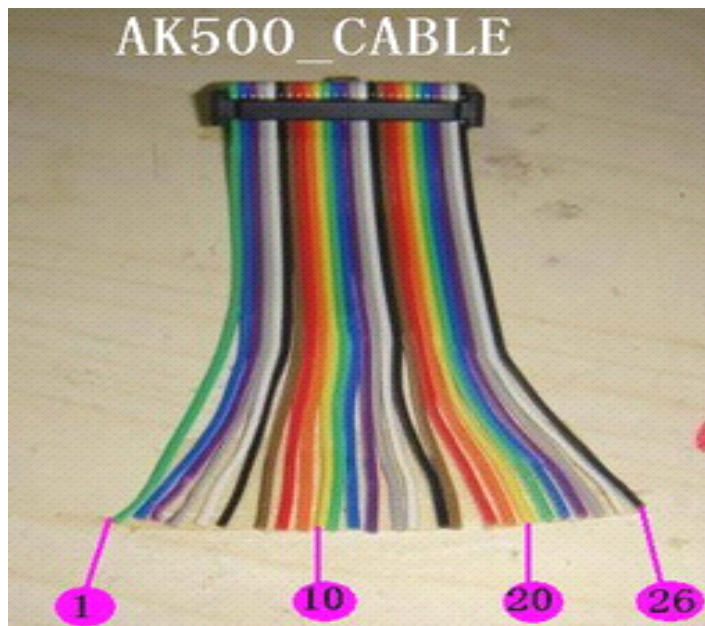


# AK500

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

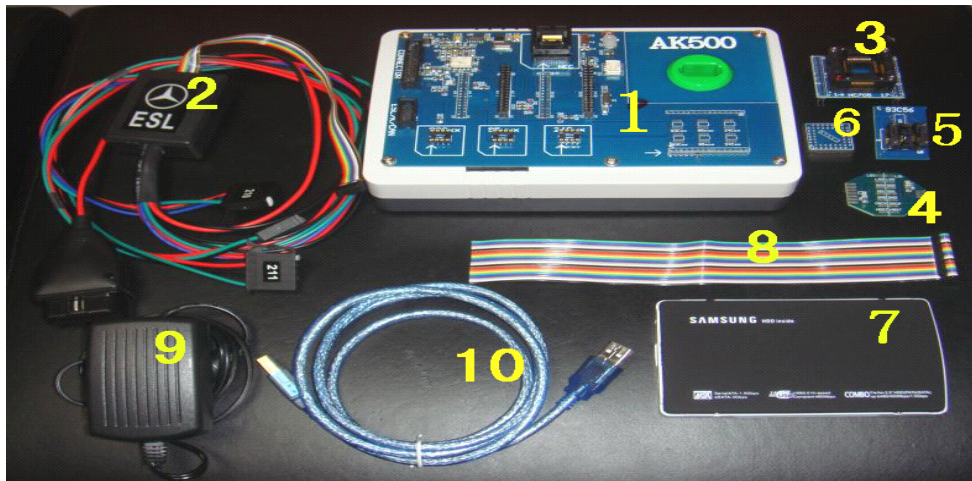
1. Support for the key maker of the **Mercedes-Benz smart key with "Keyless go" function;**
2. Support of Mercedes-Benz EIS + ESL + ESM **key lane recovery if the key lane canceled by Star diagnosis** , the world's leading technology;
3. Automatic Identification EIS + ESL + ECU (including FLASH) data, 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 722.9 Transmission ISM computers driver authorized.
  - (2) upgrade ESM reading and writing EEPROM via k-line.

## **AK500 cable definition:**

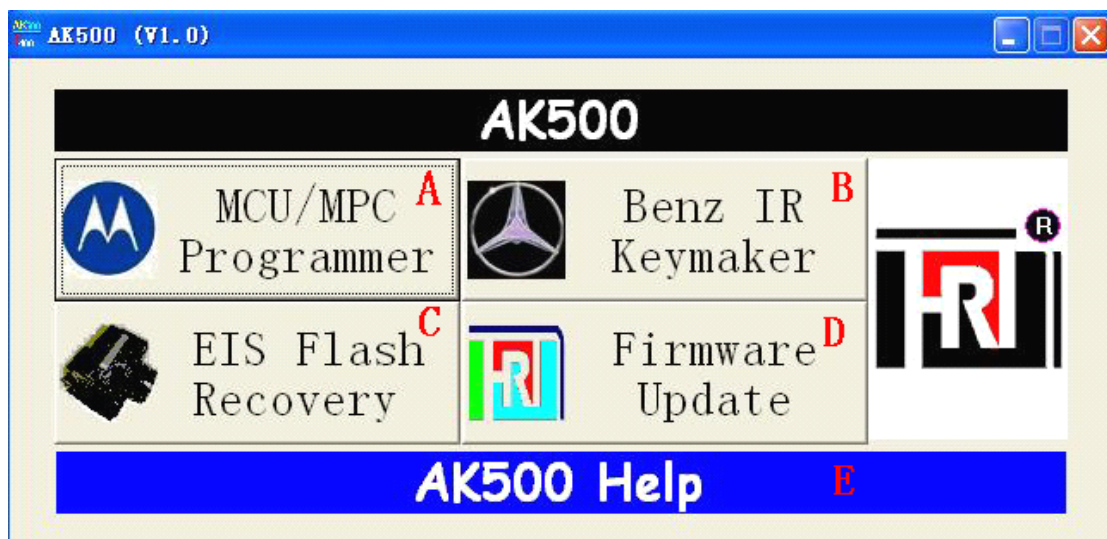


## **AK500 device configuration list:**

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:**

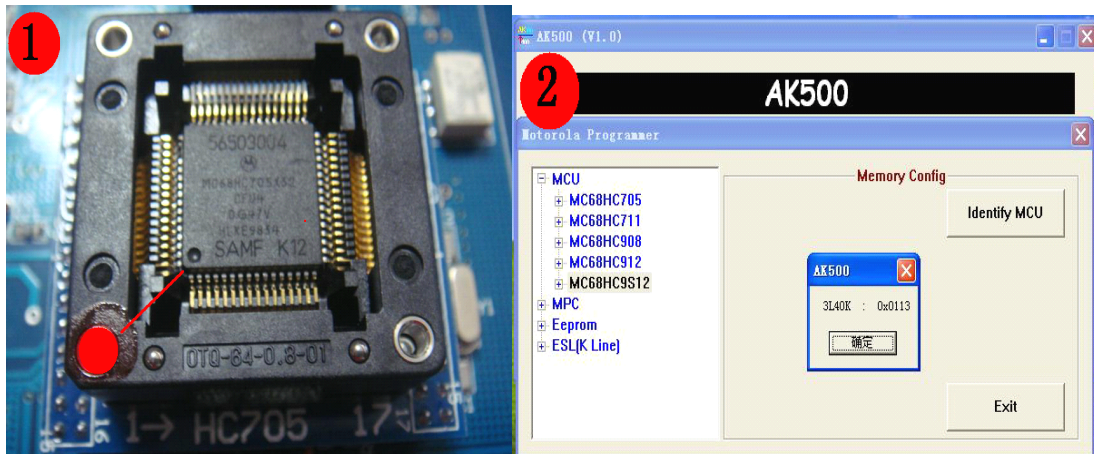


- A. Motorola and MPC programmer;
- B. Benz Smart key maker;
- C. Benz EIS (electronic lock) FLASH data recovery;
- D. AK 500 hardware upgrades;
- E. AK 500 instruction manual.

**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).



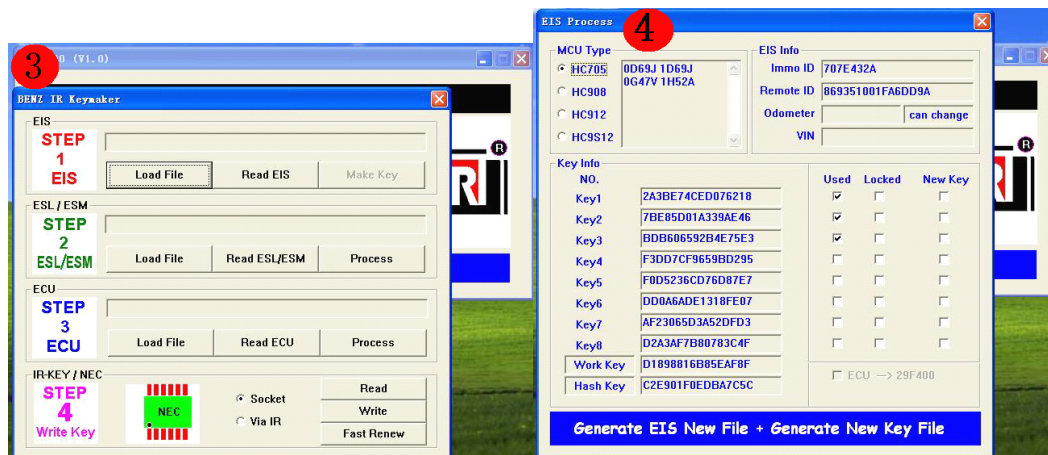
### **B. Benz smart key maker specific:**

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.





**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);

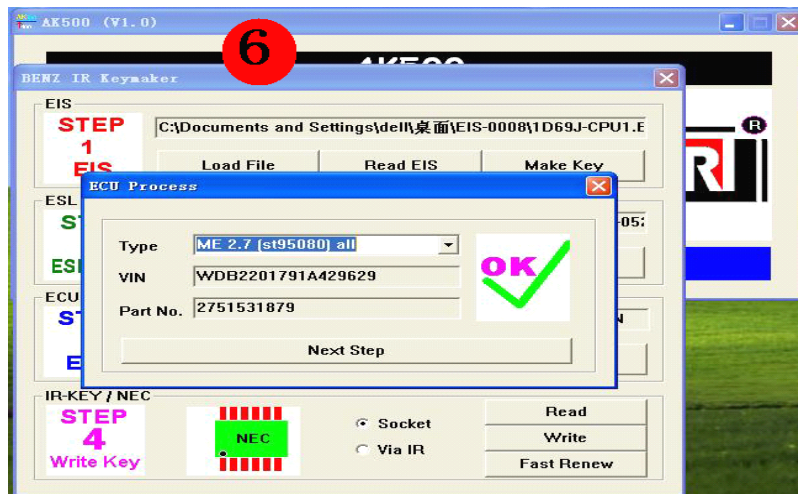


**Step 3:** to deal with ECU:

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 :

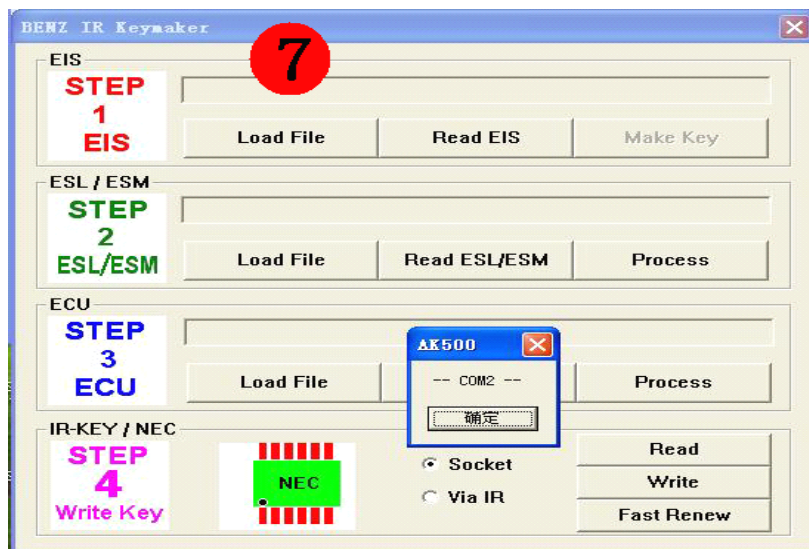
A. via "NEC socket " : (NEC chip can read /write and Renew NEC)

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

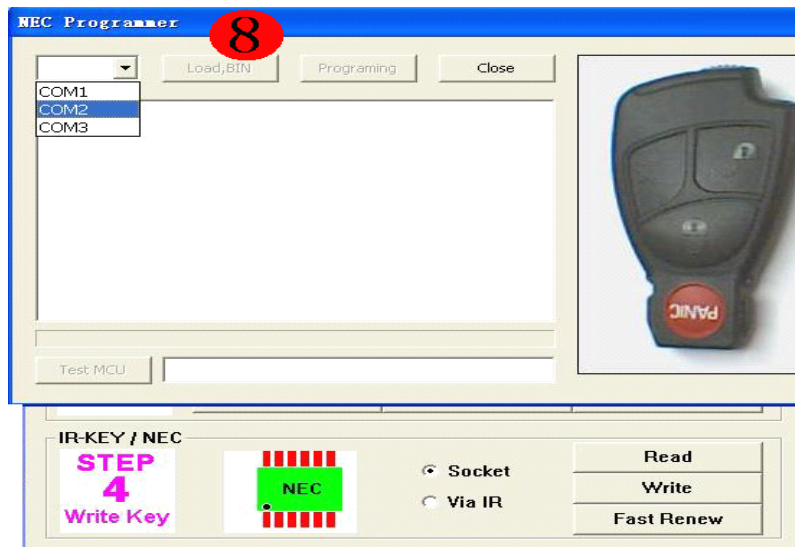
Click "Read" ensure the NEC cpu contact is good

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);

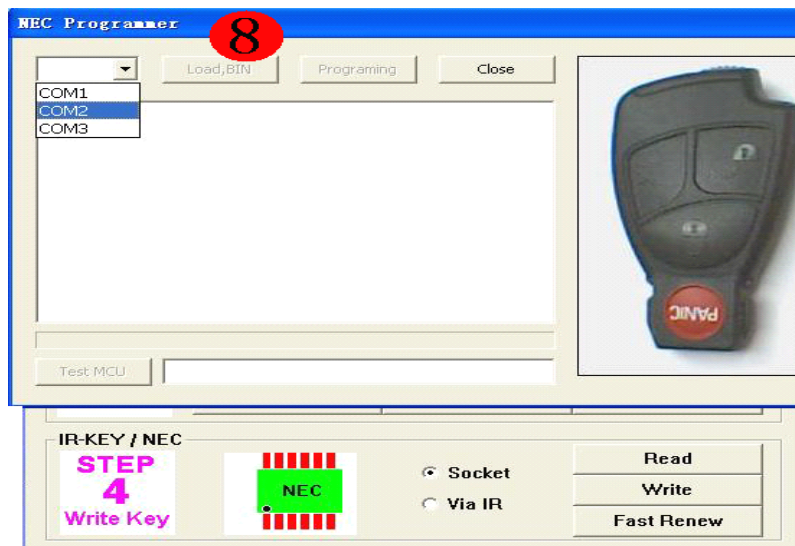


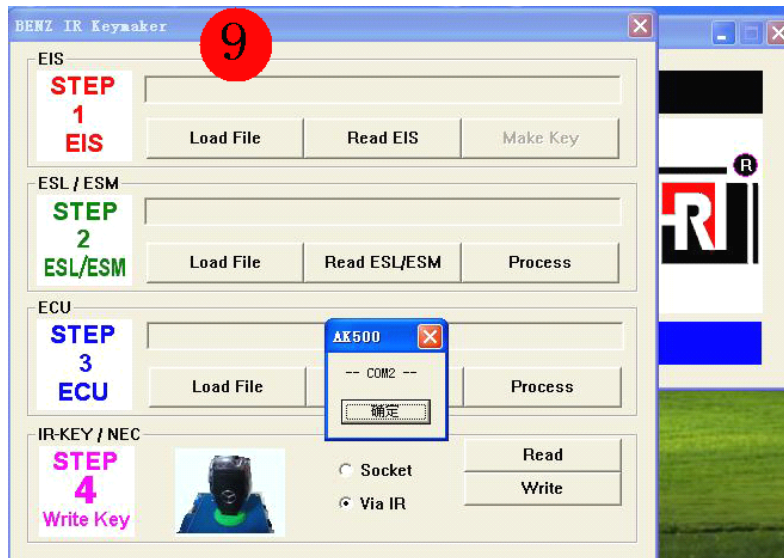
3. Select "COM2", after using "Load, BIN" the Key to open the need to write data, and "Programming" to write the new key (Figure 8).



B. " Via IR " can read and write Key, can not Renew NEC of keys:

1. 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)

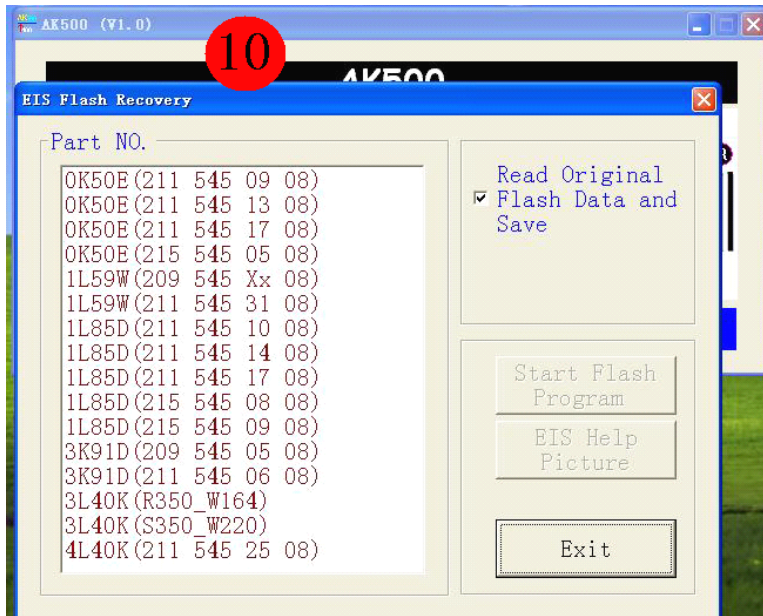




### **C. Benz EIS to restore the FLASH:**

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).





#### 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.



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

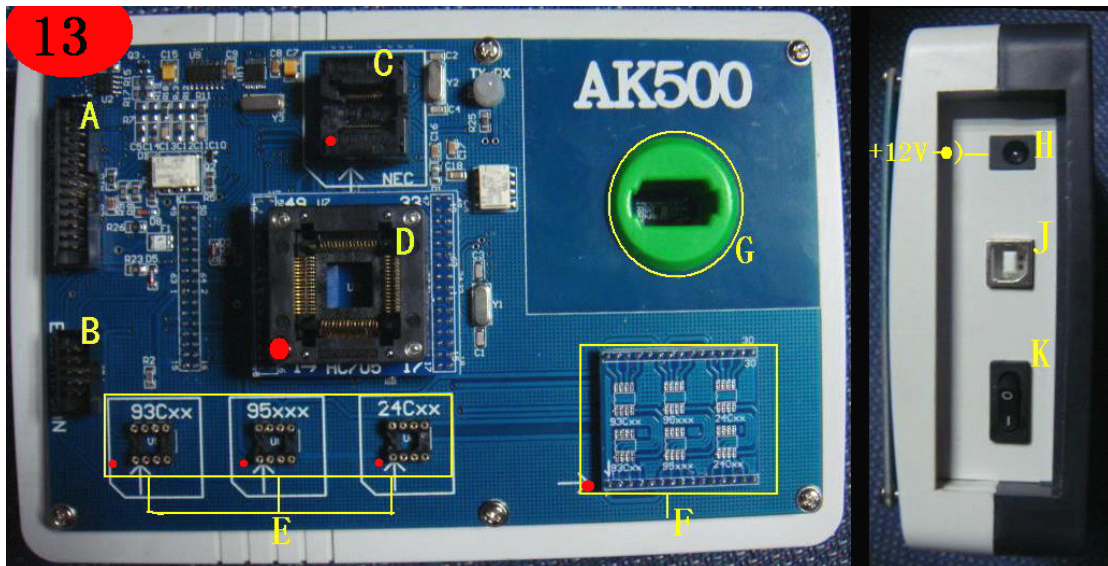


### **E.AK500 operation manual:**

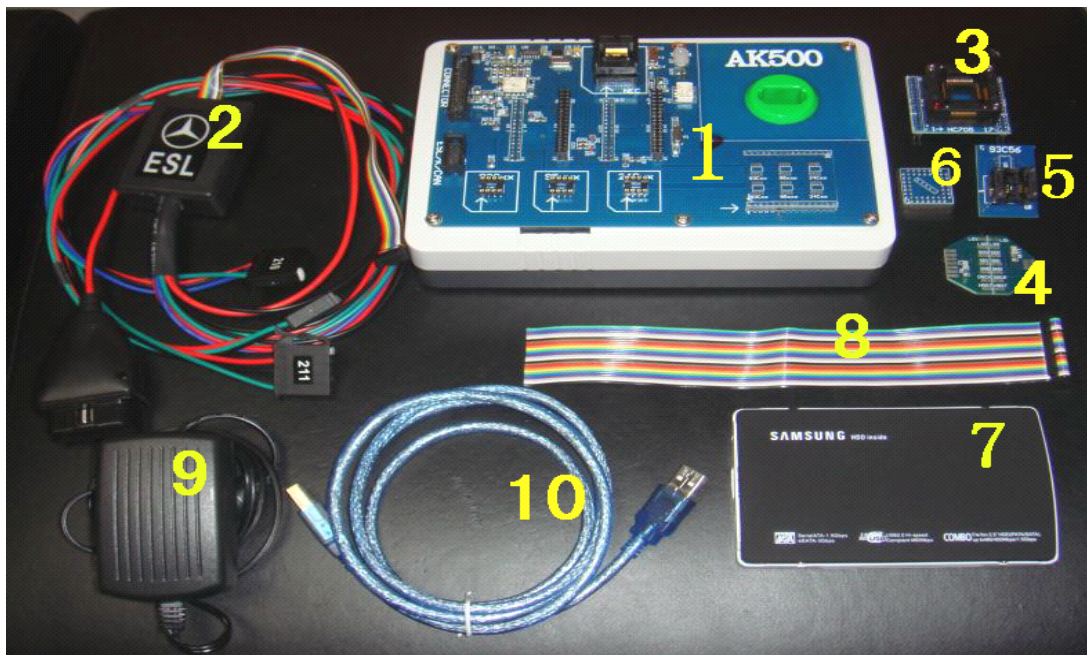
Open the "AK500 Help", can read the operation manual AK500.

### **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.



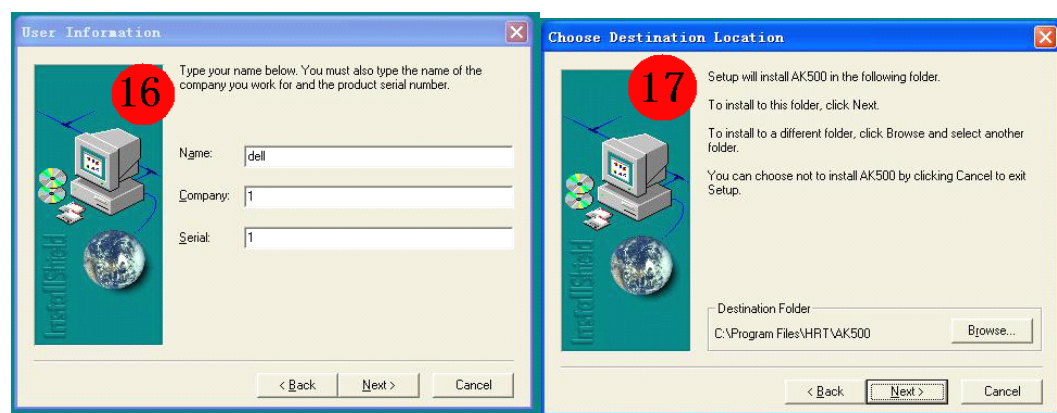
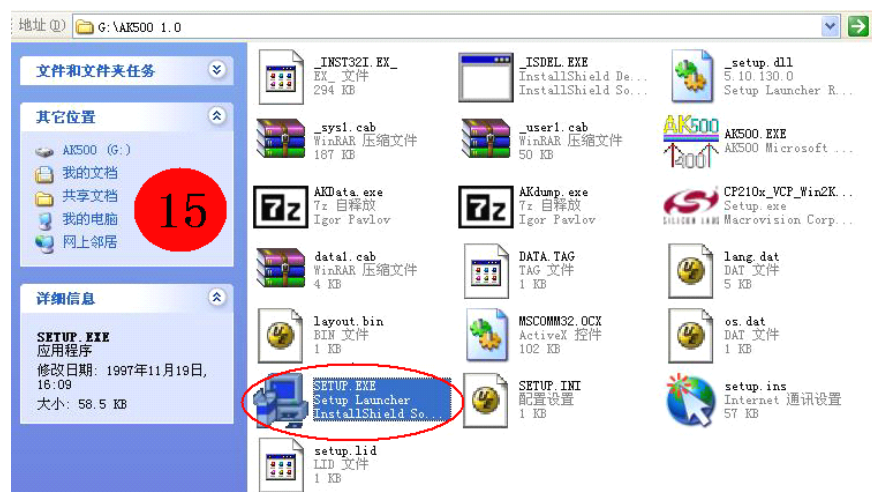
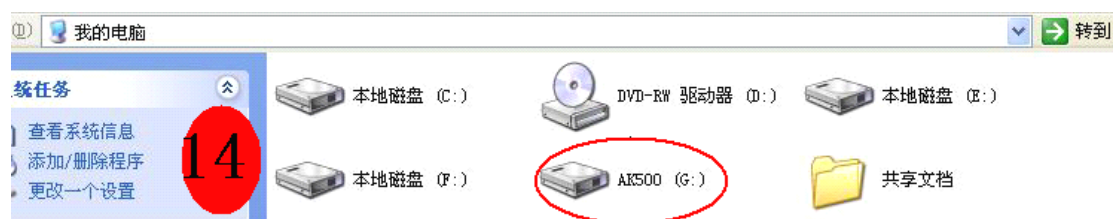
## Software Installation:



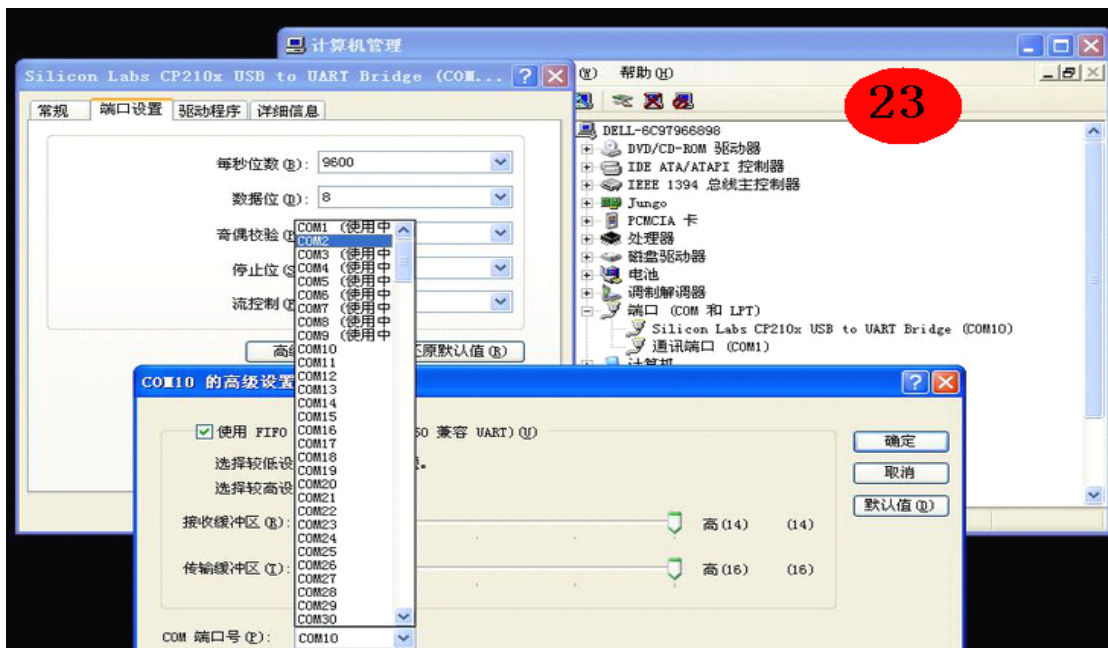
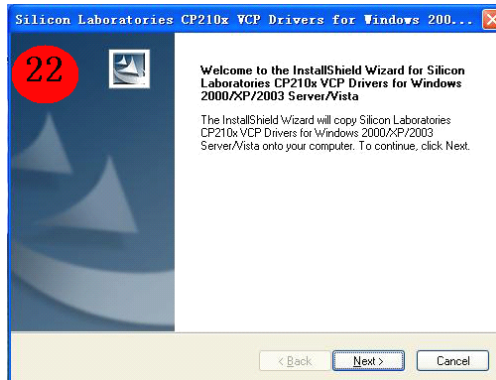
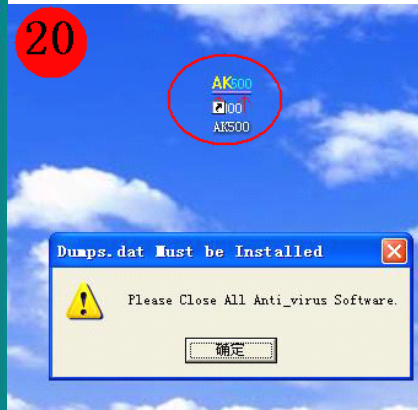
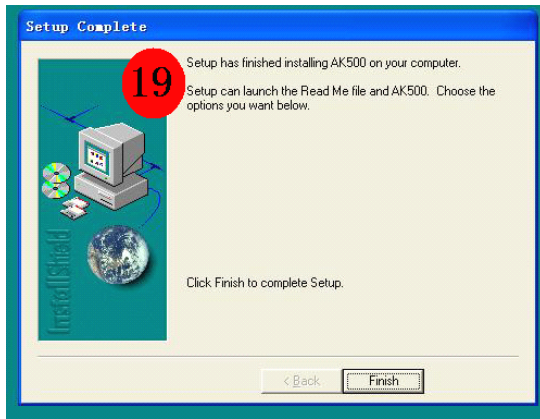
1. Connect AK500 software hard disk (#7) to your PC computer through the USB cable(#10) (Figure 14);
2. Browse the Ak500 software hard disk, open the AK500 1.0, double click the "Setup.Exe" (Figure 15-19);
3. Please close all of the anti\_virus software in your PC ,  
(Figure 20);
4. "Release the software to C driver , " click "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, 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.







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

