

# AK400 Key Programmer User manual

**AK- 400 is an all in one in telligence BENZ / BMW smart key maker.**

**AK-400** = IR-Programmer(for Benz key) + Hitg2 programmer(for BMW key) +BENZ ESL(election steering lock) K-Line programmer + 912/9S12 in circiut programmer + 68HC711 programmer +68HC705/05 programmer + 68HC908 programmer + 93Cxx/95Pxx/24Cxx s-eprom programmer + BENZ key reader + BMW key reader

Description :

All in one intelligence BENZ / BMW smart key maker

BENZ:W220/W208/W210/W220/W203/W215/W230/W209/W219/W211/W230/W215 (Big old key/ Black key /Chrome key)

BMW :new 1/3/5/6/7 CAS / CA2 /CAS3/CAS3+ system

1. Programming Benz smart key via infrared or on board programming,even the car lost all the key.
2. Read/Write BENZ ESL(election steering lock) via K-Line,no need take out ESL from the car.
3. Unlock BENZ ESL(election steering lock) via K-Line with out key.
4. Read/Write BENZ EIS(key IG module) / BMW CAS/CAS2/CAS3 via ICP(no need take out MCU).
5. Renew smart key function, renew used benz samrt key.
6. Check status of Benz/Bmw smart key before/after programmer
7. Renew Benz ME-ECU function .
8. Active ME2.0 ECU(4E28B),not need renew ECU.

**AK- 400 support IC type:**

| IC Select   |            |              |                |             |             |
|-------------|------------|--------------|----------------|-------------|-------------|
| HC705       | HC711      | HC908        | HC912          | EEPROM      | OTHER       |
| 0D53J (X32) | 4E28B (E9) | 1J35D (AZ60) | 0K50E (DG128)  | 24C02 (ECU) | BMW-1 (KEY) |
| 0D62J (X16) |            | 2J74Y (AZ60) | 0L01Y (DG256)  | 24C04 (ECU) | IR-KEY(KEY) |
| 0D69J (X32) |            | 4J74Y (AS60) | 0L15Y (XDP512) | 93C56 (ESM) | NEC-1 (KEY) |
| 0F62J (B16) |            |              | 0L51J (D60)    | 95080 (ECU) |             |
| 0F82B (E6)  |            |              | 0L85D (DB128)  | 95160 (ECU) |             |
| 0G47V (X32) |            |              | 1K79X (DT256)  | 95320 (ECU) |             |
| 0G72G (E6)  |            |              | 1L00M (DP512)  | 95P08 (ECU) |             |
| 0H51A (E6)  |            |              | 1L15Y (XDP512) |             |             |
| 1D59J (X32) |            |              | 1L59W (DG128)  |             |             |
| 1D69J (X32) |            |              | 1L85D (DG128)  |             |             |
| 2D20J (B16) |            |              | 2K79X (DG256)  |             |             |
| 2D59J (X32) |            |              | 2L86D (D64)    |             |             |
| ESL-K (E6)  |            |              | 3K91D (DC128)  |             |             |
|             |            |              | 3L40K (DG128)  |             |             |
|             |            |              | 4L00M (DP512)  |             |             |
|             |            |              | 912 (NoLock)   |             |             |
|             |            |              | 9S12 (NoLock)  |             |             |
|             |            |              | 9S12X (NoLock) |             |             |

Cancel OK

# AK-400

all in one intelligence BENZ / BMW smart key maker.

## User menu

P3----- Ir-Pro hardware discretion

P4----- Ir-Pro Software discretion

P6----- Basic knowledge

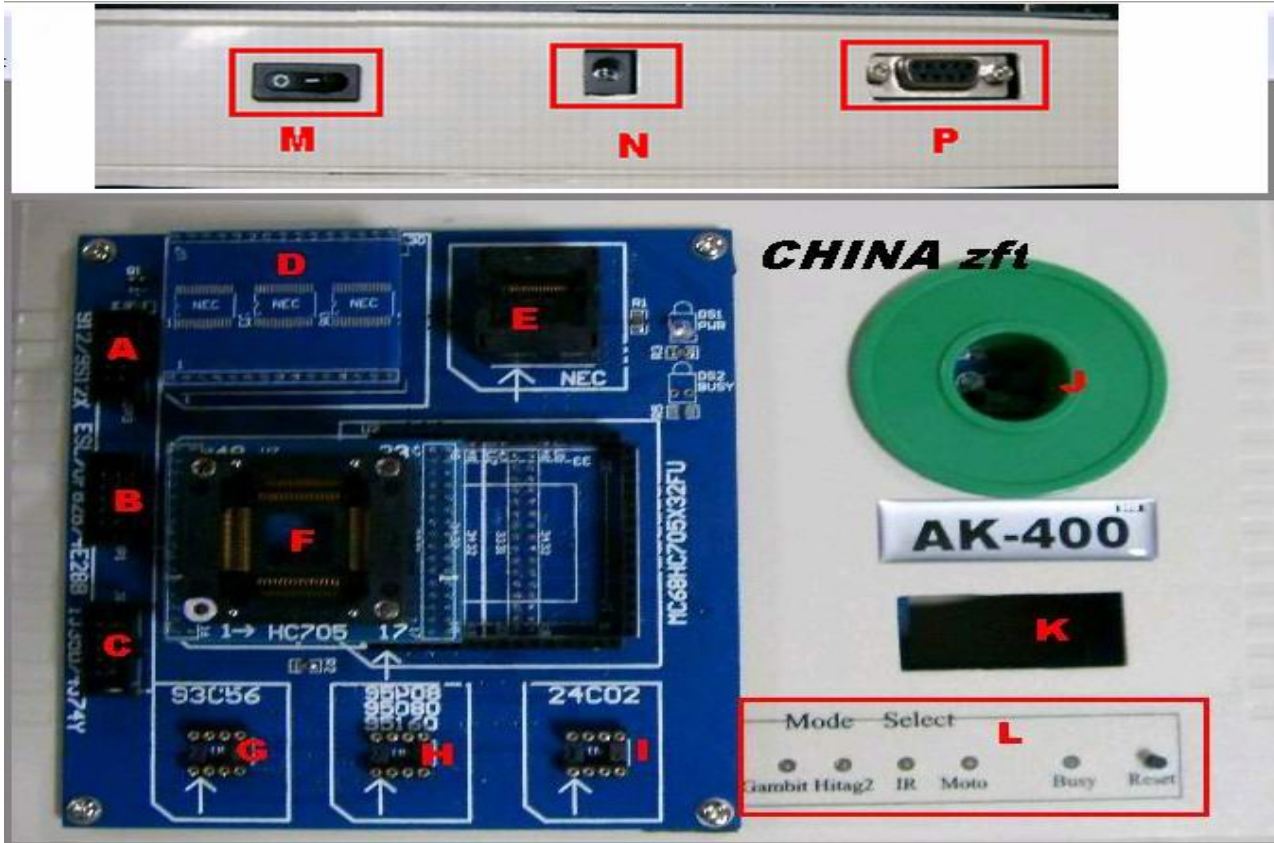
P10----- Renew key function

P13----- Programming the key

P17----- Test key (IR)

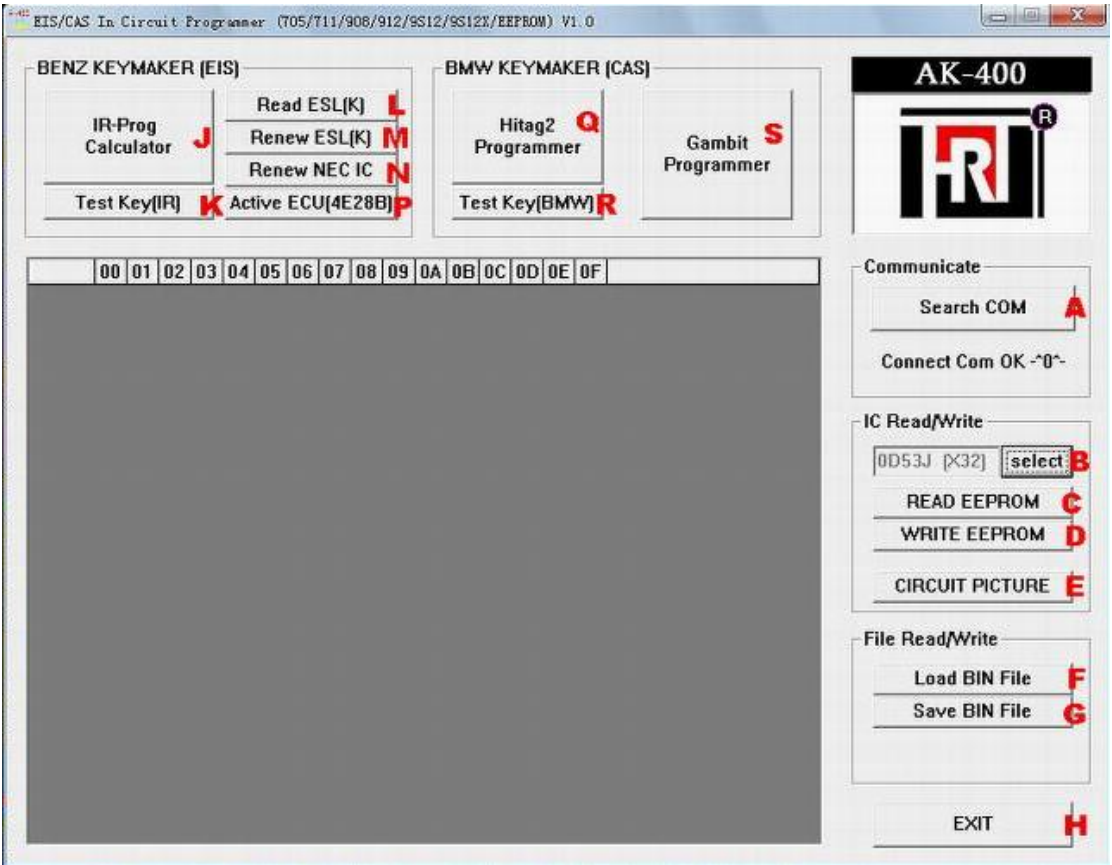
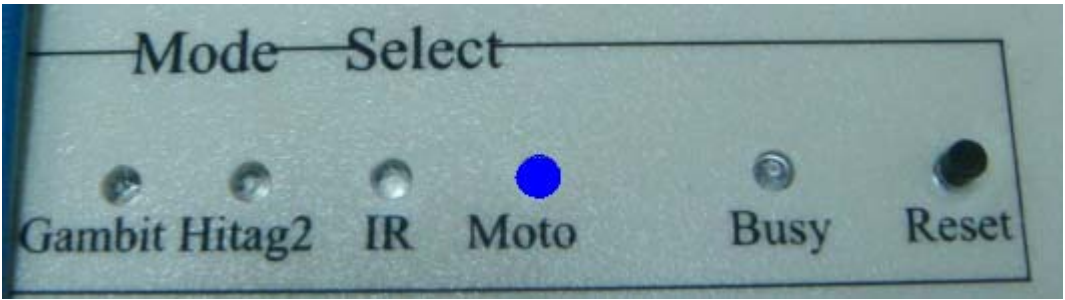
P18----- Example for W210 /W202 /W208/ OLD W220 / W211.....

