming and cannot be read anymore!

### Transponder configuration option "Write CFG byte":

**Warning!!!** Designed for advanced users only! Unintentionally you can damage key and it cannot be used anymore!

DD + Data trans	fer - Nanchester code
	ter - 01.02 HTAG 2 - Ovpending in ht.cn
DE - Dete trans	
122	er mode - Pessword mode
04 - Page 6-7 -	Read / Write enabled
	Read / Write enabled
D6 - Pape 3 - R	ead / Write enabled
D7 - Page 1-2 -	Read / Write enabled
06	Write Cancel

Bits value explanation:

Dx	Off	On	Note		
D0	Manchester	Biphase			
D1	Х	Х	not used		
D2	Х	Х	not used		
D3	Password mode	Crypto mode			
D4	PAGE 6 and 7 read/write	PAGE 6 and 7 read only			
D5	PAGE 4 and 5 read/write	PAGE 4 and 5 read only			
D6	PAGE 3 read/write	PAGE 3 read only, CFG & Pass - fixed!	Only once programmable area!		
D7	PAGE 1 and 2 read/write	PAGE 1 no read/no write PAGE 2 read only (in password mode) PAGE 2 no read/no write (in crypto mode)	Only once programmable area!		