

AK500 Key Programmer User Manual

Product Description:

AK-500 is a carefully designed multi-purpose vehicle intelligent programming system that can adapt to a very good variety of programming environments. This product is a high degree of intelligence to realize the automatic programming function. AK-500 is a specialized vehicle to meet the modern high-level computer



programming complex, high-efficiency and the development of a new generation of intelligent car computer programming system.

programming system.

Support models:

Mercedes-Benz: W220/W220 "Keyless Go"
 W208/W210/W220/W203/W215/W230/W209/W219/W211/W230/W215/
 W164/

BMW1/3/5/6/7/8/
 MPC (MPC555/556, MPC561/562, MPC563/564), external
 Flash (MB58BW016, 29BL802C, AM29BDD160, S29CD016, DE28F800
 etc.) and external EEPROM(M95xxx)

Volkswagen

Audi:MPC(MPC555/556,MPC561/562,MPC563/564),external Flash(MB58BW016,29BL802C,AM29BDD160,S29CD016,DE28F800 etc.) and external EEPROM(M95xxx)

Features:



■Match and support function "Keyless Go" of Benz Infrared Key;

■Support Benz Infrared keys lock and unlock for EIS+ESL+ESM , the leading technology all over the world;

■Support Directly reading EEPROM for BENZ DAS(1995-1998)via OBD, can to unlock DAS when you lost all keys and DAS is locked;

■Read and write the ESL of E/Class and C/Class via K_line, no need remove ESL;

■Support Benz ECU's flash(29F400 and 29F800) and generate key data directly, no need Renew Flash and Programming ECU, the leading technology all over the world;

■No need to choose the MCU type of EIS. When load EIS file, recognise EIS file, and generate key file. If your MCU is HC705, software will automatically suggest "load next EIS file of HC705"



■Powerful Motorola MCU programming function, Directly reading dumps of EEPROM(HC908) and Flash(HC912, HC9S12, HC9S12X) for motorola MCU, in support of the engine ECU of Benz, BMW, VW and Audi etc MPC(MPC555/556, MPC561/562, MPC563/564), external Flash(MB58BW016, 29BL802C, AM29BDD160, S29CD016, DE28F800 etc.) and external EEPROM(M95xxx). An advanced tool of car ECU repair and programming, odometer adjustment and key programming as well.

Follow-up upgrade

■Benz(R or W220) shift module ISM and 722.9 gearbox ECU drive authority;

■upgrade ESM read and write EEPROM.





■AK500 standard (above)

1; AK500 Host (1PCS);

2; ESL cable (1PCS) (including ESL and power plug to connect with OBD plug);

3; HC705 MCU adapter (1PCS);

4; MPC / MCU connection adapter board (2PCS);

5; EEPROM adapter holder (1PCS);

6; Benz ME2.0-ECU 4E28B Block Adapter (1PCS)



7; mobile hard disk 40G (1PCS) of (AK500 contains the database of installed software and ESL);

8; MCU / MPC cable (1PCS);

- 9; 12V/2A Switching Power Supply (1PCS);
- 10; USB communications cable (1PCS);

■AK500 cable definition:





AK500 software Description:



- A. Motorola dedicated programmer;
- B. Benz infrared key matching;
- C. Benz EIS (electronic lock) FLASH data recovery;
- D. AK 500 hardware upgrades;
- E. AK 500 instruction manual.
- A. Motorola programmer operation-specific profile:



1. HC705: must be removed MCU, and the MCU on the adapter folder HC705 seat. Remember: pin1 (MCU on the dot)

Block HC705 folder at the bottom left of the red dot (Figure 1):



 HC908/HC912/HC9S12/MPC in the choice of specific models, etc., the point of "picture" to see the wiring diagram;

3. HC9S12x 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).

AK500 (¥1.0)	AK500
Totorola Programmer MCU MC68HC705 MC68HC705 MC68HC908 MC68HC912 MC68HC9512 MC68HC9512 MPC Eeprom EsL(K Line)	Memory Config Identify MCU