AK-400 hardware discretion:



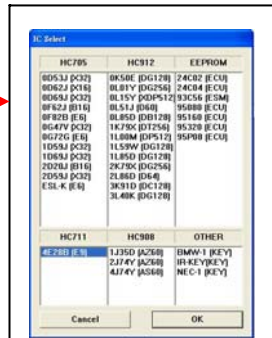
- A: 912/9S12 programmer port
- B: ESL/EVL K-line port , 4E28B programmer port
- C: 68HC908 programmer port , 1J35D / 4J74Y
- D : NEC programmer via soldering board- programming / reset key NEC IC
- E : NEC programmer via clip adapter- programming / reset key NEC IC
- F : 68HC705X32 programmer -----for ECU 210 545 xx xx
- G : 93C56 programmer ---for ESM
- H :95Pxx / 95xxx programmer---- for ECU/ME
- I : 24C02 programmer----- for ECU/ME
- J : IR port – programming smart key via IR and Key checker
- K: Hitag2 port – read /writer PCF79xx transponder
- L: Mode select / hard ware reset
- M :Switch    N: Power connector +12V    P: RS232 serial port

AK-400 Software discretion:



Motorola model :

- A: Search COM : search COM PORT
- B: IC select
- C: Read eeprom
- D: Write eeprom
- E: Circuit Picture / Wiring diagram
- F: Load BIN file
- G: Save BIN file
- H: EXIT / shut off software



J: Ir-Prog calculator / generator ECU/ESL/EIS/KEY data



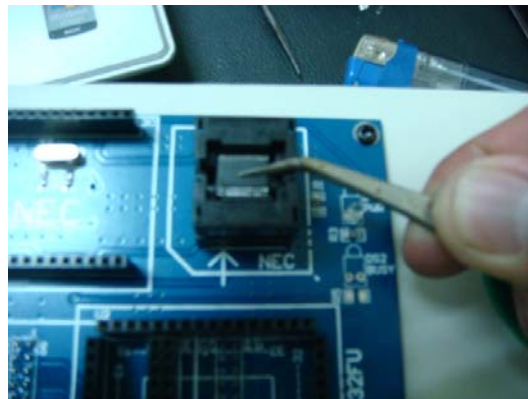
K: Test key via IR port ----- turn the key slowly when can not read out the key



L / M: Read/Reset ESL via K-line



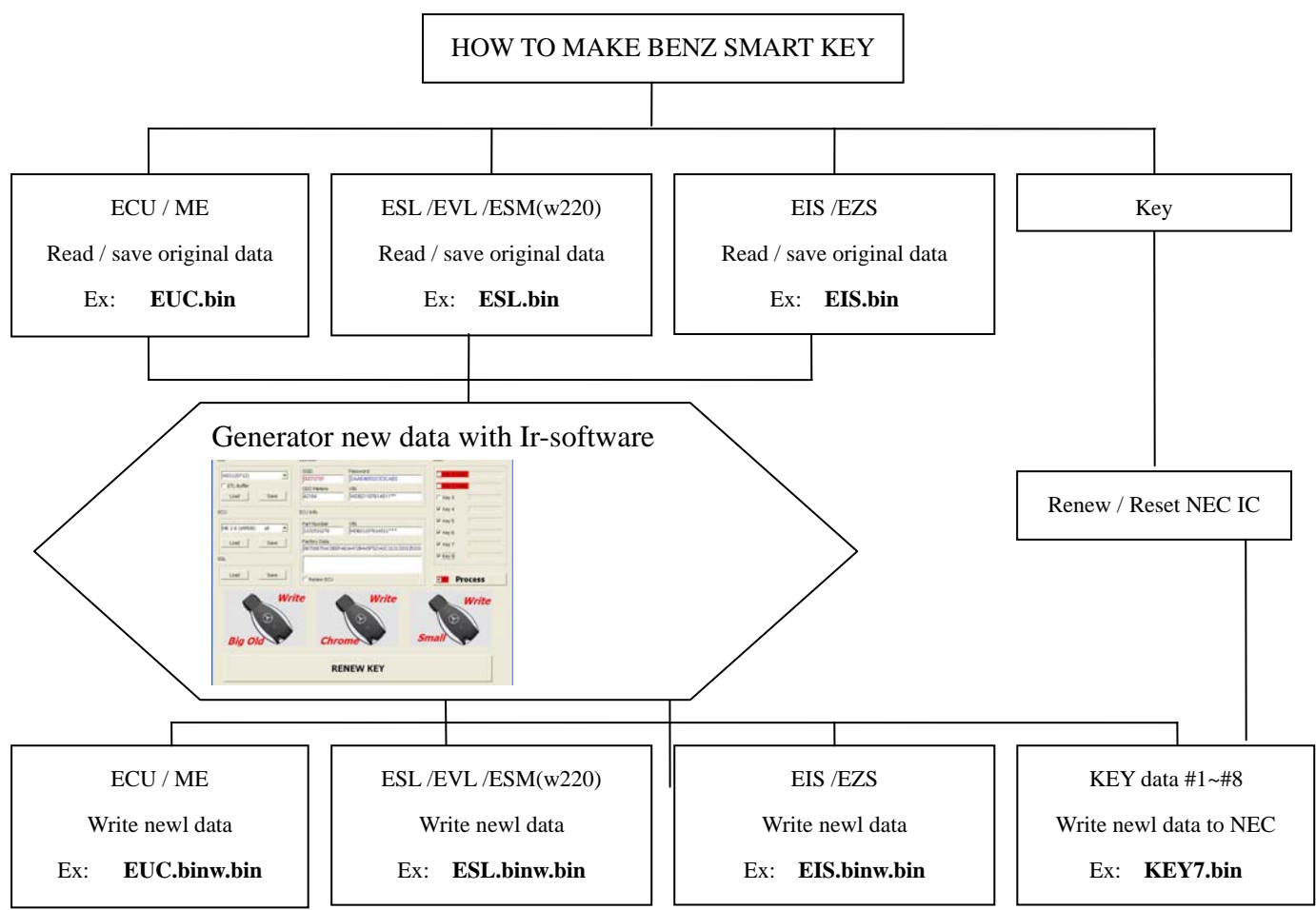
N: Reset NEC IC ----- Renew key NEC IC



P: Active ME2.0 ECU(4E28B )----- Active ECU start engine no need coding with star-diagnosis(DAS)

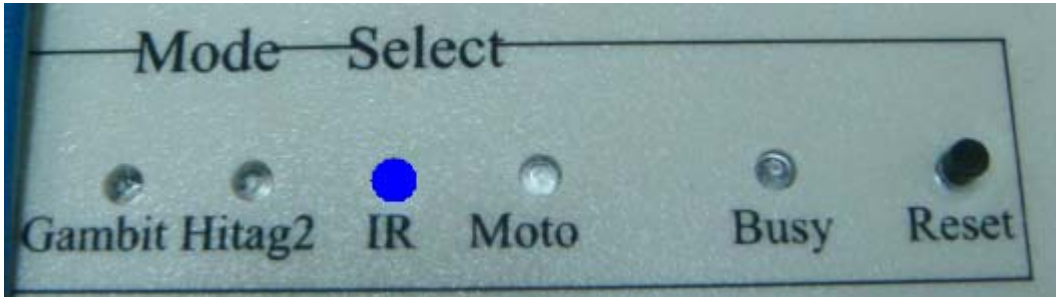
Q / R / S : BMW key maker

Basic knowledge:



# Ir programmer Manual

**IR-Prog  
Calculator**



W211(ST12)  ETL Buffer

SSID: 0007078F Password: DAAE46932CE3CAE0  
ODO Metere: 42154 VIN: WDB2110761A511\*\*\*


ME 2.8 (st9508) all

Part Number: 1131531279 VIN: WDB2110761A511\*\*\*  
Factory Data: 087D087DAC0EEFAB3A472B4A5F52142C3131333135333

Renew ECU

Key 1 Used  Key 2 Used  
 Key 3  Key 4  Key 5  Key 6  Key 7  Key 8

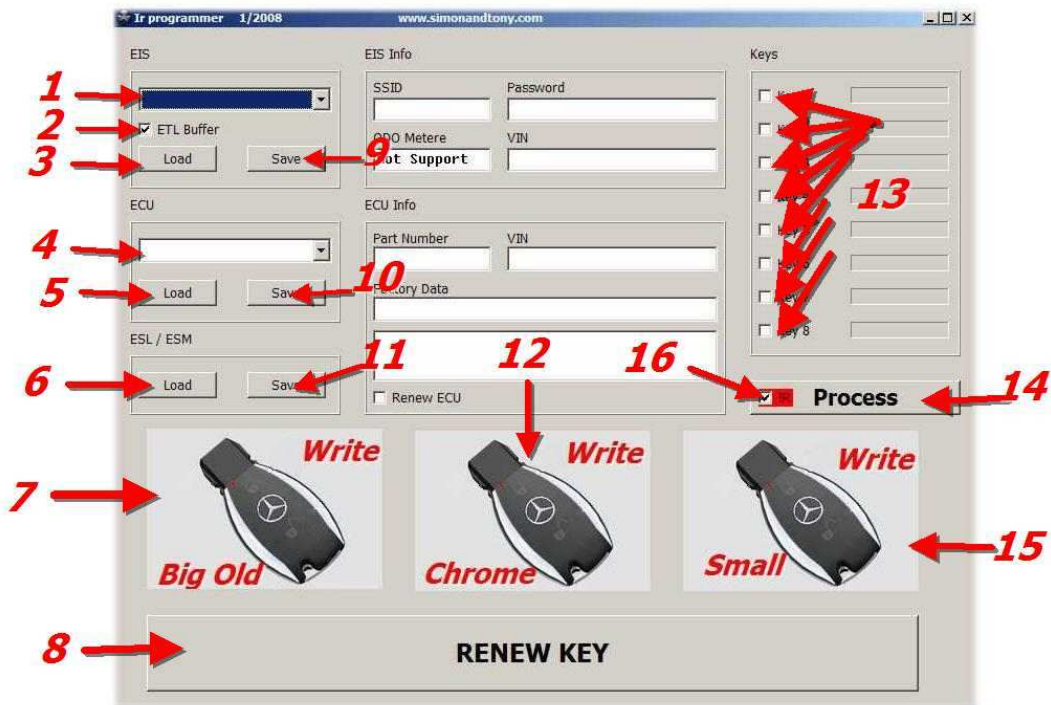
IR **Process**

*Write*  *Write*  *Write* 

*Big Old* *Chrome* *Small*

**RENEW KEY**





1-EIS type

2-use offset buffer (  Use Offset ETL ) -(  Use Offset Xprog )

3-Load EIS dump

4-ECU type

5-Load ECU dump

6-Load ESL or ESM dump

7-access Ir Programmer for big plastic key .

8-access Ir Programmer for RENEW key function .

