# VVDI – MB TOOL User Manual

# Table of Contents

1.	Docu	ument Declaration	4
2.	Over	view	5
	2.1.	Noun explanation	5
	2.2.	VVDI – MB TOOL Hardware	6
	2.3.	Mainly function	7
3.	Optic	ons	10
	3.1.	Language	10
	3.2.	User Manual	10
	3.3.	Open Log	10
4.	Read	l Write Key	11
	4.1.	IR mode	11
	4.2.	NEC Adaptor mode	12
5.	EIS To	ools	13
	5.1.	EIS type	13
	5.2.	Functions	14
	5.3.	EIS Basic Information	14
	5.4.	EIS Key Information	15
6.	Pass	word Calculation	16
	6.1.	Overview	16
	6.2.	Support type	16
	6.3.	Functions	17



	6.4.	About query result status	17			
7. 8.	-	are Key File Tools				
	8.1.	Functions	19			
	8.2.	ESL Basic Information	20			
	8.3.	ESL Key Information	20			
9.	Rene	w ECU/Gearbox	20			
10.	F	Process Wizard	21			
11.	. Update Online					
	11.1.	Update Firmware	22			
	11.2.	Update software	24			
	11.3.	Latest Update Information	24			
	11.4.	History Update Information	24			
12.	C	Case Description	25			
	12.1.	W246 EIS with BGA (79) keys, add new key via OBD	25			

# **1.Document Declaration**

Please view the following declaration carefully:

- VVDI MB TOOL User Manual can help you maintenance vehicles with VVDI MB TOOL device. Please DON'T used for illegal purpose, Please follow the national law
- VVDI MB TOOL User Manual is written by VVDI-MB, please DON'T used for commercial purposes without authorize
- VVDI MB TOOL User Manual can help you how to use VVDI MB TOOL software, please view carefully
- Any illegal use VVDI MB TOOL User Manual, illegal use VVDI MB TOOL device, The user should take all risks, the company does not assume any responsibility

4

# 2. Overview

#### 2.1. Noun explanation

- Mercedes Benz: A car brand come from German, we simply use MB, BENZ instead
- **EIS**: Sometimes we call it EZS. The immobilizer system for MB cars
- ESL: Sometimes we call it ELV
- Chassis: Mainly use to distinguish car platform, the same platform will have same EIS type, example: W204, W216 etc

2015-12-11 Ver: 1.0

## 2.2. VVDI – MB TOOL Hardware

- 1. VVDI MB TOOL device
- 2. NEC key adaptor
- 3. IR adaptor
- 4. OBD line
- 5. USB cable



#### 2.3. Mainly function

#### Read Write Key

- 1. Read key basic information
- 2. Key with BE version, we can read password from key via IR directly. Of course, renew key, write new key file via IR is also supported
- 3. NEC adaptor can read key password from NEC v51, v57 version
- 4. Support write and renew (NEC adaptor) NEC key versions following:

v51, v57 v28, v35, v40 v03, v06, v08 (Keyless Go) v05, v07, v09 (Keyless Go) v59, v61 (Keyless Go)

#### EIS Tools

- 1. Support read EIS data via OBD and IR adaptor
- 2. Under OBD mode, we provide auto detect EIS type for CAN protocol
- 3. Support renew EIS, make 2<sup>nd</sup> hand EIS to new one (online)
- 4. Support replace EIS, you can write original EIS data to new EIS via IR
- 5. Support write new VIN
- 6. Support clear TP
- 7. Support personalize W204 ESL
- 8. Support type:

W164 W164 2009-W166, 197, 212, 218, 246 W169, 209, 211 W172, 204, 207 W203, 463, 639 (K) W202, 208, 210 (K) W215, 220 (K) W230 (K) W216 W221 W639 2009-



#### Password Calculation

- 1. Password calculation can get the key password from working key and EIS(online)
- 2. CAN protocol EIS all support password calculation (support BGA keys and other NEC keys)
- 3. We also support calculate password for NEC v51, v57 keys. No soldering.
- **4.** Data acquisition time depends on the key version. It needs about 3.5 minutes -13 minutes, BGA version need about 5 minutes
- 5. Calculate time in server: 30 seconds 1 minute
- 6. Now VVDI-MB TOOL is the fastest tool for password calculation
- 7. Support type:

W164 W164 2009-W166, 197, 212, 218, 246 W169, 209, 211 W172, 204, 207 W216 W221 W639 2009-

#### • Prepare Key File

- 1. Prepare key file means prepare the key file which you will write to new key(online)
- 2. Prepare key file need about 20 seconds
- 3. Support VVDI-MB type EIS data and old Motorola EEPROM dump

#### ESL Tools

- 1. Support read ESL data via OBD (K-Line)
- 2. Support renew ESL, make 2<sup>nd</sup> hand ESL to new one (online)
- 3. Support replace ESL, you can write original ESL or EIS data to new ESL
- 4. Support write new VIN
- 5. Support clear TP
- 6. Support auto personalized ESL, no need renew EIS
- 7. Support check ESL damage status

#### Renew ECU/Gearbox

1. This function support renew ECU/Gearbox and other 2<sup>nd</sup> hand units (Under developing, it will be released soon)



#### • Special Instructions (2015.12.11)

- 1. Disable key will be added soon
- 2. The newest cars after 2015 with FBS4 EIS don't support read data and password, we are researching it
- 3. For read key from EIS while lost all key, it will add in future
- 4. Old motorola EIS (K-Line) don't support password calculation now, it will add in future
- Renew EIS and renew ESL require erase password. Now the success rate is not high for search erase password. We are building a new server for erase password. It will support all erase password after new server finished
- 6. Auto personalized ESL: Now only support auto personalized ESL with key password all 00, we will support all the passwords in future (You can use "Personalize W204 ESL" instead before we publish new version)



# **3.Options**

## 3.1. Language

Please manual set user language after first run program Support following languages:

- Chinese (Simplified)
- English

## 3.2. User Manual

Open user manual folder

## 3.3. Open Log

Open log folder

		-7
>	10	$\neg$
	10	

## **4. Read Write Key**

Read Write Key support read key basic information, write key file, renew/write NEC key (Support Keyless Go). BE keys can read password directly via IR, renew BE key, write new key file to BE key