4. HC908 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's 1J35D chip can be used in place of 2J74Y or 4J74Y).

B. Benz infrared instrument matching the key-specific:Open the "Benz IR Keymaker".

The first step: handling EIS

 With "Read EIS" function, EEPROM read the EIS data and save it as a BIN format (Figure 3);



3 (71.0))			
BENZ IR Keymak	er			X
EIS STEP 1 EIS	Load File	Read EIS	Make Key	•
ESL/ESM STEP 2 ESL/ESM	Load File	Read ESL/ESM	Process	
ECU]	
3 ECU	Load File	Read ECU	Process	and the second
IR-KEY / NEC		Socket	Read	
4. Write Key		C Via IR	Write Fast Renew	

2. With "Make key" function, open the "EIS Process", we can see EIS information, Key end-of-life status and the use 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);



HC705 0D69J 1D69J 0G47V 1H52A HC908	Immo I Remote I	D 707E4	132A 1001FA6E)D9A
HC912 HC9S12	Odomete VI	er N		can change
y Info				- 55 - 55
NU. Kaul 2A3BE74CEI	0076218	Used	Locked	New Key
Key2 78E85D01A3	39AE46	V		E .
Keyz BDB606592	34F75F3	2	Ē	Ē
Keyd E3DD7CE96	98D295	Г	F	Г
Key4 F0D5136CD3	76D87F7	Г	Ē	Ē
Key6 DD0A6ADE1	318FE07	Г	Г	Г
Key7 AF23065D3A	52DFD3	Г	Г	Г
Kev8 D2A3AF7B80	1783C4F	Г	Г	Г
Work Key D1898816B8	SEAF8F			
Hash Key C2E901F0EE	BA7C5C	ΓE	$CU \rightarrow 2$)F400

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

The second step: to deal with ESL / ESM With "Read ESL / ESM" function to read out the ESL (E or C Series ESL cable used) or ESM (W220, 93C56) The EEPROM data, the "Process" function after treatment, the new generation of ESL or ESM data, the use of ESL

Connection

Line or EEPROM programming feature to write back to the original ESL or ESM (write "NEW ESL", there is a need



to connect the hard disk AK500,

Because write "NEW ESL" documents the need for hard disk "AK500-BASE" of the database) (Figure 5);



The third step: to deal with ECU:

1. AK500 only support general-purpose plug-in EEPROM, do not support plug-in 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 and its frame and parts (Figure 6);

BENZ IR	(¥1.0) Keynaker	-6-			
EIS STE 1	EP ca	Documents and S Load File	iettings\dell\桌面\EIS Read EIS	6-0008\1D69J-CPU1.E	®
ESL S ESL ECU	CU Proce Type VIN Part No	ME 2.7 (st9508 WDB2201791A 2751531879	0) all 🗸		
E		N	lext Step		
IR-KEY STI 4 Write	(INEC	NEC	♂ Socket ○ Via IR	Read Write Fast Renew	

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

Step four: the key to match the Mercedes-Benz infrared;

From the "NEC Block adapter folder": (NEC chip can read



and write, but also air-brush NEC)

1. Welding infrared key NEC, the AK500 on "NEC adapter holder", with "Socket" for "Fast Renew" feature airbrush "NEC" ("Fast Renew" before, it is recommended to use "Read" features, read the information under the NEC to ensure that the NEC and reliable contact holder);

2. Brush and air is complete, use "Write" function, when the software will be prompted to AK500 use "COM" port (Figure 7);

NZ IR Keynake	r 👘		
EIS			
STEP			
1		1 1	1
EIS	Load File	Read EIS	Make Key
ESL/ESM			
STEP			1
2			
ESL/ESM	Load File	Read ESL/ESM	Process
FCU			
STEP			
3		AK500	
ECU	Load File	COM2	Process
-			
IR-KEY / NEC-			Dead
STEP		Socket	Reau
4	NEC	C Via IB	Write
Write Key	inne	· · · · · · ·	Fast Renew



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).

NEC Programer Load, BI	Programing Close	
IR-KEY / NEC STEP 4 Write Key	● Socket ● Via IR	Read Write Fast Renew

From the infra-red interface to read and write Key (can read and write Key, can not brush air NEC):

 Select "Via IR" to enter the process with the other "Socket" feature the same (Figure 9).



BENZ IR Keymak	er Q			X	
EIS					
STEP					
1		I I I		1	
EIS	Load File	Read EIS	Make Key		
ESL/ESM					()
STEP				_	
2		1			
ESL/ESM	Load File	Read ESL/ESM	Process		
ECU		1.7 mar. 1997			
STEP		AK500 🔀			
3		1 COM2 1			
ECU	Load File		Process		
-IB-KEY / NEC-		确定			
STEP	100 M	C Rudut	Read		and a state
4		C Socket -	Write		
Write Key		• Via IR -			
				_	

C. Benz EIS to restore the FLASH:

Replacement of EIS when the MCU or MCU's FLASH incomplete or missing data, this feature can be used to read and write MCU's internal FLASH, ("Read original flash data and save" == read out and save the original data FLASH, optional function) (Figure 10).



	500 m
Part NO. OK50E (211 545 09 08) OK50E (211 545 13 08) OK50E (211 545 17 08) OK50E (215 545 05 08) 1L59W (209 545 Xx 08) 1L59W (211 545 31 08)	Read Original Flash Data and Save
1L85D(211 545 10 08) 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)	Start Flash Program EIS Help Picture
3L40K (\$350_\$220) 4L40K (211 545 25 08)	Exit

D. AK500 hardware upgrade:

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.



AK500 (¥1.0)	
11 AK500	
Update AK500	
Firmware Update	
0E9C108D23E68A3DF9A6F7B49420266C -Active-	Read ID
Update Update	Save ID
Connect MCU OK !!!	
Read ID SUCCESS	_
Close Com	=

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



AK500 (¥1.0)		
	AK500	
Opdate AK500		×
Firmware Update		
0E9C108D23E68	A3DF9A6F7B49420266C	C -Active- Read ID
Update	打开 查找范围 (I): 🔒 我的文档	<mark>≥?</mark> • ⊞ * ± = •
Connect MCU OK !!!	FFOutput OE9C	C108D-Update.bin
Read ID SUCCESS	□ my vitues □ 图片收藏 □ 我的音乐 □ 我接收到的文件	
Close Com	文件名(M): OE9C108D-Vpdate.b 文件类型(I): BIN Files (*.BIN)	bin 打开 (1)) _ 取消

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:

1. AK500 to your hard disk through the USB line to connect to your PC computer (Figure 14);



2. AK500 open the hard drive, open the AK500 1.0, open the "Setup.Exe" installation (Figure 15-19);







Choose Destinatio	n Location 🛛 🔀
	Setup will install AK500 in the following folder. To install to this folder, click Next. To install to a different folder, click Browse and select another folder. You can choose not to install AK500 by clicking Cancel to exit Setup. Destination Folder C:\Program Files\HRT\AK500
	< <u>B</u> ack <u>Next></u> Cancel
Setup Complete	
	Setup has finished installing AK500 on your computer. Setup can launch the Read Me file and AK500. Choose the options you want below.
Instal Sheld	Click Finish to complete Setup.
	K <u>B</u> ack Finish

3. Appears on the desktop after installation "AK500" shortcut, double-click "AK500", will show "Please close all anti_virus software" (turn off all antivirus software) tips. (AK500 is not a virus, but NEC_Prog



procedures "Dump.Dat" would be mistaken to be killed
virus) (Figure 20);



4. Shut down antivirus software, the computer screen will be prompted to "release the software disk directory to C," point "release" the next step until the installation has finished (Figure 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, the AK500 through the USB line to connect your PC computer. Right, "My Computer" - "Management" - "Device Manager" - "to amend COM" - "preservation" (must be changed in between the COM1-COM8 any COM port) (Figure 23);



7. AK500 test the connection is normal.

Important:

1; Do not try to open the instrument casing and circuit board, or else bear the



consequences.

2; this instrument is limited to legitimate the use of vehicle maintenance, shall not be moved to do it; and to comply with local laws and regulations, or else bear the consequences.