9-save EIS dump (option )

10-save ECU dump (option )

11-save ESL or ESM dump (option )

12-access Ir Programmer for Chrom key

13-( select to generate)-(don't generate )

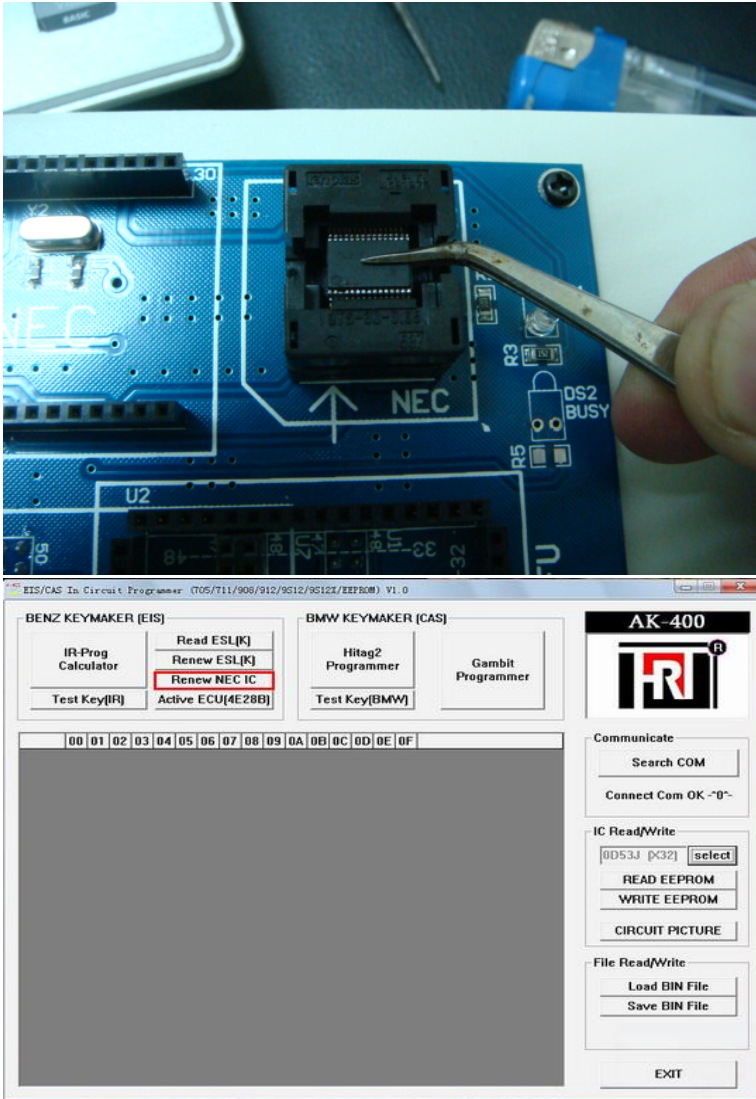
14-Process ( generate select keys/modify all loading dumps )

15-access Ir Programmer for small plastic key .

16-( generate keys dumps for **Ir Programmer use**)-( generate keys dumps for **Xprog or ETL or other MC68HC05E6 programmer use.**

# Renew Key Function

## 1. Renew key with MOTO mode

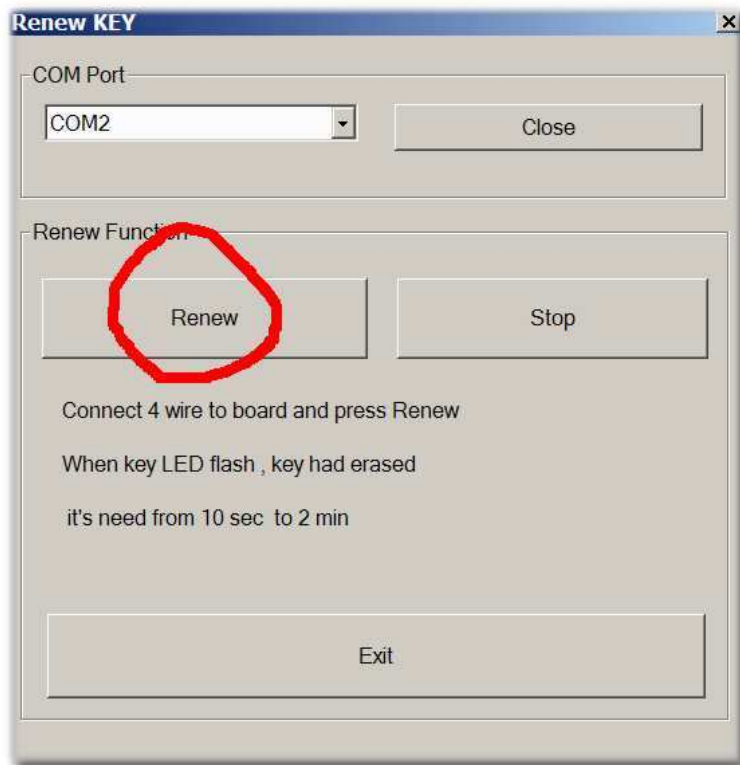


**“DU DU “ sound, reset NEC OK**

2. 2. Renew key with IR mode

The software interface is titled 'EIS' and contains several sections:

- EIS irIU**: Fields for SSID, Password, ODO Metere, and VIN. Includes 'Load' and 'Save' buttons.
- ECU**: A dropdown menu with 'Load' and 'Save' buttons.
- ECU Info**: Fields for Part Number, VIN, and Factory Data. Includes a 'Renew ECU' checkbox.
- ESL / ESM**: 'Load' and 'Save' buttons.
- Keys**: A list of checkboxes for Key 1 through Key 8.
- Process**: A button with a red 'IR' icon and the text 'Process'.
- Key Selection**: Three images of keys labeled 'Big Old', 'Chrome', and 'Small', each with a 'Write' button above it.
- RENEW KEY**: A large button at the bottom, circled in red.



**“DU DU DU “ sound, reset NEC OK**

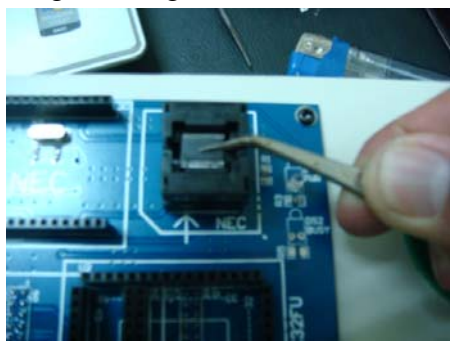
Key now is BLANK

# Programming the key

Choose the key model



Programming via NEC



Programming via IR



COM Port

COM2

Connect Port

Coil Power

Auto Power

Reset H/W

On

Programming

Write Via IR To Key

Test Key

Exit

IR dialoge appear select free COM port and press connect port

COM Port

COM2

Close

IR H/W connect

Coil Power

Auto Power

Reset H/W

On

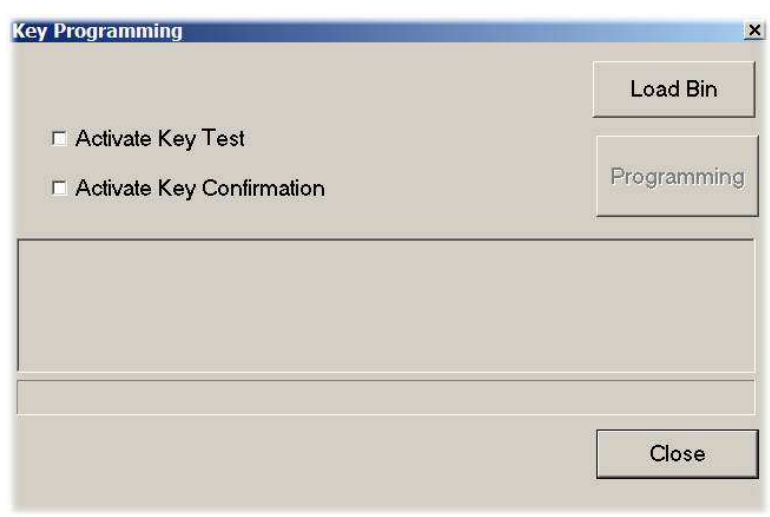
Programming

Write Via IR To Key

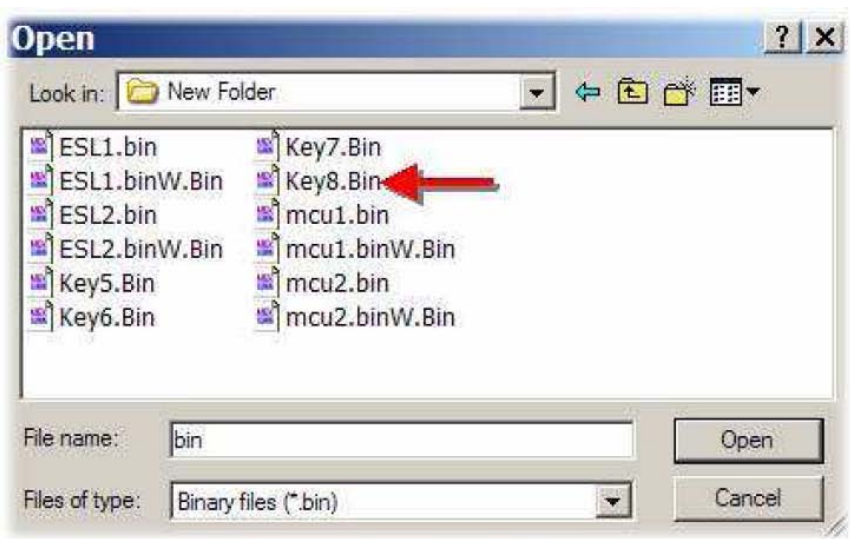
Test Key

Exit

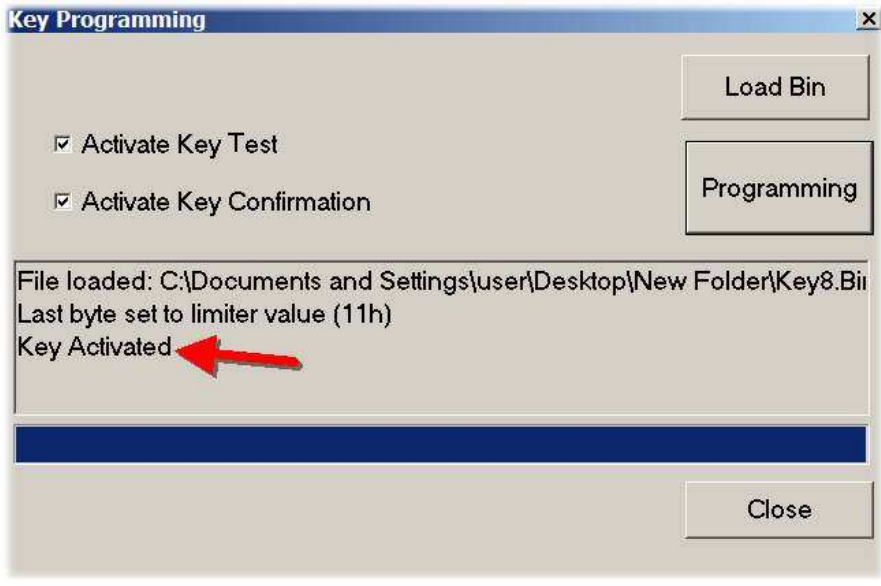
message ( IR H/W connect ) must appear . if no't check cabel or select eerror port . press (Write Via IR To Key)



Key Programming dialog appear ,press load BIN to load key bin file from folder .



active tow check box and press (Programming ),after few second ( Key Activated )



Programming Key Activated Insert key into EIS , key LED on thin off that mean key programming is end and you can run the car .