NEC adaptor support v51, v57 key password

#### 4.1. IR mode

**Identification key:** Support read key basic information: SSID, counter, remain times, use times, key number, status, version, mark values etc

**BE key**: Key version is BE, support read password and key eeprom stored in BE key, write new key file to make a working key, **renew used BE key to new one** etc

If working key is BE version, you can read password from key directly, no need read password from EIS

Write mark values: Only BE key support, you can write information for yours' Copy key password: You can copy the password to clipboard after success read key password

😿 VVDI – 💵 TOOL V	'2.0.0 Ren	aining Synchronizati	on Time: 28 d	lays 🔲 🗆 🔀
Options Special Functio	on Process Wizard	Update Online		
	Key Information -			Function
	SSID	0BBB90B3	]	Mode  IR  NEC Adaptor
Read Write Key	Counter	2F1F78	]	Type BE key
	Remain times	196600	]	
	Use times	7	]	Identification key
EIS Tools	Key number	4	]	
100	Status	14EC Used	]	Read BE key password
Password Calculation	Version	BE	]	
	Mark values	FFFFFFF730C	Write	Save Key file
	Key Password	8016380CD08E1D75	Сору	
Prepare Key File	Key EEPROM			Load Key file
100		DC DO 8E 1D 75 0B BB 90 A7 32 35 4E 5B 7E 16 CI		
	F5 06 E7 81 Å	A9 D4 F9 02 16 54 8E E0 1C 2E 80 CE 5A 3D 51 01	C DF B3 87 FB	Write
ESL Tools		D6 DD AA 2E 72 1E D9 31		
		AA 65 71 92 36 43 46 28		
	FF FF FF 58 3	EB OD D6 78 02 7F FF FF 7B F1 4D 3E 24 E3 30 7F	FFF 00 00 02	Renew
Renew ECU/Gearbox		FF FF FF FF FF F9 24 A8 B2 FF FF FF FF FF 73 OC FF FF		
<u></u>				100%
Reading data success.				



## 4.2. NEC Adaptor mode

Renew/Write new key file via NEC adaptor

Support versions:

v51, v57

v28, v35, v40

v03, v06, v08 (Keyless Go)

v05, v07, v09 (Keyless Go)

v59, v61 (Keyless Go)

The above keys all with NEC chip (not BGA type). You need solder the NEC chip from key and place it to NEC adaptor

For NEC v51, v57 version, support read password from working key directly, no need read password from EIS

For all NEC types, you must use "Identification key" to read one time before renew/write key

🜌 VVDI – IB TOOL V	V2.0.0 Remaining Synchronization Time: 28 d	ays 🔲 🛛 🔀
Options Special Function	on Process Wizard Update Online	
	Key Information	- Function
2	SSID 98DB7DB8	Mode O IR O NEC Adaptor
Read Write Key	Counter	Type v51, v57
<b>_</b>	Remain times	
	Use times	Identification key
EIS Tools	Key number	
A 90	Status 14EC Used	Read v51,v57 key password
Password Calculation	Version 57	
	Mark values	Save Key file
	Key Password 5C4DAECBFB71B006 Copy	
Prepare Key File	Key EEPROM	Load Key file
CONTRACT.	01 5C 4D AE CB FB 71 B0 06 98 DB 7D B8 59 4E 92 E6 E0 F1 20 11 41 B9 DA 55 03 E2 20 3F 69 55 0A	
	E1 1E 69 19 8E E3 89 34 54 94 4A 51 9E D9 ED 10 30 73 DD D4 92 2E D2 94 6C 74 8A 45 4C 71 31 2F	Write
ESL Tools	60 F5 58 7A 9A 6E B0 8A 27 1E 20 33 95 4A 3C EE	
	89 C8 54 1F 34 EC B9 19 D8 0C 05 C9 7B 7C 53 13	
	CD 7F E9 D7 75 8F F3 78 EE 7F FF FF FF FF FF FF FF FF FF FF CA 77 AC CC DD AE A2 7C 7F FF 00 00 02	Renew
Renew ECU/Gearbox	FF FF FF FF FF FF FF FF B0 50 97 93 98 DB 7D B8	
	01 01 01 01 FF FF FF FF 73 0C FF FF FF FF 04 FC	
		100%
Reading data success.		



# **5.EIS Tools**

EIS data can prepare key file

VVDI MB TOOL support 2 mode to read EIS data: OBD and IR adaptor

This picture is read from W246 EIS

🜌 VVDI – IB TOOL V	2.0.0	Remaining Synchron	nizati	on Time: 28 day	ys			
Options Special Functio	Options Special Function Process Wizard Update Online							
	– EIS Basic In	formation	_		EIS Function			
2	SSID	08BB90B3		🗹 Initialized	Mode 💿 OBD	○ IR		
Read Write Key	EIS P/N	246 905 99 00	]	TP Cleared	Chassis	Allow user		
<b>.</b>	КМ	12800	]	Personalized	W166, 197, 212, 218, 2	246 🗸		
and the	VIN		Write	Activated	Read EIS data			
EIS Tools	EIS Key Inf	ormation		1				
e a	Key Pass.	000000000000000000000000000000000000000	Paste	Previous used key Key 3	Save EIS data			
13	Erase Pass.	000000000000000000000000000000000000000	Get	Last used key	Save EIS data			
Password Calculation	Special key	413492478C280525	]	Key 1	Load EIS data			
			Used -	Disabled				
	Key 1	F304BB4F2DEF65E1						
Prepare Key File	Key 2	556A97B69480572D			Write EIS data	3		
1.1	Key 3	61B570A285381EF6			Renew EIS			
	Key 4	30E3243E4DF17B58			Kellew Elb			
ESL Tools	Key 5	D108719486687467			Clear TP			
	Key 6	FB48A71F765C03F8						
	Key 7	AFA76BD53342DA8E			Personalize W204	ESI		
Renew ECU/Gearbox	Key 8	7BEFC8C44BD8DEEE	]					
100%								
Reading data success.								

