# AK500

AK400 popular new-generation product launch-AK500: Upgrades via internet , more powerful, more advanced technology:

- Support for the key maker of the Mercedes-Benz smart key with "Keyless go" function;
- 2. Support of Mercedes-Benz EIS + ESL + ESM key lane recovery if the key lane canceled by Star diagnosis , the world's leading technology;
- 3. Automatic Identification EIS + ESL + ECU (including FLASH) data, without manual selection;
- 4. Support of Mercedes-Benz E and C-class, ESL K-line to read and write, without the demolition of ESL.
- 5. Support of Mercedes-Benz ECU's FLASH (29F400 and 29F800) to generate the key data directly, without Renew FLASH, without programming ECU by star diagnosis , the world's leading technology;
- 6. EIS data import, the software will automatically identify the EIS data, automatic generation of key data; HC705 If the MCU data, the software automatically prompts "into another of the EIS data HC705."
- 7. Powerful Motorola Microcontroller Programmer features: Motorola free to read and write down single-chip EEPROM (HC908) and FLASH (HC912, HC9S12, HC9S12X series), also supported, such as Mercedes-Benz BMW Audi Volkswagen engine MPC (MPC555/556, MPC561/562, MPC563/564, etc.), plug-in FLASH (MB58BW016, 29BL802C, AM29BDD160, S29CD016, DE28F800, etc.) and plug-in EEPROM (M95xxx series) free to read and write down, a car maintenance computer programming, automotive transfer sheet, and matching key high-level tools.

#### 8. Follow-up to upgrade:

(1) upgrades Mercedes-Benz (R-class or W220) and 722.9Transmission ISM computers driver authorized.(2) upgrade ESM reading and writing EEPROM via k-line.

## AK500 cable definition:



## AK500 device configuration list:

- 1. AK500 host;
- 2. ESL cable (including a variety of ESL connect electrical plugs and check with OBD plug);
- 3. HC705 MCU adapter holder;
- 4. MPC connection adapter plate;
- 5. EEPROM adapter holder;
- 6. ME2.0 ECU Benz Adapter Block;
- 7. Mobile hard disk (AK500 contains the database of installed software and ESL);
- 8. MCU / MPC cable;
- 9.12 V / 2A Switch Power Supply;
- 10. USB cable.



AK500 Software description:

AK500 (V	(1.0)			
		AK5	00	
	MCU/MPC <mark>A</mark> Programmer		Benz IR <sup>B</sup> Keymaker	6
	EIS Flash Recovery	R	Firmware <sup>D</sup> Update	
	Α	K500	Help E	

- A. Motorola and MPC programmer;
- B. Benz Smart key maker;
- C. Benz EIS (electronic lock) FLASH data recovery;
- D. AK 500 hardware upgrades;
- E. AK 500 instruction manual.

## A. Motorola and MPC programmer operation-specific profile:

A. HC 705: must be removed MCU, and the MCU on the adapter folder HC705 seat. Remember: pin1 (MCU on the dot) at the lower left holder HC705 red dot (Figure 1):B. HC 908/HC912/HC9S12/MPC in the choice of specific models, etc., the point of "picture" to see the wiring diagram;

C. HC 9S12x type of MCU, If you do not know the specific mask (such as 1L85D), can "identify MCU" features, read

the specific type of MCU, the MCU further mask options (HC912 type of MCU, the MCU did not ID , such as "identify MCU", then the MCU ID is "FF FF") (Figure 2). D. HC 908 Series MCU: in accordance with the wiring diagram to support read and write EEPROM, a FLASH also supports reading and writing 2J74Y/4J74Y. 1J35D only allowed to deliver the ROM, can not write. (EIS with 1J35D mcu can be used in place of 2J74Y or 4J74Y).



B. Benz smart key maker specific:

A. Open the "Benz IR Keymaker".
Step 1: handling EIS

1. "Read EIS" read the EIS EEPROM data and save it as a
BIN format (Figure 3);

2. With "Make key" function, open the "EIS Process", we can see EIS information and Key lane used or Locked of the state, in the "New key" column to choose the key number needs to be done, and "Generate EIS new file + Generate new key file "(to generate new data and the key to the EIS data) to deal with function keys, the software automatically generates the new data as well as the Key of EIS data and stored in the original directory (Figure 4);

3. At this point, the software will go to the "programmer Motorola" interface to facilitate your new EIS data to write back to EIS.