### Test key ( IR )



EIS/CAS In Circuit Programmer (705/711/908/912/9S12/9S12X/EEPROM) V1.0

**BENZ KEYMAKER (EIS)**

- IR-Prog Calculator
- Read ESL[K]
- Reset ESL[K]
- Reset NEC IC
- Test Key(IR)**
- Active ECU[4E28B]

**BMW KEYMAKER (CAS)**

- Hitag2 Programmer
- Test Key(BMW)

|       | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F |           |
|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|
| 00000 | 7B | 08 | 28 | E4 | 14 | EC | 00 | 01 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | {.(.....  |
| 00010 | 24 | 3A | 1F | 2F | 3F | AE | FE | E0 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | \$.:/?... |

**IR KEY ANALYZER**

- Key Type: BLANK
- SSID: 38 AE FE E0
- Key Number: 8
- history: 69
- Key Status: USED
- OK

CIRCUIT PICTURE

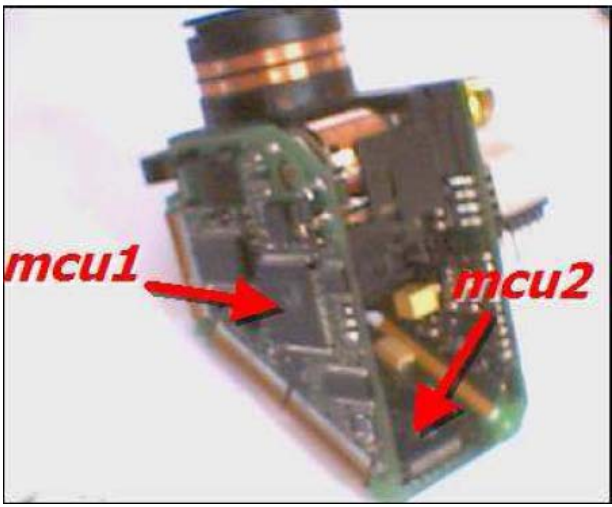
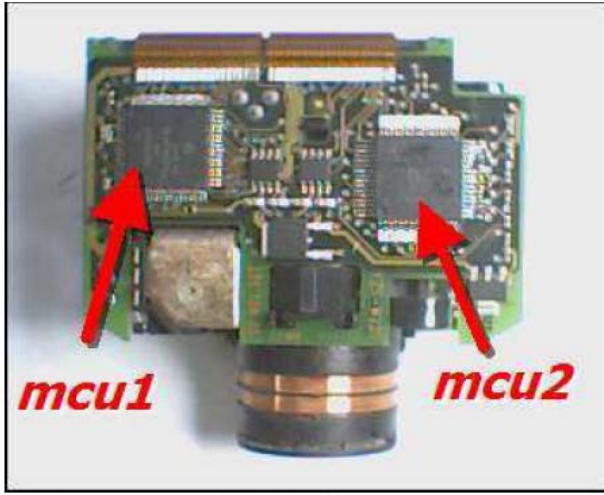
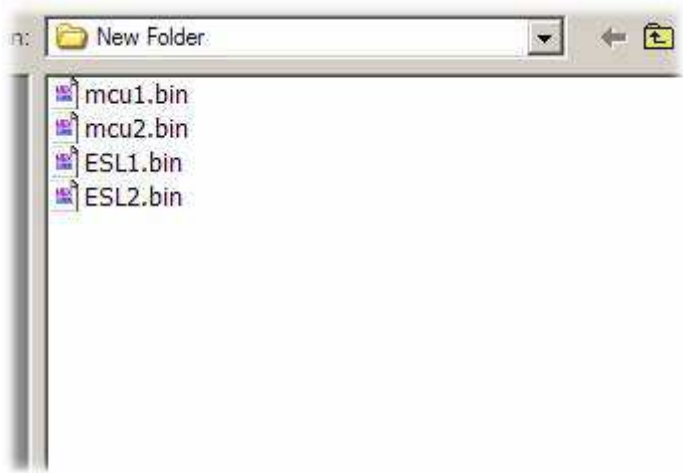
File Read/Write

- Load BIN File
- Save BIN File

How to use it Example for W210 /W202 /W208/ OLD W220 All type under year 2000 need

only to modify (EIS and ESL for 210) and (EIS and ESM for W220) First we have to read 2

MCU from EIS / ESL or ESM and save both as BIN file

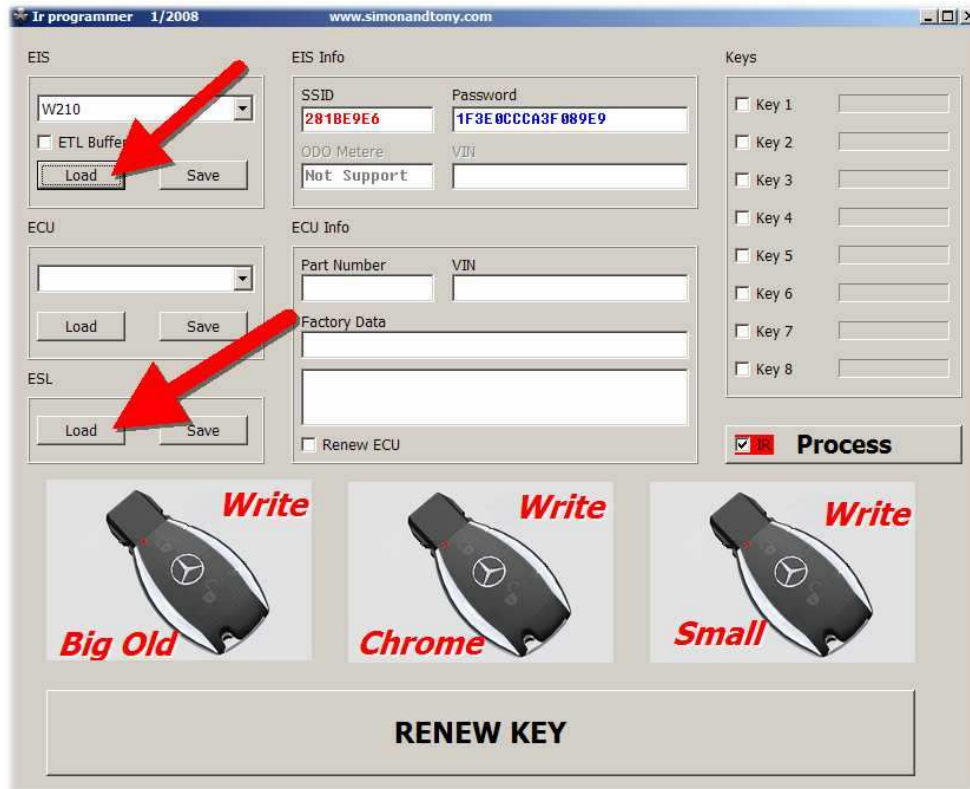




choose EIS type

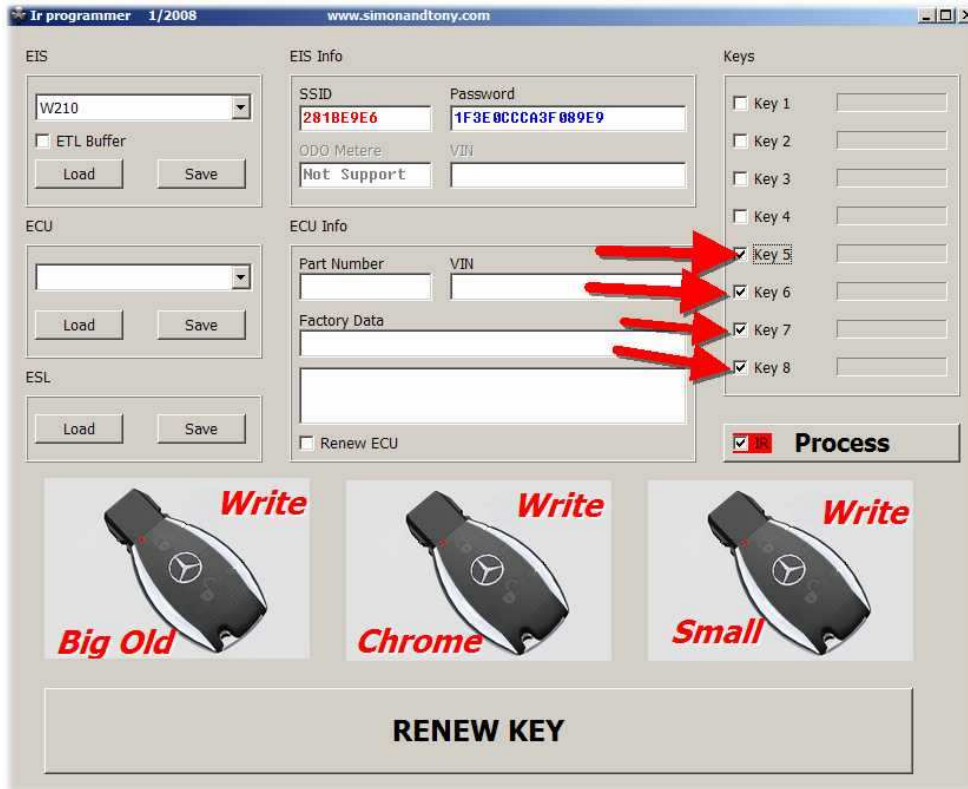


1-load EIS mcu1 load ESL ESL1 or ESM chip93c56

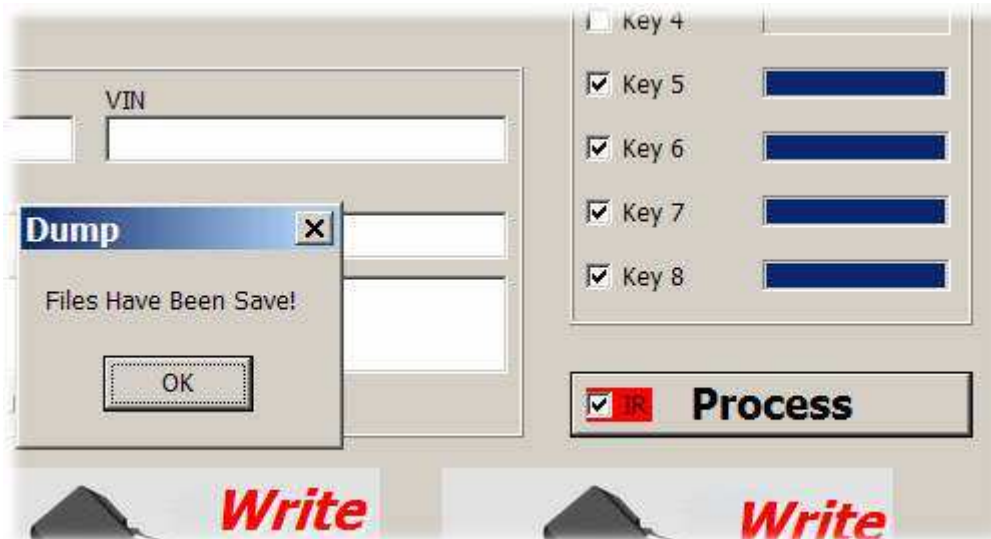


SSID and Pass appear Choose key to generate we choose as example

keys 5/6/7/8



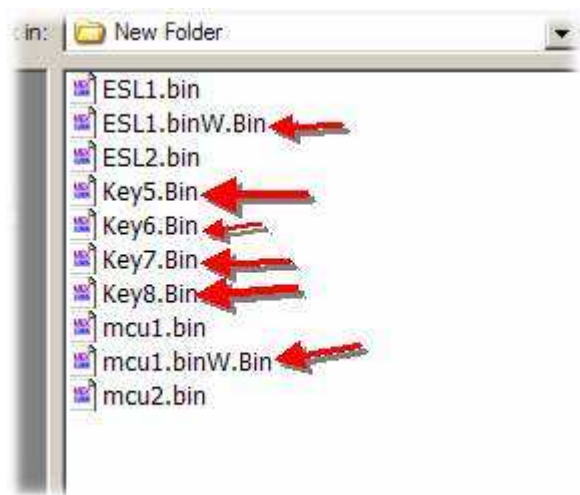
press Process



Files Have been Save, message appears to inform you that

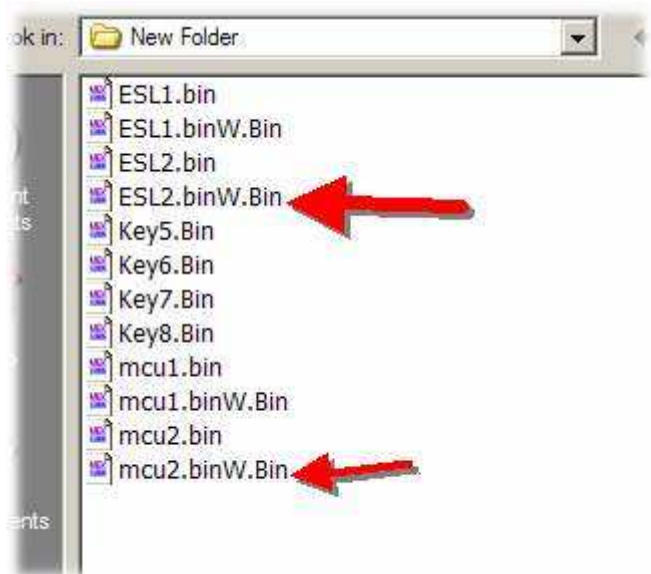
Mcu1 and ESL1 are modified and saved in the same folder, and the keys

5/6/7/8 had generate and saved in the same folder



2-Load EIS mcu2 and ESL2 choose keys 5/6/7/8 then Press Process

Files Have Been Save message appears to inform you that Mcu2 and ESL2 are modified and saved in the same folder



Write all modified dumps to chip and MCU

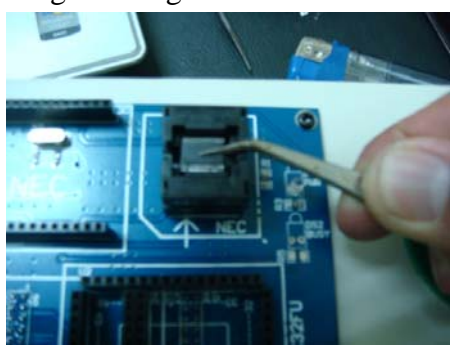
Now we have end from modifying dumps and generating the keys.

### Programming the key

Choose the key model



Programming via NEC



Programming via IR



COM Port

COM2

Connect Port

Coil Power

Auto Power

Reset H/W

On

Programming

Write Via IR To Key

Test Key

Exit

IR dialoge appear select free COM port and press connect port

COM Port

COM2

Close

IR H/W connect

Coil Power

Auto Power

Reset H/W

On

Programming

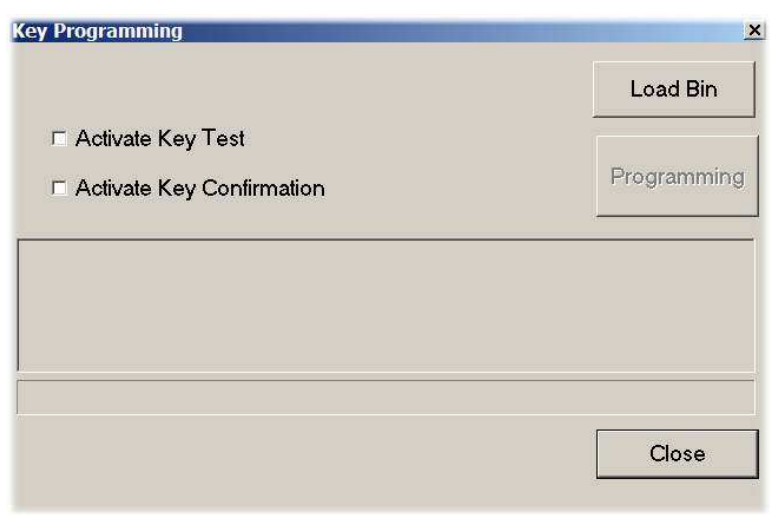
Write Via IR To Key

Test Key

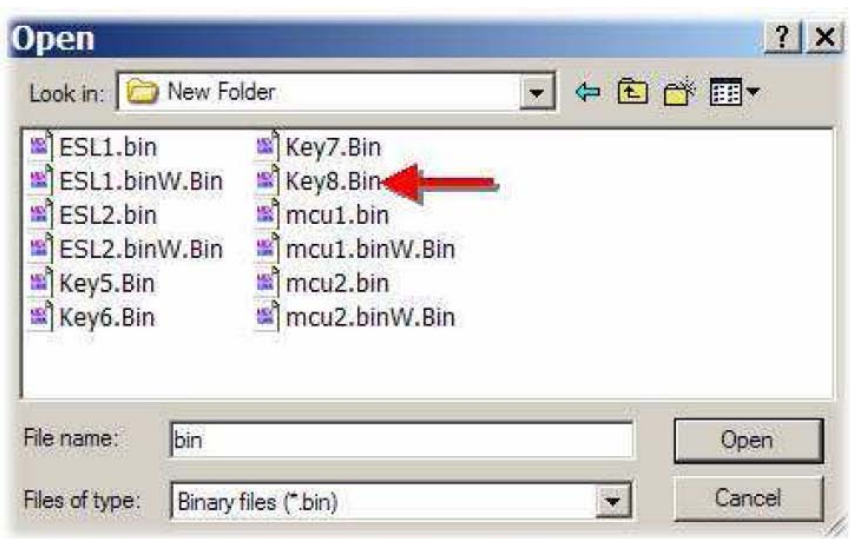
Exit

message ( IR H/W connect ) must appear . if no't check cabel or select eerror port . press (Write Via IR To Key)

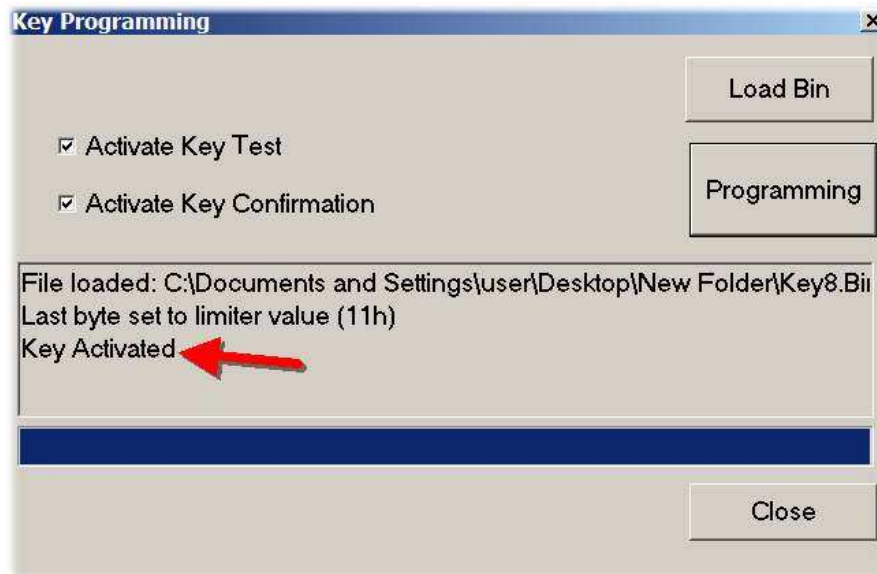




Key Programming dialog appear ,press load BIN to load key bin file from folder .



active tow check box and press (Programming ),after few second ( Key Activated )



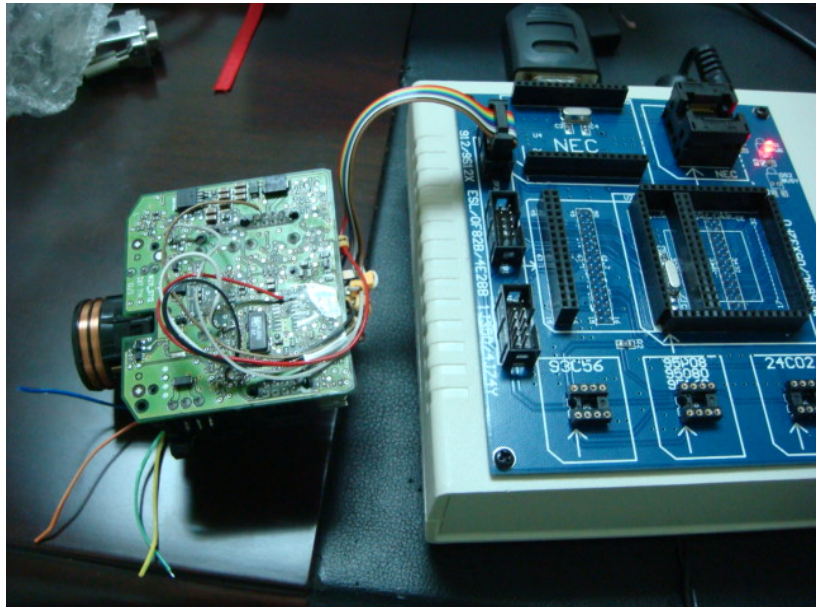
Programming Key Activated Insert key into EIS , key LED on thin off that mean key programming is end and you can run the car .

W211 ex :

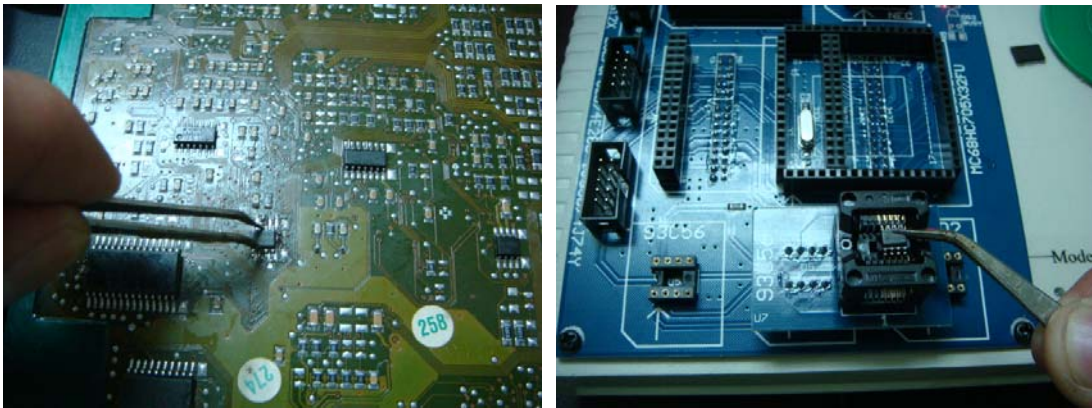
Remove ECU ,ESL /EVL , ECU ,



1. Read EIS / EZS with 912 /9S12 port ,no need take out CPU from EIS.



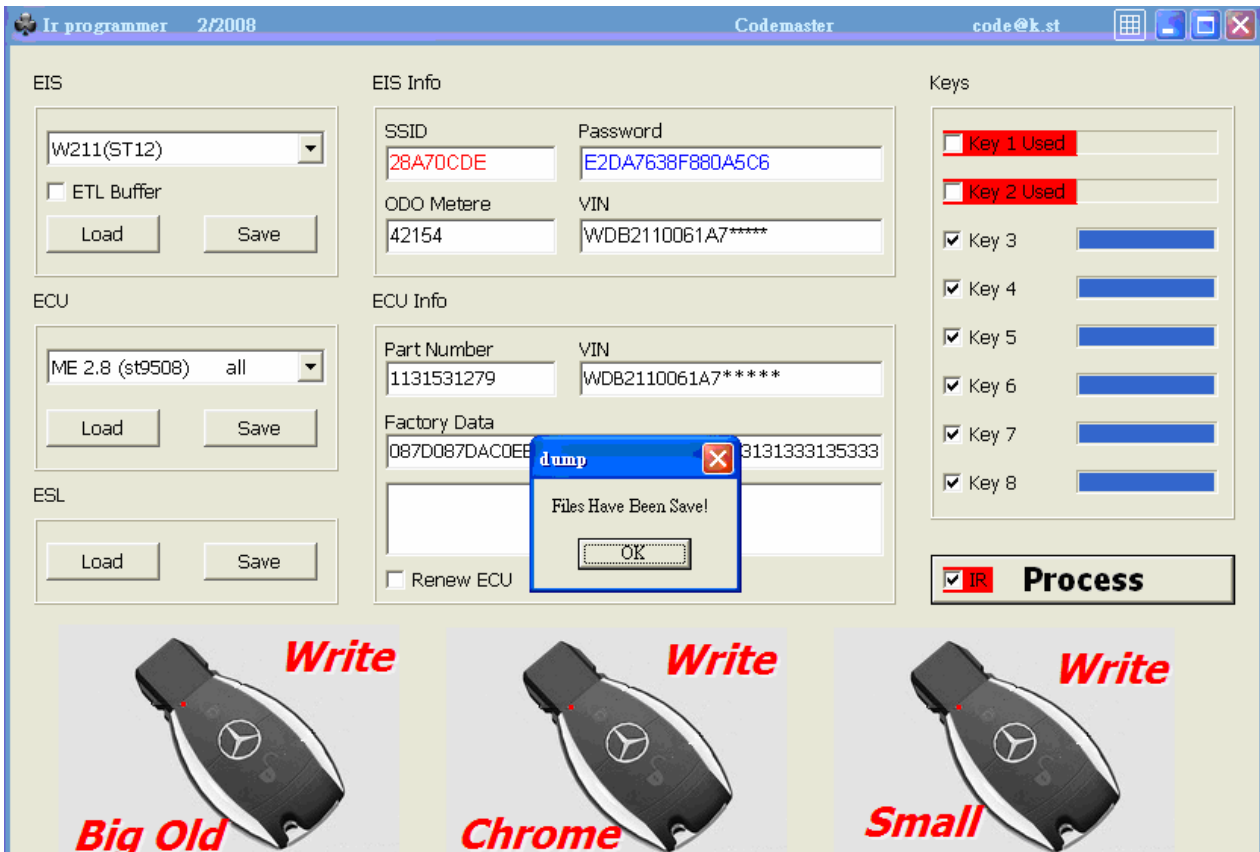
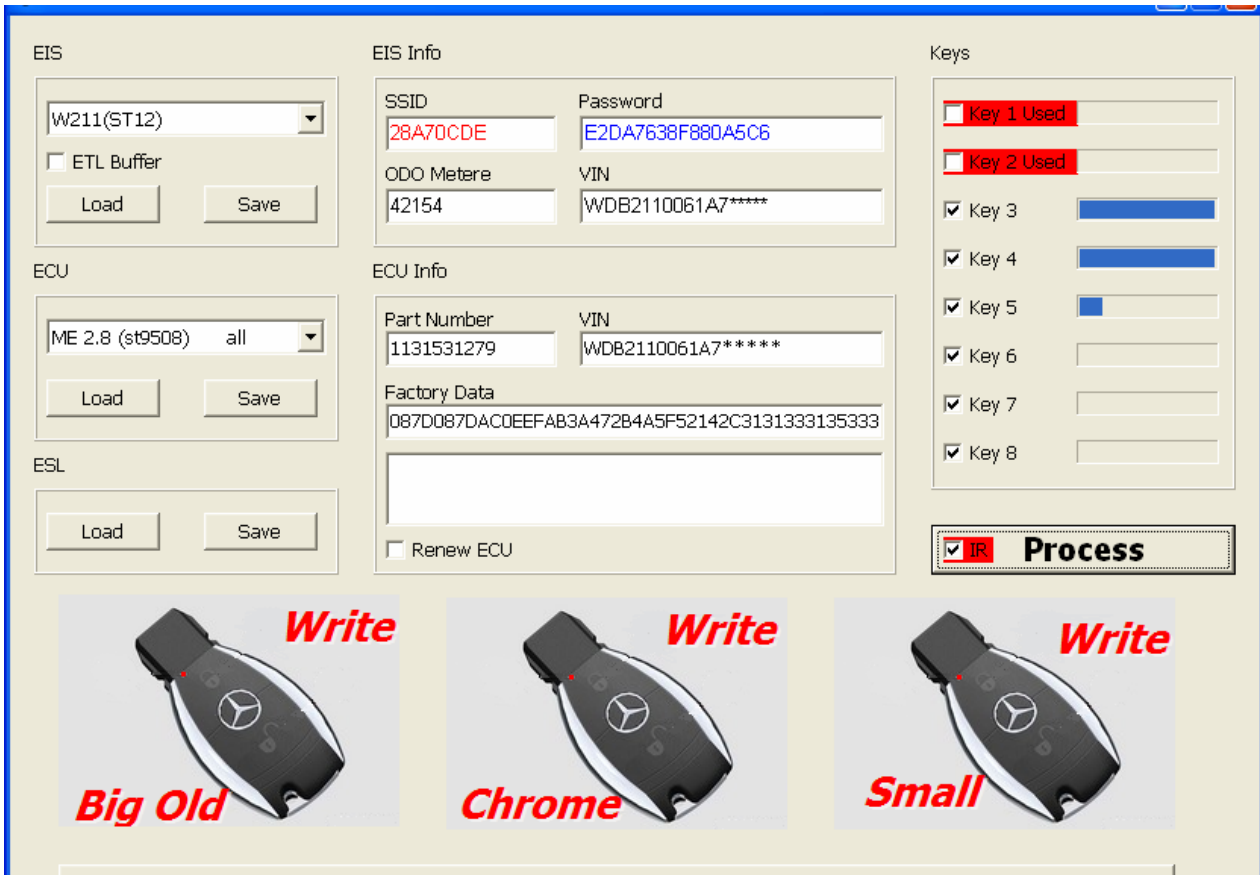
2. Read ECU with 95p08 port.



3. Read ESL / EVL via K-line , no need take out ESL / EVL from the car.



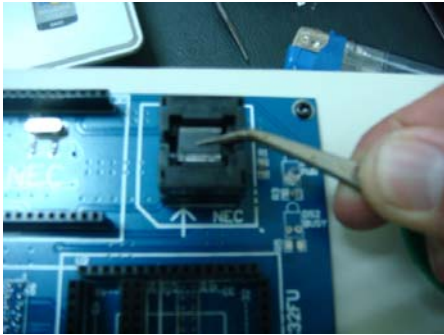
4 .Load ECU / EIS /ESL data in to the IR software



5 . Write back NEW EIS / ESL /ECU data

6. Programming the key ( renew the key frst if the key is used ) P9~P15

Programming via NEC



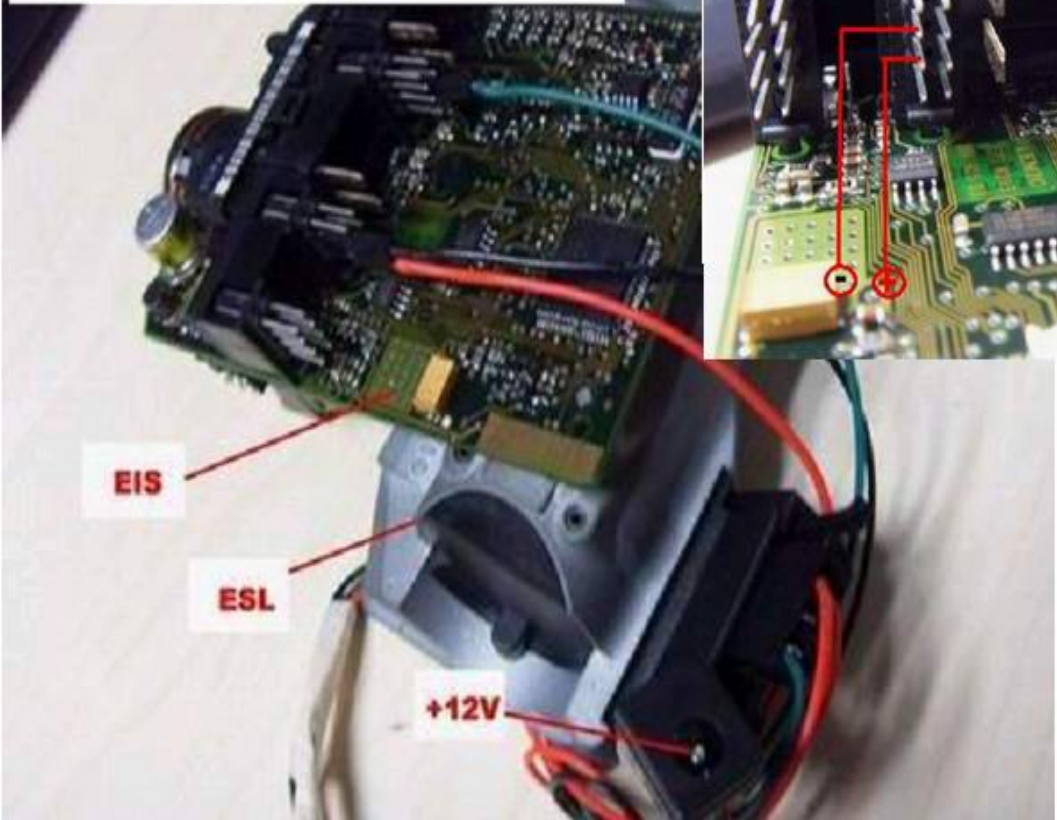
Programming via IR



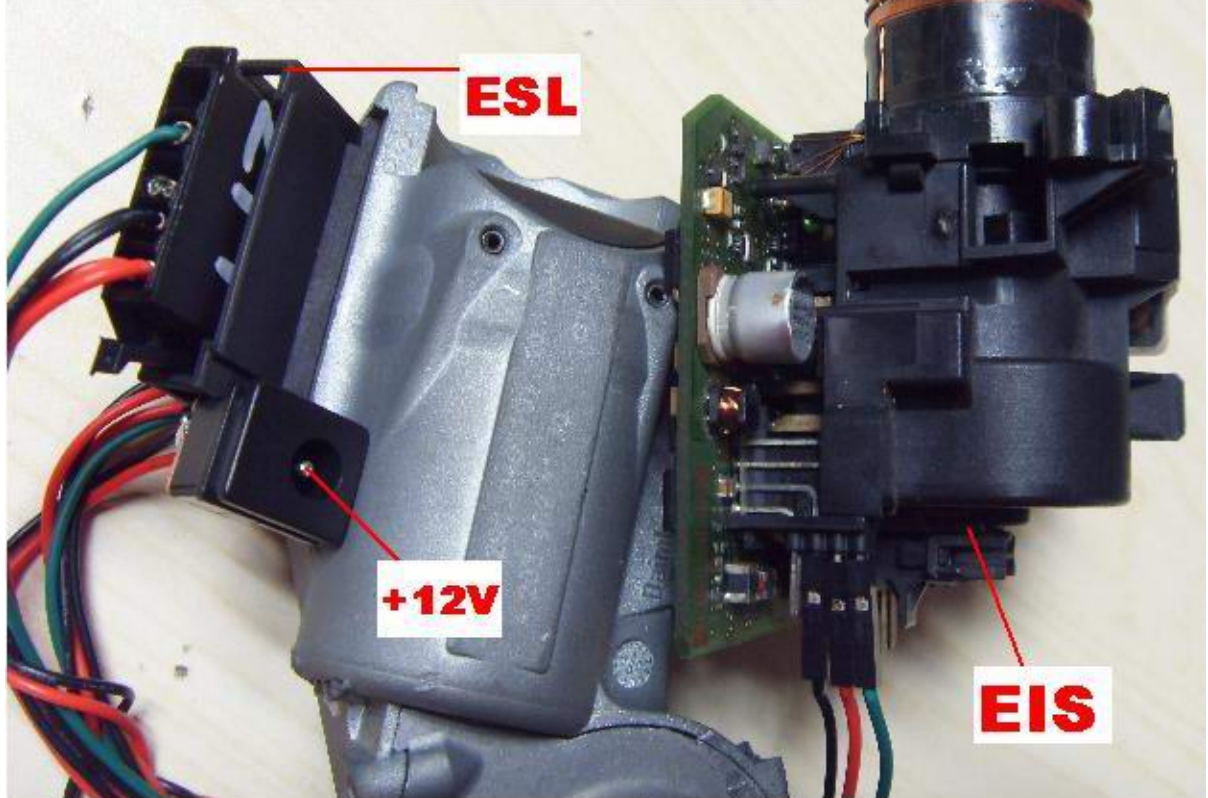
**7. Start the car !!!**



### W203 EIS-ESL connect



### W211 EIS-ESL connect



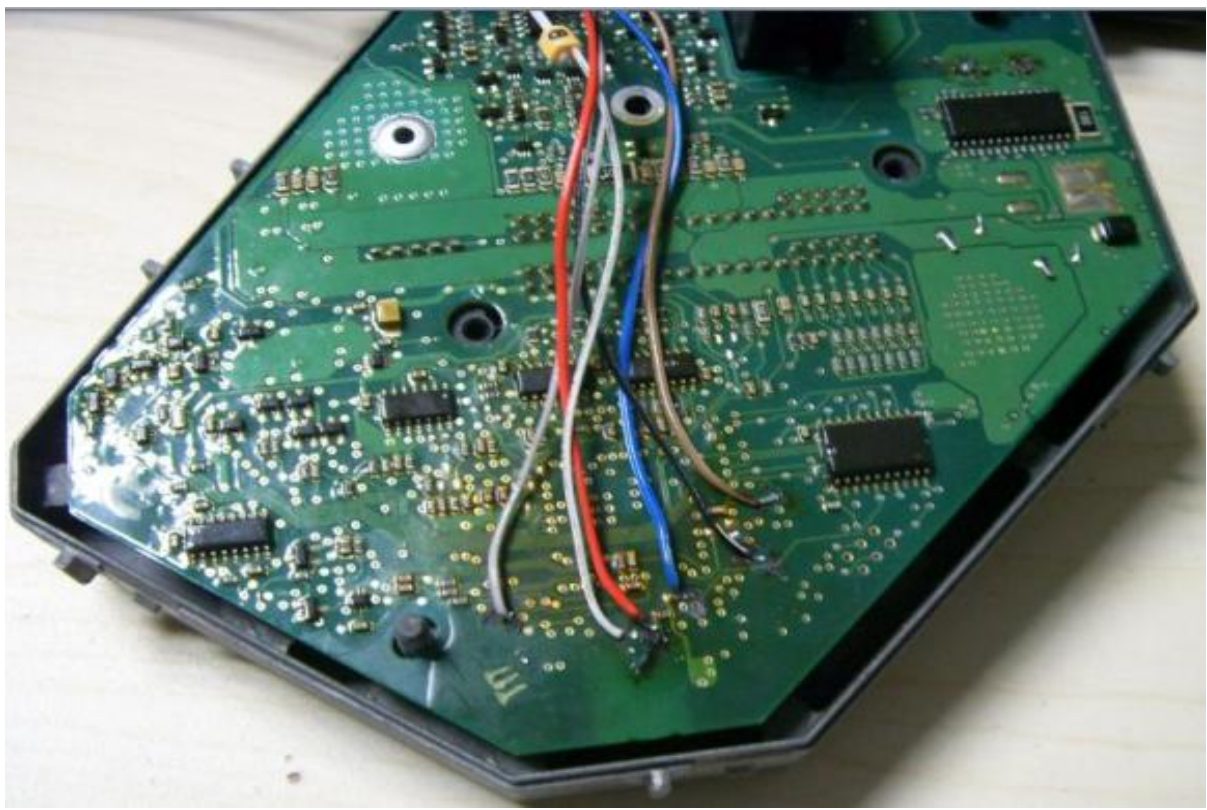


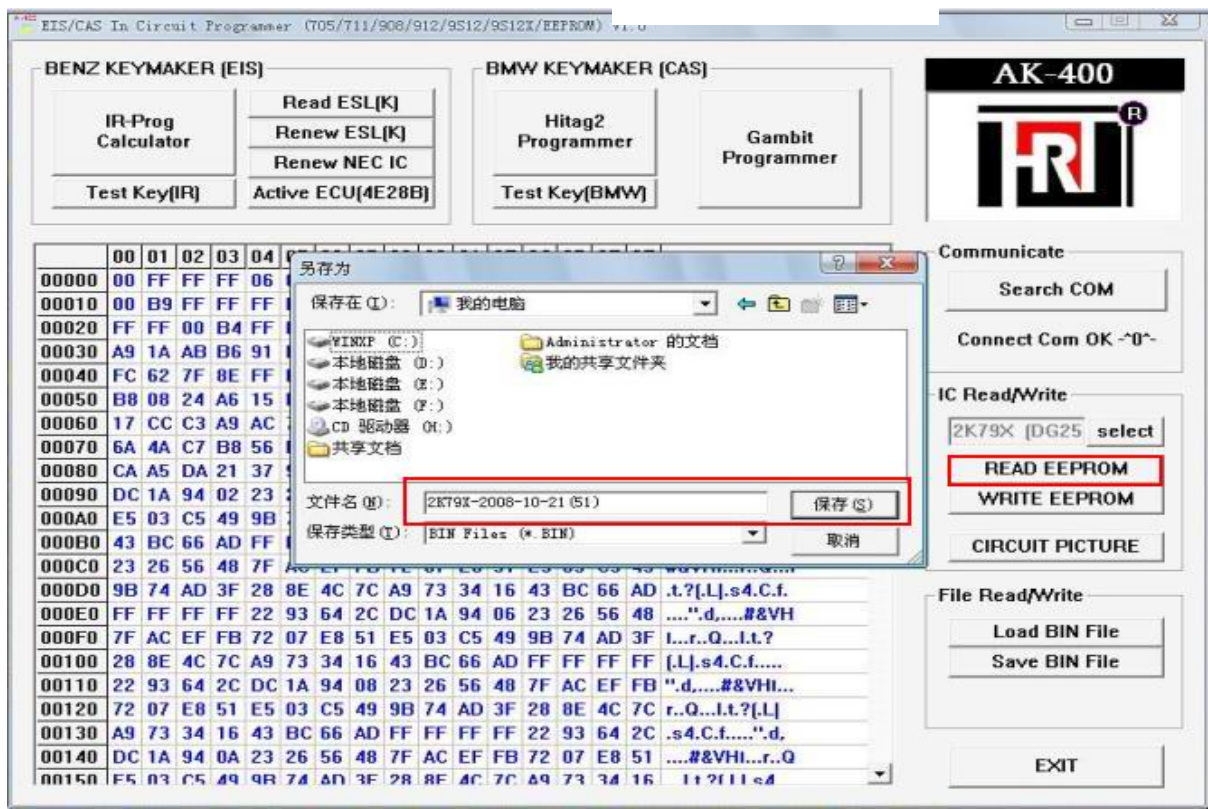
## 1 select MCU type:

The screenshot shows the 'EIS/CAS In Circuit Programmer' software interface. The main window has several sections: 'BENZ KEYMAKER (EIS)' with buttons for 'IR-Prog Calculator', 'Test Key(IR)', 'Read ESL(K)', 'Renew ESL(K)', 'Renew NEC IC', and 'Active ECU(4E28B)'; 'BMW KEYMAKER (CAS)' with buttons for 'Hitag2 Programmer', 'Test Key(BMW)', and 'Gambit Programmer'; and an 'AK-400' logo. An 'IC Select' dialog box is open, displaying a table of IC types. The '2K79X [DG256]' entry is highlighted with a red box. To the right of the dialog is a control panel with buttons for 'Search COM', 'Connect Com OK ->0-', 'READ EEPROM', 'WRITE EEPROM', 'CIRCUIT PICTURE', 'Load BIN File', 'Save BIN File', and 'EXIT'.

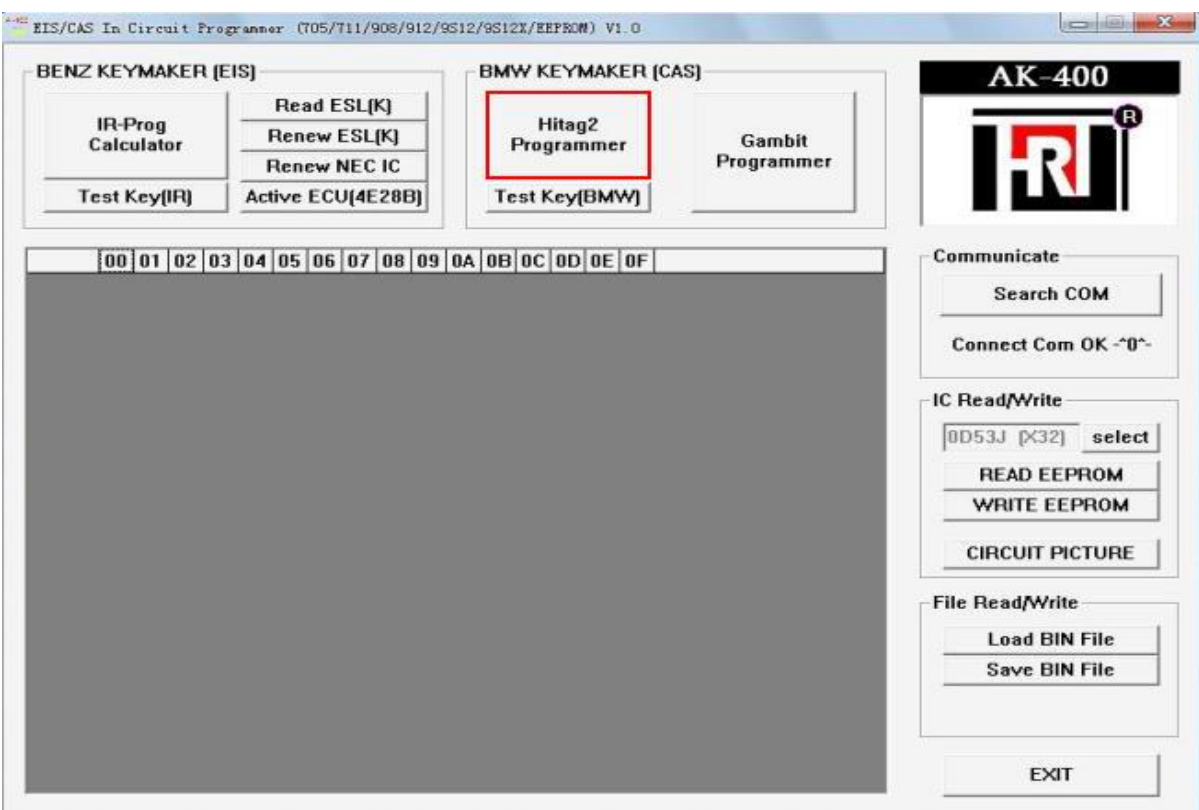
| HC705   | HC711      | HC908  | HC912   | EEPROM  | OTHER                                     |
|---|------------|--|---|---|---|
| 0D53J [X32]<br>0D62J [X16]<br>0D69J [X32]<br>0F62J [B16]<br>0F82B [E6]<br>0G47V [X32]<br>0G72G [E6]<br>0H51A [E6]<br>1D59J [X32]<br>1D69J [X32]<br>2D20J [B16]<br>2D59J [X32]<br>ESL-K [E6] | 4E28B [E9] | 1J35D [AZ60]<br>2J74Y [AZ60]<br>4J74Y [AS60] | 0K50E [DG128]<br>0L01Y [DG256]<br>0L15Y [XDP512]<br>0L51J [D60]<br>0L85D [DB128]<br>1K79X [DT256]<br>1L00M [DP512]<br>1L15Y [XDP512]<br>1L59W [DG128]<br>1L85D [DG128]<br><b>2K79X [DG256]</b><br>2L86D [D64]<br>3K91D [DC128]<br>3L40K [DG128]<br>4L00M [DP512]<br>912 [NoLock]<br>9S12 [NoLock]<br>9S12X [NoLock] | 24C02 [ECU]<br>24C04 [ECU]<br>93C56 [ESM]<br>95080 [ECU]<br>95160 [ECU]<br>95320 [ECU]<br>95P08 [ECU] | BMW-1 [KEY]<br>IR-KEY[KEY]<br>NEC-1 [KEY] |

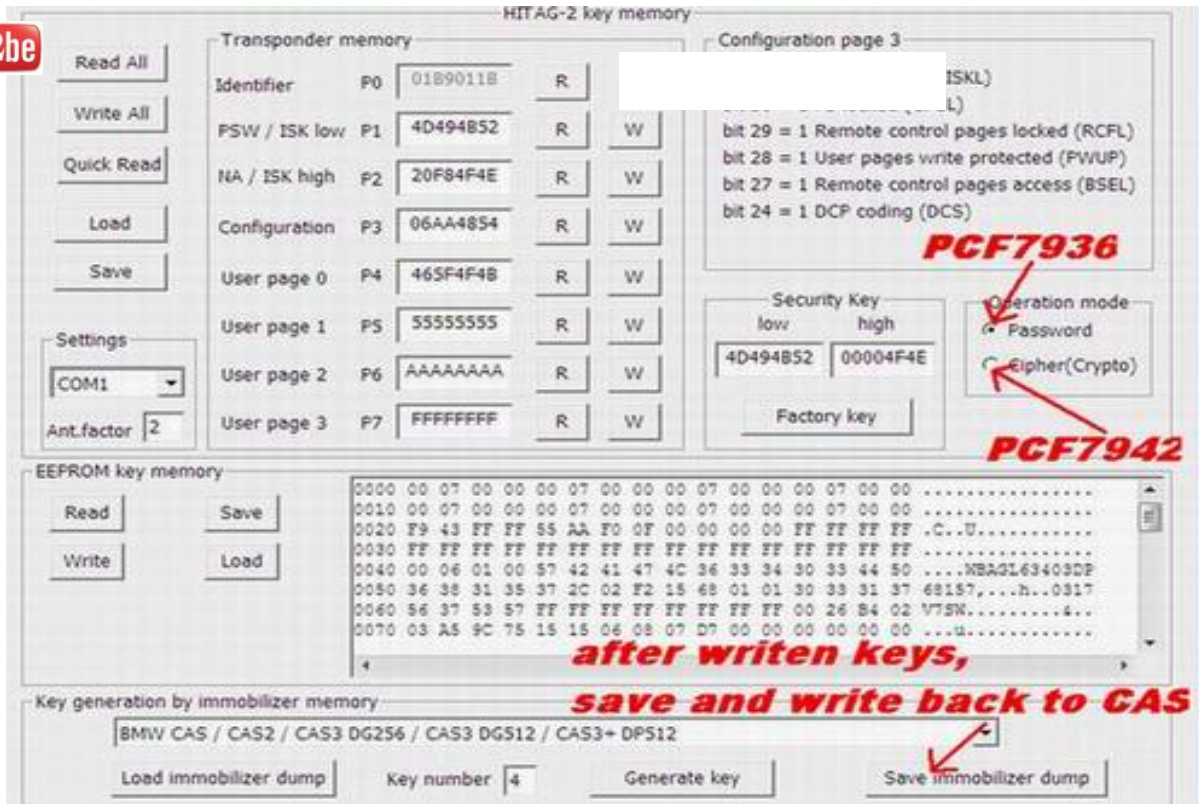
## 2 soldering cable for MCU like picture:





4 open "Hitag2Programmer" and select Mode:

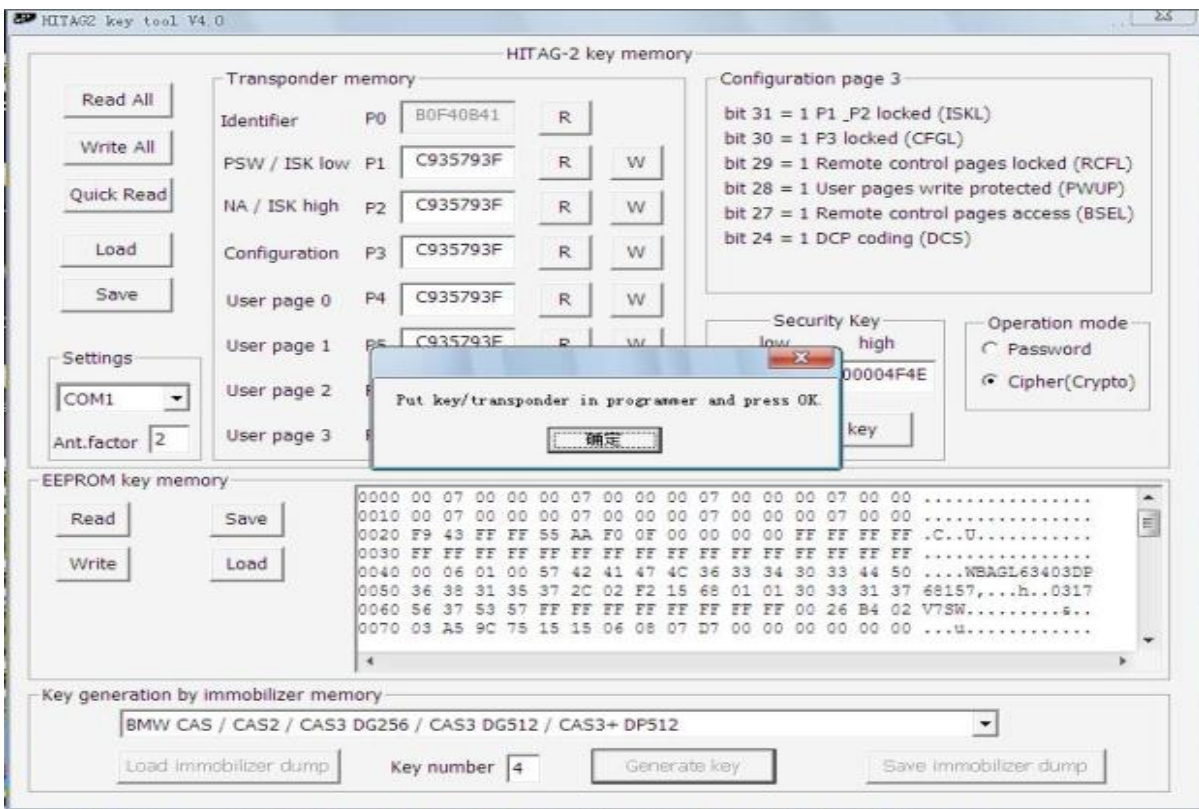




5. Load eeprom of CAS,select keys number



6. Programming Keys:





8. load and write back new data of eeprom for CAS:

EIS/CAS In Circuit Programmer (T05/T11/908/912/9S12X/9S12X/EEPROM) V1.0

**BENZ KEYMAKER (EIS)**

- IR-Prog Calculator
- Read ESL[K]
- Renew ESL[K]
- Renew NEC IC
- Test Key[IR]
- Active ECU[4E28B]

**BMW KEYMAKER (CAS)**

- Hitag2 Programmer
- Gambit Programmer
- Test Key[BMW]

**AK-400**

Communicate

- Search COM
- Connect Com OK ~0~

IC Read/Write

- 2K79X [DG25 select]
- READ EEPROM
- WRITE EEPROM
- CIRCUIT PICTURE

File Read/Write

- Load BIN File
- Save BIN File
- EXIT

|       | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F                  |
|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------------------|
| 00000 | 00 | FF |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00010 | 00 | B  |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00020 | FF | FF |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00030 | A9 | 1A |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00040 | FC | 62 |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00050 | B8 | 01 |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00060 | 17 | C  |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00070 | 6A | 4  |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00080 | CA | A  |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 00090 | DC | 1A |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 000A0 | E5 | 0  |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 000B0 | 43 | B  |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 000C0 | 23 | 2  |    |    |    |    |    |    |    |    |    |    |    |    |    |                     |
| 000D0 | 9B | 74 | AD | 3F | 2B | 8E | 4C | 7C | A9 | 73 | 34 | 16 | 43 | BC | 66 | AD .t?{L}.s4.C.f    |
| 000E0 | FF | FF | FF | FF | 22 | 93 | 64 | 2C | DC | 1A | 94 | 06 | 23 | 26 | 56 | 48 ....".d.....#&VH |
| 000F0 | 7F | AC | EF | FB | 72 | 07 | E8 | 51 | E5 | 03 | C5 | 49 | 9B | 74 | AD | 3F l...r.Q...l.t?   |
| 00100 | 28 | 8E | 4C | 7C | A9 | 73 | 34 | 16 | 43 | BC | 66 | AD | FF | FF | FF | FF (.L).s4.C.f..... |
| 00110 | 22 | 93 | 64 | 2C | DC | 1A | 94 | 08 | 23 | 26 | 56 | 48 | 7F | AC | EF | FB ".d.....#&VHI... |
| 00120 | 72 | 07 | E8 | 51 | E5 | 03 | C5 | 49 | 9B | 74 | AD | 3F | 28 | 8E | 4C | 7C r...Q...l.t?{L}  |
| 00130 | A9 | 73 | 34 | 16 | 43 | BC | 66 | AD | FF | FF | FF | FF | 22 | 93 | 64 | 2C .s4.C.f.....".d  |
| 00140 | DC | 1A | 94 | 0A | 23 | 26 | 56 | 48 | 7F | AC | EF | FB | 72 | 07 | E8 | 51 ....#&VHI...r.Q  |
| 00150 | F5 | 03 | C5 | 49 | 9B | 74 | AD | 3F | 28 | 8E | 4C | 7C | A9 | 73 | 34 | 16 l.t?{L}.s4       |

9now, start car with this key!!!