## 5.1. EIS type

Support types:

W164 W164 2009-W166, 197, 212, 218, 246 W169, 209, 211 W172, 204, 207 W203, 463, 639 (K) W202, 208, 210 (K) W215, 220 (K) W230 (K) W216 W221 W639 2009-



#### 5.2. Functions

- 1. **Mode**: Support OBD and IR adaptor read EIS. You need connect OBD line to car in OBD mode, IR mode only need IR adaptor
- 2. Chassis: EIS type, support auto detect CAN protocol EIS under OBD mode
- 3. Allow user: When you select this option, allow input key information, password, VIN manually
- 4. Read EIS data: Read basic information and key information from EIS
- 5. **Save EIS data**: Save the read EIS data. Support save 2 types: VVDI-MB type and HC05 type
- 6. Load EIS data: Load VVDI-MB type EIS data
- 7. Write EIS data: First you should read EIS or load EIS data, second write EIS data to new EIS. This function can use to replace EIS. Attention: Only support under IR mode, but you must connect OBD line to car
- 8. **Renew EIS**: Input correct key password and erase password, renew 2<sup>nd</sup> hand EIS to a new one. Attention: Only support under IR mode
- 9. Clear TP: This function only use to clear TP protect. Once the EIS activated, this option will be always selected even renew EIS. The EIS without TP cleared doesn't support write data
- Personalize W204 ESL: This function can synchronize key information from EIS to W204 ESL, use for change W204 ESL. Before run this function, make sure "EIS status: Personalized selected, Activated not selected", "ESL status: Activated not selected". After success, ESL will have personalized selected. Open ignition with working key will activate ESL automatically. Attention: Only support under OBD mode, and chassis number select W172, 204, 207

## 5.3. EIS Basic Information

SSID:	The identification ID in EIS, use to recognize key, something like key ID
EIS P/N:	EIS part number, the front 3 characters is the main type, example: W164,
	W166, W246 etc
KM:	KM stored in EIS
VIN:	VIN stored in EIS
Write VIN:	Under OBD mode, we support write VIN to ESI without activated status
Initialized:	Selected means EIS was already initialized. All EIS include new one with
	selected status
TP Cleared:	Selected means TP was cleared. You can't write data to EIS without TP
	cleared
Personalize	d: Selected means already written car information, insert working key will
	activate EIS automatically
Activated:	Selected means this EIS already have working key. You can't write data
	to EIS with activated status

# 5.4. EIS Key Information

Key Password:	Key password use for EIS to recognize working key. It is also the
	password when prepare key file (IMPORTANT)
Paste key passw	ord: You can paste your password here directly
Erase Password	: Renew activated EIS to un-activated status, make EIS allow write new
	data. Attention: Renew EIS not only need erase password but also key
	password
Get erase passw	ord: First read EIS, then press button "Get", get erase password online
Special Key:	A special key stored in EIS
Previous used k	ey: The previous used key in EIS, it is always different from last key
Last used key:	The last used key in EIS. Example: insert working key with 3, 3, 1,
	1: the lasted used key is 1, the previous used key is 3
Key 1 – Key 8:	Key track (hash) for every key. Attention: key track is not a fixed value.
	When you insert a working key to EIS, it's key track will changed. You
	can verify working key status though this method
Key used:	Selected means this position have a working key
Key Disabled:	Selected means this position was disabled, not accept any key. Now we
	don't support enable key



# 6. Password Calculation

#### 6.1. Overview

Password calculation can get key password through EIS and working key (online) CAN protocol EIS all support password calculation

Support BGA keys and other NEC keys

Support calculate password for NEC v51, v57 keys. No soldering, safe method. Data acquisition time depends on the key version. It needs about 3.5 - 13 minutes BGA version need about 5 minutes, some versions only need 3.5 minutes Calculate time in server: 30 seconds – 1 minute

😿 VVDI – IB TOOL V2.	.0.0 Remaining Synchronization Time: 28 days				
Options Special Function	Process Wizard Update Online				
	Password Calculation Mode OBD	O IR			
	Step 1: Select communicate mode and chassis				
Read Write Key	Attention: Connect device OBD line to car W164	✓			
No. of Concession, Name	Step 2: Press "Data Acquisition" to start with following steps  1. Insert working key to ignition, waiting 15 seconds				
EIS Tools	<ul> <li>2. Insert working key to device IR reader, verify key and car</li> <li>3. Data acquisition</li> <li>4. Insert working key to ignition, waiting 30 seconds</li> <li>5. Insert working key to device IR reader, wait end</li> <li>6. Save acquisition data</li> </ul>	isition			
Password Calculation	Step 3: Press "Upload Data" to send acquistion data	Data			
Prepare Key File	Step 4: Press "Query result" to get result     Auto reflash       Key Password     8016380CD08E1D75       Copy     Stop acquisite after success	sult			
ESL Tools	Time         SSID         Status         Filename           17:29:38 - 088B90B3 - Password:8016380CD08E1D75 (Free)         - VM_OBD_088B90B3	_1.dat			
Renew ECU/Gearbox		~			
		0%			
Find correct password! Don't	require data acquistion, use the password in key password area				

## 6.2. Support type

W164 W164 2009-W166, 197, 212, 218, 246 W169, 209, 211 W172, 204, 207 W216 W221 W639 2009-



## 6.3. Functions

Mode:OBD and IR adaptor, mode use for communicate with EISChassis:Select chassis number, you can detect it with auto detect in EIS ToolsData Acquisition:

Press "Data Acquisition", it will continue with following steps automatically

- 1. Insert working key to ignition, waiting 15 seconds
- 2. Insert working key to device IR reader, verify key and car
- 3. Data acquisition
- 4. Insert working key to ignition, waiting 30 seconds
- 5. Insert working key to device IR reader, wait end...
- 6. Save acquisition data

**Upload Data**: Upload saved acquisition data to server for calculate password. Attention: Once success calculate password for one SSID, the server will not accept calculate the acquisition data with same SSID in 2 hours. **After 2 hours, acquisition data with same SSID upload to server will start with a new task** 

**Query result**: Query server calculation result. The password will fill in key password area automatically after success calculation. Use "Copy" copy password to clipboard

**Auto reflash**: Program will auto re-flash server result until there's no task for this device. You can start data acquisition once more while auto reflash starting

**Stop acquisite after success:** If you are run data acquisition while auto reflash running, program will stop the acquisition progress when find correct password

## 6.4. About query result status

**Query result support query calculation result in 24 hours, others don't support** Query result will display Time, SSID, Status, Filename (name when upload to server) Status has the following types:

- 1. Queuing: number x, require about y minutes, means your task need y minutes
- 2. Processing: requires 1 minutes, means your task need 1 minute to finish
- 3. Password: xxxxxxxxxx (Free), means success find password, "Free" show this task is calculated for free or this task already success calculated before
- 4. Discard: Once you success calculate the password, in 2 hours, the upload acquisition data with same SSID will discard
- 5. Already upload: means the server already have this file in queuing
- 6. Pay for password calculation before upload: means your device doesn't have authorize for calculation. Contact your dealer and pay for password calculation
- 7. Failed: means this task failed to get password, you can run data acquisition again. Failed task is always free



## 7. Prepare Key File

Prepare key file means prepare the key file which you will write to new key (online)

- Step 1: Load EIS file with password. The file can auto detected by VVDI-MB TOOL Support VVDI-MB type and old Motorola EEPROM dump file If the loaded EIS don't contain key password, paste your password with "Paste" After load file key position show blue means it is used After load file key position show green means it is unused After load file key position show gray means it is disabled
- Step 2: Press "Prepare Key File". This function need online, about 20 seconds It will prepare the key file after success find in server After prepare key file, key position show green means success After prepare key file, key position show red means failed

🜌 VVDI – IB TOOL V	2.0.0 Remaining Sync	chronizatio	on Time:	28 day	s	🛛		
Options Special Function Process Wizard Update Online								
(a)	Step 1	File type	VVDI	-MB type	e			
Read Write Key	Load EIS file with	SSID	088	3B90B3				
	password	Password	8016380	CD08E1	D75 Paste			
EIS Tools	Support motorola EEPROM dump	Key number	Key	71	~			
100		Key hash	F304BB4	IF2DEF6	5E1	Load EIS file		
Password Calculation								
Prepare Key File	Step 2 Select key position for key file	✓ Select all	🗹 Key 2	•	✓ v051 ✓ v041			
<b>a</b> == 1	Select key file format		✓ Key 3 ✓ Key 4	•	✓ v011			
ESL Tools	Press button "Prepare		Key 5	٠				
	Key File"		Key 6	•				
			Key 7	•		Prepare Key File		
Renew ECU/Gearbox			Key 8	•				
	L					100%		
C:\W246\VVDIMB_EIS_OB	ID_08BB90B3_pass.bin							



# 8. ESL Tools

#### ESL Tools can read/write/renew ESL via OBD(K-Line). Adaptor not support now

🜌 WVDI – IB TOOL V	72.0.0	Remaining Synchronizati	on Time: 28 da	iys			
Options Special Function Process Wizard Update Online							
	ESL Basic I	nformation		ESL Function	ESL Function		
2	ESL P/N	204 545 81 32	✓ Initialized	Mode 💿 OBD	Adaptor		
Read Write Key	ESL S/N	7020300390421101	TP Cleared	Chassis	Allow user		
	HW	1408 SW F0	Personalized	W204, W207, W212	*		
	VIN	<b>111111111111</b> Write	Activated	Read ESL da	ta		
EIS Tools	ESL Key In	formation					
200	Key Pass.	00000000000000000000 Paste		Save ESL da	ta		
2.3 F	Erase Pass.	000000000000000 Get					
Password Calculation Special		B62AA20249B34765	Load ESL data				
	Key 1	F357427711ACFA8C		Load VVDI-MB E	IS data		
Prepare Key File	Key 2	659224B9FD54C33C					
	Key 3	8E9572DD9C6B2E65		Write			
	Key 4	64BA6BAA9908BBB5		Auto clear TP and pers	sonalized		
ESL Tools	Key 5	6D2568EBA8B9C351					
223	Key 6	D783D14B0EECE5D1		Renew ES	-		
	Key 7	1480FF9C4755122F		Check ESL			
Renew ECU/Gearbox	Key 8	FE7D18CC17AE87F5		damage	Clear TP		
100%							
ESL status: Closed							

#### 8.1. Functions

- 1. **Mode**: Now only support OBD (K-Line). If ESL was on car, you need connect the K-Line(find from device OBD head) to ESL separately
- 2. Chassis: ESL type
- 3. Allow user: If select this option, allow input key track, password, VIN manually
- 4. Read ESL data: Read basic information and key information from ESL
- 5. Save ESL data: Save the read ESL data
- 6. Load ESL data: Load ESL data read by VVDI-MB TOOL
- 7. Load VVDI-MB EIS data: Load VVDI-MB type EIS data
- 8. Write: Write the key information (shown in window) to ESL
- Auto clear TP and personalized: If you select this option, it will clear TP and personalized ESL automatically while write data. Attention: Correct key password should placed with this option
- 10. **Renew EIS**: Input correct erase password, renew 2<sup>nd</sup> hand ESL to a new one. Attention: Only support under IR mode
- 11. Check ESL damage: Most W204 ESL will damage with lock status. You can test it
- 12. Clear TP:

Clear TP in new ESL. The ESL without TP cleared doesn't support write data



#### 8.2. ESL Basic Information

ESL P/N:	ESL part number, the front 3 characters is the main type, example: W204					
ESL S/N:	ESL serial number					
HW:	ESL hardware version					
SW:	ESL software version					
VIN:	VIN stored in ESL. Attention: only last 14 characters					
Write VIN:	Support write VIN to ESL without activated status					
Initialized:	Selected means ESL was already initialized					
TP Cleared:	Selected means TP was cleared. You can't write data to ESL without TP					
	cleared					
Personalize	Selected means already written car information, insert working key will activate ESL automatically					
Activated:	Selected means this ESL already have working key. You can't write data to EIS with activated status					

#### 8.3. ESL Key Information

**Key Password**: Key password use for EIS to recognize working key. It is also stored in ESL

Paste key password: You can paste your password here directly

Erase Password: Renew activated ESL to new one

Get erase password: First read ESL, then press button "Get", get erase password onlineSpecial Key:A special key stored in ESL. Normally it is same with EIS special keyKey 1 – Key 8:Key track (hash) for every key. Normally it is same with EIS key track

# 9. Renew ECU/Gearbox

This function will support renew ECU, gearbox, and other 2<sup>nd</sup> hand units (Under developing, it will be released soon!)

# **10. Process Wizard**

Here will provide whole progress for some special function. Example replace EIS and replace ESL etc (Under developing, it will be released soon!)