) (Y1.0)	MCU Type	DD69J 1D69J	EIS Info	707E4	132A	
N7. IR Keynaker	C HC908	UG47V TH5ZA	Remote ID	86935	1001FA6D	D9A
FIS	© HC912		Odometer		[	can change
STEP	C HC9S12	×	VIN			
1	Key Info					
EIS Load File Read EIS Make Key	NO.			Used	Locked	New Key
ESL/ESM	Key1	2A3BE74CED0762	8	•	Г	Г
STEP	Key2	7BE85D01A339AE4	6	5	Г	Г
2	Key3	BDB606592B4E75	3	•	Г	Г
ESL/ESM Load File Read ESL/ESM Process	Key4	F3DD7CF9659BD2	95	Г	Г	Г
	Key5	F0D5236CD76D87	7	Г	Г	Г
STEP	Key6	DD0A6ADE1318FE	17	Г	Г	Г
3	Key7	AF23065D3A52DFE	3	Г	Г	Г
ECU Load File Read ECU Process	Key8	D2A3AF7B80783C4	F	Г	Г	Г
	Work Key	D1898816B85EAF8	F			
IR-KEY/NEC Bead	Hash Key	C2E901F0EDBA7C	iC	EE		F400
SIEF © Socket	, , , , , , , , , , , , , , , , , , , ,	and a second second second				
Via IR	Ganana	to ETC New Fil	- Conon	ata N	law Kas	Eile

#### Step 2: Process ESL / ESM

"Read ESL/ESM " read out the ESL(via K-line cable) or ESM(w220 93c56) eeprom data and save it , "Process" generate the new ESL or ESM eeprom data and write bacak to ESL or ESM , (write "NEW ESL", it is need to connect the hard disk AK500, as written into the "NEW ESL" documents the need for hard disk "AK500-BASE" of the database) (Figure 5);



#### Step 3: to deal with ECU:

1.AK500 only support read and write 93cxx 24cxx 95xxx EEPROM , do not support read and write FLASH (29F400 or 29F800 programmer must keep separate); 2. With "Read ECU" function to read out the ECU's EEPROM (save for the BIN format) or "Load file". Generally 95P08/95080/24C02/24C04, etc.; 3. With "Process" function, the software will automatically search and display the type of EEPROM , VIN and part number (Figure 6);

4. With "Next Step" function of the ECU to generate new data and functions with EEPROM to write back.



Step 4 : Write smart key :

A. via "NEC socket ": (NEC chip can read /write and Renew NEC)

1. Take out the NEC cpu from the key , put it on NEC socket

Click "Read" ensure the NEC cpu contact is good Click "Fast Renew" to renew the NEC cpu

2. After Renew complete , click "Write" the software will be prompted witch "COM" port you use it (Figure 7);

EIS			
STEP [			
1 '		1	
EIS	Load File	Read EIS	Make Key
SL/ESM			
STEP			
2		1 1	
ESL/ESM	Load File	Read ESL/ESM	Process
- CU			
STEP			
2		AK500 🔀	
FOU	Load File	COM2	Process
LOU			<u>.</u>
R-KEY/NEC-		「	
STEP		@ Sacket	Read
4	NEC	C VI ID	Write
		Via IR -	

3. Select "COM2", after using "Load, BIN" the Key to open the need to write data, and "Programming" to write the new key (Figure 8).

Test MCU

- B. "Via IR " can read and write Key, can not Renew NEC of keys:
- Select "Via IR" put the smart key in to the hole Click "Read" ensure the smart key is good

2. click "Write" the software will be prompted witch
"COM" port you use it (Figure 9)

3. Select "COM2", after using "Load, BIN" the Key to open the need to write data, and "Programming" to write the new key (Figure 8)

COM1 COM2 COM3	ng Close	
	© Socket	Read

EIS				
STEP [				-
1		1 1		1
EIS	Load File	Read EIS	Make Key	
ESL/ESM				
STEP [				
2		1		
ESL/ESM	Load File	Read ESL/ESM	Process	
CU				
STEP [		AK500 🔀		
3		L COM2 L		
ECU	Load File	Comz	Process	Contract of the
		确定		
STEP	and the		Read	Transa and
4		Socket -	Write	al sets of the set
and the second second	201	• Via IR -		

#### C. Benz EIS to restore the FLASH:

When replace the MCU of EIS or MCU's FLASH data incomplete or missing, use this function to read and write MCU's FLASH data, ( "Read original flash data and save" == read out and save the original data FLASH, optional function) ( Figure 10).