21

# 11. Update Online

## 11.1. Update Firmware

- The program will read the newest software version from server automatically
- Update firmware steps:
  - 1) Connect VVDI MB TOOL to PC with USB cable
  - 2) Choose VVDI MB TOOL firmware version from Firmware List
  - 3) Press button Update Online, wait the progress end
  - 4) If failed to get firmware list or get something like "communicate with server error!" while update your device, close antivirus and firewall programs, try again. Change your internet provider once failed again
  - 5) DON'T shutdown your PC or disconnect USB cable while update device

😿 VVDI - IB TOOL V2.0.0 Remaining Synchronization	Time: 27 days
Options Special Function Process Wizard Update Online	
	Update Steps  1. Connect VVDI-MB TOOL to PC with USB cable 2. Choose firmware version 3. Press button "Update Online" to start
Firmware List	Device Information
2.0.0 MB1 Beta	
v2.0.1 (2015-11-17) * UI modify	
v2.0.0 (2015-11-16) * MB1 V2.0.0	
1	
	Device Update Online
Completed.	0%

#### • Reflash Firmware List

Update Online Tool will connect to server automatically and download the newest firmware information. You can press reflash picture button if there's no display. After you get information success, will display current support firmware list, the software support by specify firmware and the mainly include update information

#### • Device Information

After connect VVDI-MB TOOL to PC and install USB drivers, Press button Device Information, will show you VVDI-MB TOOL Serial Number, current firmware version and hardware version etc

#### • Update Online

After connect VVDI-MB TOOL to PC and install USB drivers, choose you expect firmware version from firmware list, Press button Update Online, wait progress finish (about 3 minutes) (Require internet)



## 11.2. Update software

- This function require internet support
- Use "Menu ->Update Online->Software Update" to obtain VVDI-MB TOOL latest software version, the software version require firmware version etc. Press Download Link will download the latest software
- If there's no display for software version, shutdown your firewall and antivirus programs, try again

Software Update		×
*	Latest software version : V2.0.0 Require firmware : V2.0.0	2
Automatic Key Cutting Machine 了解更多	Download Link 1	
Completed.		

## **11.3. Latest Update Information**

- This function require internet support
- Use "Menu->Update Online->Latest Update Information" to obtain VVDI-MB TOOL latest update information

## **11.4.** History Update Information

Use "Menu->Update Online->History Update Information" to obtain VVDI-MB TOOL history update information



# 12. Case Description

# 12.1. W246 EIS with BGA (79) keys, add new key via OBD

- 1. Insert working key to device IR reader, Press "Identification key", check working key version
  - If key with BE version, you can read password via IR
  - If key with v51, v57 version, you can read password via NEC adaptor, or you can use password calculation
  - Here key version is 79, belong to BGA key. We use password calculation for key password

😿 VVDI – IB TOOL V	72.0.0 Rem	aining Synchronization Time: 28 days
Options Special Function	on Process Wizard	Vpdate Online
	Key Information -	Function
2	SSID	08BB90B3 Mode O IR O NEC Adaptor
Read Write Key	Counter	240E36 Type Identification key
	Remain times	149302
and the second s	Use times	47305 Identification key
EIS Tools	Key number	1
1303	Status	14EC Used Read BE key password
Password Calculation	Version	79
	Mark values	\$30A240101FF Save Key file
	Key Password	Сору
Prepare Key File	Key EEPROM	Load Key file
		00 00 00 00 00 00 00 00 00 00 00 00 Write
ESL Tools		
	00 00 00 00 00	
		00 00 00 00 00 00 00 00 00 00 00 00 00
Renew ECU/Gearbox		
·		100%
Reading data success.		100.0

- 2. Connect device OBD line to car. Select OBD mode, chassis select AutoDetect (CAN)
  - Press Read EIS data. Chassis will turn to specify item after success read
  - ♦ Follow steps 1->2->3->4 in picture and save EIS data
  - ♦ It will save 2 files, VVDI-MB type and HC05 type
  - ◆ There's default file name when save EIS data. You'd better keep it

😿 VVDI - MB TOOL V2.0.0 Remaining Synchronization Time: 28 days							
Options Special Function Process Wizard Update Online							
	EIS Basic In	formation	_	- 4 4	EIS Function		
2	SSID	08BB90B3		🗹 Initialized 🖊 🔶	Mode OBD OIR		
Read Write Key	EIS P/N	246 905 99 00	]	TP Cleared	Chassis Allow user		
	КМ	12800	]	Persona e	W166, 197, 212, 218, 246 🗸		
	VIN		Write	Activated	Read EIS data		
EIS Tools	EIS Key Inf	ormation					
200	Key Pass.	000000000000000000000000000000000000000	Paste	Previous used key Key 3	Save EIS data		
13 F	Erase Pass.	000000000000000000000000000000000000000	Get	Last used key	Save EIS data		
Password Calculation	Special key	413492478C280525	]	Key 1	Load EIS data		
			Used	Disabled			
	Key 1	F304BB4F2DEF65E1			Write EIS data		
Prepare Key File	Key 2	556A97B69480572D			WILE ETS DATA		
1.00	Key 3	61B570A285381EF6			Renew EIS		
	Key 4	30E3243E4DF17B58			INCITEW LED		
ESL Tools	Key 5	D108719486687467			Clear TP		
	Key 6	FB48A71F765C03F8					
	Key 7	AFA76BD53342DA8E			Personalize W204 ESL		
Renew ECU/Gearbox	Key 8	7BEFC8C44BD8DEEE					
100%							
Reading data success.							

Save As					? 🛛
Savejn:	🚞 W246		<u> </u>	) 🏂 📂 🛄-	
My Recent Documents					
Desktop					
My Documents					
My Computer					
ny comparer	File <u>n</u> ame:	VVDIMB_EIS_OBD_O	8BB90B3	*	<u>S</u> ave
🧐 My Network	Save as <u>t</u> ype:	EEPROM (*.bin)		~	Cancel
my network					

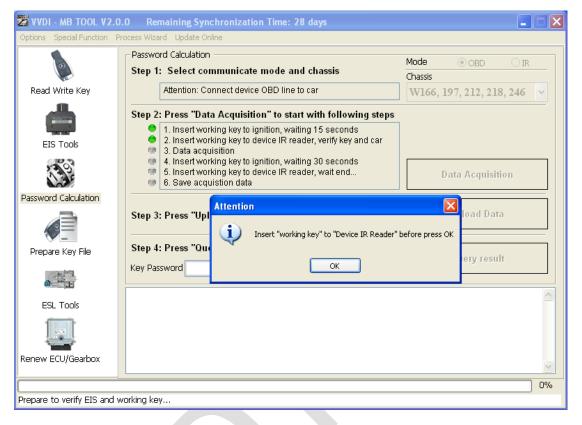
Save As						? 🔀
Save in:	🗀 W246		~	G 🦻	بي 🥙	
My Recent Documents	VVDIMB_EIS_O	BD_08889083				
Desktop						
My Documents						
y My Computer					~	
<b>§</b>	File name: Save as type:	EIS_OBD_08BB90B3 EEPROM (*.bin)			~	Save Cancel
My Network						

- 3. Enter Password Calculation, calculate key password
  - ◆ Select OBD mode, chassis select W166, 197, 212, 218, 246
  - ◆ Press "Data Acquisition", progress with following steps
  - Insert "working key" to "EIS" before press OK; only insert working key to EIS, don't switch ignition ON

7 VVDI - MB TOOL V2.0.	.0 Remaining Synchronization Time: 28 days	
Options Special Function Pro	ocess Wizard Update Online	
	Password Calculation	
Read Write Key	Attention: Connect device OBD line to car W166, 197, 212, 218, 246	~
EIS Tools	Step 2: Press "Data Acquisition" to start with following steps           I.Insert working key to ignition, waiting 15 seconds           I.Insert working key to device IR reader, verify key and car           I.Insert working key to device IR reader, verify key and car	
100 100	4. Insert working key to ignition, waiting 30 seconds     5. Insert working key to device IR reader, wait end     6. Save acquisition data	
Password Calculation	Step 3: Press "Upload Data Upload Data Upload Data	
Prepare Key File	Step 4: Press "Query       Key Password	
ESL Tools		~
Renew ECU/Gearbox		~
		0%



- ♦ Waiting 15 seconds
- Insert "working key" to "Device IR Reader" before press OK; take off working key from EIS and insert to device IR Reader, then press OK





🜌 VVDI - MB TOOL V2.0.	.0 Remaining Synchronization Time: 28 days	
Options Special Function Pro	rocess Wizard Update Online	
	Password Calculation Mode OBD OI	
	Step 1: Select communicate mode and chassis Chassis	<u> </u>
Read Write Key	Attention: Connect device OBD line to car W166, 197, 212, 218, 246	~
	Step 2: Press "Data Acquisition" to start with following steps	
EIS Tools	<ul> <li>1. Insert working key to ignition, waiting 15 seconds</li> <li>2. Insert working key to device IR reader, verify key and car</li> <li>3. Data acquisition</li> </ul>	
100	<ul> <li>4. Insert working key to ignition, waiting 30 seconds</li> <li>5. Insert working key to device IR reader, wait end</li> <li>6. Save acquisition data</li> </ul>	
Password Calculation		
	Step 3: Press "Upload Data" to send acquistion data Upload Data	
Prepare Key File	Step 4: Press "Query result" to get result     Auto reflash       Key Password     Guery result	
	Key Password     Copy     Stop acquiste after success	
ESL Tools		<u> </u>
Renew ECU/Gearbox		~
		71%
Processing data acquistion	used time: 02 min 30 sec, left time: 01 min 09 sec	

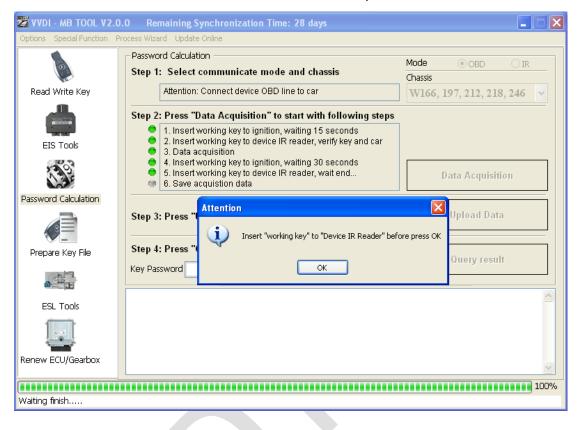
◆ Data acquisition progress, just wait it finish. The left time will show on the bottom

 After 100%, Insert "working key" to "EIS" before press OK; only insert working key to EIS, don't switch ignition ON

7 VVDI - MB TOOL V2.0.	.0 Remaining Synchronization Time: 28 days	X
Options Special Function Pr	rocess Wizard Update Online	
	Password Calculation	
0	Step 1: Select communicate mode and chassis  Mode  OBD  IR  Chassis	
Read Write Key	Attention: Connect device OBD line to car W166, 197, 212, 218, 246	
	Step 2: Press "Data Acquisition" to start with following steps	
EIS Tools	<ul> <li>1. Insert working key to ignition, waiting 15 seconds</li> <li>2. Insert working key to device IR reader, verify key and car</li> <li>3. Data acquisition</li> </ul>	
1997 1997	<ul> <li>4. Insert working key to ignition, waiting 30 seconds</li> <li>5. Insert working key to device IR reader, wait end</li> <li>6. Save acquisition data</li> </ul>	
Password Calculation	Attention.	
	Insert "working key" to "EIS" before press OK	
Prepare Key File	Step 4: Press "Qu Query result	
a -	Key Password	
ESL Tools		ļ
Renew ECU/Gearbox		
	1009	6
Processing data acquistion	used time: 03 min 36 sec, left time: 00 min 00 sec	



- ♦ Waiting 30 seconds
- Insert "working key" to "Device IR Reader" before press OK; take off working key from EIS and insert to device IR Reader, then press OK





 After save acquisition data you will get next window. Please keep the default file name when save acquisition data

VVDI - MB TOOL V2.0	.0 Remaining Synchronization Time: 28 days 📃 🔲 🔀
Options Special Function Pr	rocess Wizard Update Online
	Password Calculation         Mode         OBD         IR           Step 1: Select communicate mode and chassis         Chassis         Chassis
Read Write Key	Attention: Connect device OBD line to car W166, 197, 212, 218, 246 👻
EIS Tools	Step 2: Press "Data Acquisition" to start with following steps           1. Insert working key to ignition, waiting 15 seconds         2. Insert working key to device IR reader, verify key and car           3. Data acquisition         4. Insert working key to device IR reader, verify and car
Password Calculation	Attention Acquisition Acquisition Acquisition Acquisition OK
Prepare Key File	Step 4 Ouery result
<b>0</b>	Key Password Copy Stop acquisite after success
ESL Tools	
Renew ECU/Gearbox	~
Acquistion finished, upload	the saved data with "Upload Data" for password

#### Press Upload Data to upload saved acquisition data to server

😼 VVDI - MB TOOL	V2.0.0 Ren	naining Synchro	nization Time: 28 days			
Options Special Funct	tion Process Wizar	d Update Online				
	Passwor	d Calculation —			Mode 💿 🔿	
	Open				?	
Read Write Key	Look in:	🗀 W246		🕑 🕝 🤌 🛛	≫	218, 246 🗸
	My Recent	W_OBD_08BE	9083_1			
EIS TOOIS	Documents					
Password Calculatio	Desktop					isition
Passworu Calculatio						Data
Prepare Key File	My Documents					Pata esult
<b>a</b>	My Computer					
ESL Tools	my compater	File name:	VM_*_08BB90B3_*.dat		🖌 🗌 Open	
		Files of type:	config (*.dat)		Cancel	
	My Network		🔲 Open as read-only			
Renew ECU/Gearbo	x					~
						100%
						100 //

Press Query result to get result, you can select "Auto reflash", it will query server result automatically, it need about 1 minute

😿 VVDI – 💵 TOOL V2	2. 0. 0								
Options Special Function Process Wizard Update Online									
	Password Calculation	Mode  OBD OIR							
2	Step 1: Select communicate mode and chassis	Chassis							
Read Write Key	Attention: Connect device OBD line to car	W166, 197, 212, 218, 246							
	Step 2: Press "Data Acquisition" to start with following steps								
EIS Tools	<ul> <li>1. Insert working key to ignition, waiting 15 seconds</li> <li>2. Insert working key to device IR reader, verify key and car</li> <li>3. Data acquisition</li> </ul>								
1302 1	<ul> <li>4. Insert working key to ignition, waiting 30 seconds</li> <li>5. Insert working key to device IR reader, wait end</li> <li>6. Save acquistion data</li> </ul>	Data Acquisition							
Password Calculation									
	Step 3: Press "Upload Data" to send acquistion data	Upload Data							
Prepare Key File	Step 4: Press "Query result" to get result     Auto reflash       Key Password     Copy   Stop acquisite	Query result							
<b>a</b>	after success								
ESL Tools	Time SSID Status 01:19:07 - 088B90B3 - Processing: require about 1 minutes	Filename All Strength							
Renew ECU/Gearbox									
L		0%							

♦ After calculate success, key password will display at key password area automatically, press "Copy" copy the password to clipboard

🜌 VVDI - MB TOOL V2.0	1.0 Remaining Synchronization Time: 28 days							
Options Special Function P	rocess Wizard Update Online							
Deed Weiter Very	Password Calculation       Mode       OBD       IR         Step 1: Select communicate mode and chassis       Chassis       Chassis         Attention: Connect device OBD line to car       WI66, 197, 212, 218, 246, with the second							
Read Write Key EIS Tools	Step 2: Press "Data Acquisition" to start with following steps         1. Insert working key to ignition, waiting 15 seconds         2. Insert working key to device IR reader, verify key and car         3. Data acquisition         4. Insert working key to ignition, waiting 30 seconds         5. Insert working key to device IR reader, wait end							
Password Calculation	6. Save acquistion data         Step 3: Press "Upload Data" to send acquistion data         Upload Data" to get result         Auto reflash							
	Key Password     8016380 CD08E1D75     Copy     Stop acquisite after success     Query result       Time     SSID     Status     Filename     A							
ESL Tools	01:19:07 - 08BB90B3 - Password:8016380CD08E1D75 (Free) - VM_OBD_08BB90B3_1.dat							
Renew ECU/Gearbox								
Find correct password! Don't require data acquistion, use the password in key password area								
mila confect password: Don't require data acquistion, use the password in Key password area								

- 4. Save EIS data with password
  - Enter **EIS Tools** again
  - Read EIS data
  - Use "**Paste**" paste the password to key password area
  - ♦ Then save EIS data again
  - ♦ Steps: 1->2->3

🜌 WVDI - IB TOOL V	72.0.0	Remaining Synchron	nizati	on Time: 28 day	ys				
Options Special Function Process Wizard Update Online									
	EIS Basic Information								
0	SSID	08BB90B3		✓ Initialized	Mode	OBD	◯ IR		
Read Write Key	EIS P/N	246 905 99 00	]	TP Cleared	Chassis		Allow us	er 🗌	
	КМ	12800	]	Personalized	W166, 1	97, 212, 218,	246	~	
and the second	VIN		Write	Activated		Read EIS data	a		
EIS Tools	EIS Key Inf	formation							
er.	Key Pass.	8016380CD08E1D75	Paste	Reviews sed key Key 3		Save FIS data			
13 F	Erase Pass.	000000000000000000000000000000000000000	Get	Last used key	Save EIS data				
Password Calculation	Special key	413492478C280525	]	Key 1		Load EIS data	3		
			Used	Disabled					
	Key 1	F304BB4F2DEF65E1				Write EIS dat	_		
Prepare Key File	Key 2	556A97B69480572D				ANUCE ETO DAT	d		
100	Key 3	61B570A285381EF6				Renew EIS			
	Key 4	30E3243E4DF17B58				INCINE W ELD			
ESL Tools	Key 5	D108719486687467				Clear TP			
1231	Key 6	FB48A71F765C03F8							
	Key 7	AFA76BD53342DA8E			Р	ersonalize W204	ESL		
Renew ECU/Gearbox	Key 8	7BEFC8C44BD8DEEE							
100%									
Key password was paste s	uccessfully.								

#### 5. Enter Prepare Key File

- Press Load EIS file load EIS data with password
- The file path will be shown at bottom
- ◆ VVDI-MB TOOL will auto detect load file type, here is VVDI-MB type
- SSID and key password was shown

🌌 VVDI – 💵 TOOL V	2.0.0 Remaining Synd	chronizatio	on Time: 2	28 day	s			
Options Special Function Process Wizard Update Online								
(e)	Step 1	File type	VVDI-	MB type	e			
Read Write Key	Load EIS file with password	SSID		B90B3				
EIS Tools	Support motorola	Password Key number	80163800 Kev		D75 Paste			
	EEPROM dump	Key hash	F304BB4		55E1	Load EIS file		
Password Calculation								
	Step 2 Select key position for	✓ Select all	☑ Key 1 ☑ Key 2	•	✓ v051			
Prepare Key File	key file Select key file format		✔ Key 3 ✔ Key 4	•	▼v011			
ESL Tools	Press button "Prepare Key File"		Key 5	٠				
			✓ Key 6 ✓ Key 7	•		Dranara Kay Fila		
Renew ECU/Gearbox			Key 8	•		Prepare Key File		
100%								
C:\W246\VVDIMB_EIS_OBD_08BB90B3_pass.bin								

- Select key position and format for key file, Press Prepare Key File (online)
- After server find success, select where you want to save the key file, press save directly

Select postion t	o save key file		? 🛛
Save in: 🗀 W2	16	💌 G 🦻	⊳ 🖽
EIS_OBD_08BB EIS_OBD_08BB WM_OBD_08BB VM_OBD_08BB9 VVDIMB_EIS_O VVDIMB_EIS_O	90B3_pass 10B3_1		
File name: Pre	ss Save directly	~	Save
Save as type: Ke	v File(*.*)	*	Cancel



- 6. Enter Read Write Key. If you want Keyless Go, please select NEC adaptor
  - We make a BE key.
  - ◆ Input BE key to device IR reader, select IR mode and BE key
  - Press Identification key
  - ◆ Load Key file, we load key 4
  - Press Write
  - ♦ Steps:1->2->3->4->5

😿 VVDI – 💵 TOOL V	72.0.0 Rem	aining Synchronizati	on Time: 28	lays 📃 🗆 🔀		
Options Special Function	on Process Wizard	Update Online				
	– Key Information – SSID		1 ┥	Function Hodo O IR O NEC Adaptor		
Read Write Key	Counter		2 🗲	Type BE key		
	Remain times Use times		34	Identification key		
EIS Tools	Key number					
1202	Status	21DF Unuse		Read BE key password		
Password Calculation	Version	BE		Save Key file		
	Mark values Key Password	FFFFFFF730C	Write Copy			
Prepare Key File		C D0 8E 1D 75 0B BB 90		Load Key file		
	F5 06 E7 81 A	.7 32 35 4E 5B 7E 16 CD .9 D4 F9 02 16 54 8E EC C 2E 80 CE 5A 3D 51 01	DF B3287 FB	Write		
ESL Tools	3F 8E E1 85 0	6 DD AA 2E 72 1E D9 31 A 65 71 92 36 43 46 28	8B 8B D0 F3			
Equiparties	D2 90 0E 5C E FF FF FF 58 7 FF FF FF FF FF F	B OD D6 78 02 7F FF FF B F1 4D 3E 24 E3 30 7F F FF FF FF F9 24 A8 B2	FF FF FF FF FF 00 00 02 0B BB 90 B3	Renew		
Renew ECU/Gearbox	01 01 01 01 01 F	F FF FF FF 73 OC FF FF	FF FF 04 FC	100%		
C'\W246\key4_08889083_051_bin						

😿 VVDI – IB TOOL V	72. 0. 0 Ren	aaining Synchronization Time: 28 days
Options Special Function	on Process Wizard	Update Online
	- Key Information -	Function
	SSID	0BBB90B3 Mode O IR O NEC Adaptor
Read Write Key	Counter	2F1F7C
4	Remain times	196604
No. 1 Au	Use times	3 Identification key
EIS Tools	Key number	4
100	Status	04FC Unuse Read BE key password
Password Calculation	Version	BE
	Mark values	FFFFFFF730C Write Save Key file
	Key Password	Сору
Prepare Key File	Key EEPROM	Load Key file
100 Mar 34		DC D0 8E 1D 75 0B BB 90 B3 41 A0 87
	F5 06 E7 81 A	A9 D4 F9 02 16 54 8E EC DF B3 87 FB Write Write
ESL Tools		1C 2E 80 CE 5A 3D 51 01 8C 73 16 2F
·		AA 65 71 92 36 43 46 28 BA 7C 5B 5A
	FF FF FF 58 3	7B F1 4D 3E 24 E3 30 7F FF 00 00 02
Renew ECU/Gearbox		FF FF FF F9 24 A8 B2 0B BB 90 B3
Danding data success		100%
Reading data success.		

Press Identification key again after write key file. You can see key is prepared success

- 7. Insert new key to EIS, the EIS will learn the new key
  - ♦ First the red light will ON , then OFF, means key learn success
  - ◆ Read EIS data once more, you can find key 4 was selected

🜌 VVDI – IB TOOL V	72.0.0	Remaining Synchron	nizati	on Time: 28 day	7S				
Options Special Function Process Wizard Update Online									
	EIS Basic In	formation		EIS Function					
0	SSID	08BB90B3		🗹 Initialized	Mode 💿 OB	D 🔘 IR			
Read Write Key	EIS P/N	246 905 99 00	]	TP Cleared	Chassis	Allow user			
	КМ	12800	]	Personalized	W166, 197, 212	, 218, 246 👻			
	VIN		Write	Activated	Read F	IS data			
EIS Tools	EIS Key Inf	ormation							
203	Key Pass.	000000000000000000000000000000000000000	Paste	Previous used key					
(D)	Erase Pass.	00000000000000000	Get	Key 1 Last used key	Save E	EIS data			
Password Calculation	Special key	413492478C280525	]	Key 4	bool	IS data			
			- Used -	Disabled	Load I	15 0808			
	Key 1	F304BB4F2DEF65E1			Write	EIS data			
Prepare Key File	Key 2	556A97B69480572D			VVICC	10 0868			
1	Key 3	61B570A285381EF6			Rene	w EIS			
	Key 4	BA28464336927165			Kene				
ESL Tools	Key 5	D108719486687467			Cles	ar TP			
	Key 6	FB48A71F765C03F8							
	Key 7	AFA76BD53342DA8E			Personalize	e W204 ESL			
Renew ECU/Gearbox	Key 8	7BEFC8C44BD8DEEE							
100%									
Reading data success.									

8. Completed.