AK500 (V1. 0)	
Part NO. 0K50E (211 545 09 08) 0K50E (211 545 13 08) 0K50E (211 545 17 08) 0K50E (215 545 05 08) 1L59W (209 545 Xx 08) 1L59W (211 545 31 08) 1L85D (211 545 10 08)	Read Original ☞ Flash Data and Save
1L85D (211 545 14 08) 1L85D (211 545 17 08) 1L85D (215 545 08 08) 1L85D (215 545 09 08) 3K91D (209 545 05 08) 3K91D (211 545 06 08) 3L40K (R350_W164) 3L40K (211 545 25 08)	Start Flash Program EIS Help Picture Exit

## D.AK500 hardware upgrade:

1. With "Firmware update" entry, with "Read ID" to read out the serial number AK500 and "Save ID", save it as a "TXT" format, and sent to manufacturers.

11 AK500	
firmware Update	
0E9C108D23E68A3DF9A6F7B49420266C -Active-	Read ID
Update	Save ID
Connect MCU OK !!!	
Read ID SUCCESS	
Close Com	=

2. Open the "Update", the manufacturer sent the upgrade package downloaded in AK500.

Timdate AK500	AK500	
Firmware Update	8A3DF9A6F7B49420266C -Active-	Read ID
Update	打开 查找范围(L): ① 我的文档	×? + € ☆ ≣•
Connect MCU OK !!! ==================================	<ul> <li>My QQ Files</li> <li>My Videos</li> <li>2 図片收藏</li> <li>2 載的音乐</li> <li>2 張掖收到的文件</li> </ul>	
Close Com	文件名 (M): DESC108D-Update.bin 文件类型 (I): BIN Files (*.BIN)	

#### E.AK500 operation manual:

Open the "AK500 Help", can read the operation manual AK500.

## AK500 hardware profile (Figure 13):

A. HC 705E6/HC711/HC908/HC912/HC9S12/MPC ports, such as reading and writing;
B. ESL / K-line/CANBUS ports;
C. Benz infrared adapter chip NEC key holder;
D. HC 705 adapter chip holder;
Block E. EEPROM adapter;
F. EEPROM plate welding;
G. Benz infrared jack key reading and writing;
H. AK 500 Power Interface;
I. AK 500 of the USB interface;
J. AK 500 power switch.



## Software Installation:



Connect AK500 software hard disk (#7) to your PC computer through the USB cable(#10) (Figure 14);
 Brose the Ak500 software hard disk, open the AK500 1.0, double click the "Setup.Exe" (Figure 15-19);
 Please close all of the anti\_virus software in your PC , (Figure 20);
 "Release the softwareto C driver ," click "release" the next step until the installation has finished (Figure 20);

21);

5. At this point, the computer screen will be prompted "to install USB driver", follow the prompts to install USB drivers (Figure 22); 6. After the installation is complete, connect the AK500 to your PC computer through the USB cable. "COM PORT setting" "My Computer" mouse right click -"Management" - "Device Manager" - "to amend COM" -"preservation" (must be changed in between the COM1-COM8 any COM port) (Figure 23); 7. click BENZ IR key maker test the connection to AK500.





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Silicon Labs CP210x USB to UART Brid	lge (CON ? 🗙	侧 帮助他		_8×
常规 端口设置 驱动程序 详细信息		3 2 8 8	23	and the second
毎秒位数(E): 9600 数据位(D): 8 音偶校验(日中) 6個校验(日中) 6回103(使用中) 7003(使用中) 7003(	▼ ▼ ▼ ▼ ▼ ▼	DELL-6037968898     DDJ/CD-ROM 彩板初級     DDJ/CD-ROM 彩板初級     DDE ATA/ATAFI 括理     STEEE 1394 急线主     DDE ATA/ATAFI 括理     DT STATA ATA/ATAFI ATA/ATAFI     DT STATA ATA/ATAFI ATA/ATAFI     DT STATA ATA/ATA/ATA/ATA/ATA/ATA/ATA/ATA/ATA	判器 空制器 CP210x USB to UART Bridge ))	• (COM10)
COIID 的高级设置 COMI2 COMI3 COMI3 COMI3 COMI3 COMI4 COMI6 COMI6 COMI6 COMI6 COMI6 COMI6 COM17 选择较低设 COM18 COM16 COM20 COM2	50 萊容 UART)(() — 3.	· 页 高(14) · 页 高(16)	(14)	
COM 编口号 (2): COM10	× •			

## HC705(0D69J/1D69J/0G47V/1H52A)of EIS:

