

Instructions and Applicable Mac Models

The packing list of EBC-820 includes a main device (Mac Assistant), an EBC U disk and two data cables)

EBC-820 is designed for Apple Mac repair (Applicable models are iMac, Mac mini, MacBook Air, and MacBook Pro). Mac Assistant is used for checking the working condition of the motherboard of Apple Macs, and find the fault points of the motherboard by displaying the codes, which can save lots of time for Mac repair technicians and enthusiasts.

Mac Assistant

There are 2 different data cables for different mac models and years, both cables are designed for Mac Assistant.

Applicable Mac models and years:

MacBook Air: A1370 year 10-11, A1465 year 12-14, A1369 year 10-11, A1466 year 12-14,

MacBook pro: A1425 year 12-13, A1398 year 12-14, A1502 year 13-14

Mac mini: A1347 year 12-14

Mac Assistant can accurately find out the fault points of the motherboard. By checking the working condition of the chips, the motherboard can be repaired quickly.

Mac Assistant can be connected directly to the SAM connectors through the data cables without powering the motherboard, easy and convenient.

EBC U DISK(Why do we need it: 1, you need to add a new serial number if you want to replace the motherboard, 2. you need to add a new serial number if you flash a new BIOS data, 3. you can use it to inquiry the original serial number of the motherboard after replacing a new bottom case)

1. It can inquiry the serial number of the motherboard
2. You can use it to add new serial number for the motherboard
3. You can use it to add and inquiry the serial numbers in a very simple and fast way

Mac Assistant: The error codes and the way to diagnosis

Let's take MacBook Pro A1398 year 14(model 820-3787-A) as an example

1. CPU with error codes 0-0C-0d, 0,

(1.1 If the codes changing from a series of other numbers to "0", it means that the motherboard has tested itself and can work properly.

1.2 If the code "0" appears as soon as we power the motherboard, and it remains unchanged, that means the motherboard is not running)

Repair methods and ideas: firstly, check the working condition of CPU and PCH(circuit of CPU U0500:PPVCC10_S0_CPU, =PP1V5R1V35_S0_CPU, =PPVCC_S0_CPU, and circuit of PCH U1100: =PP1V05_S0_PCH_VCC, =PP3V3_S0_FET, =PP1V5_S0_REG)

1.3 If the CPU chip is damaged, then replace with a new CPU chip

1.4 If the PCH chip is damaged, then replace with a new PCH chip

1.5 The damage of each peripheral control chips causes the CPU not working

2. Memory with error codes 0-0C-0d-32, 0-0C-0d-38, 0-0C-0d-RR, 0-0C-0d-Rb,0-0C-0d-RC, 0-0C-0d-23-28

Repair method and idea:

2.1 Firstly, check the working condition of the memory chips(=PPDDR_S3_REG , PPVREF_S3_MEM_VREFDQ_A , PPVREF_S3_MEM_VREFCA_A , =PP1V5R1V35_S3_MEM_A , =PPVTT_S0_MEM_A , MEM_RESET_L , MEM_A_CLK_P<0> , MEM_A_CLK_N<0>)

2.2 If the memory chips damaged, the replace with new chips

2.3 If the CPU chips damaged, the replace with new chips

3. Graphics chip with error codes: 0-0C-0d-38-46-55 , 0-0C-0d-28-12

Repair method and ideas:

3.1 Firstly, check the working condition of graphic chip, (circuits of GPU U8400 are =PPVCORE_GPU , =PP1V35_GPU_FBVDDQ , =PP1V05_S0GPU_REG , =PP3V3_S0GPU_MISC_FET , =PP3V3_S0GPU_FET) . Secondly, check the working condition of the video memory chip

3.2 If the graphic chip damaged, then replace with a new one

3.3 If the video memory chip damaged, then replace with a new one

4. The normal displayed devices with codes 0-0C-0d-38-46-55-12-51,0-0C-0d-28-12-51-58-95-96-68, 0-0C-0d-23-28-12-58, 0-0C-0d-56-46-28-12-51-58

When the code ends with 51 or 58 after running, yet the screen still not displaying:

1. change a new screen, 2. check the screen cable, 3. check the screen connector on the motherboard)

Meaning of the indicators on Mac Assistant

CLK: it keeps lighting after powering on, otherwise the CLK is damaged

RST: it will light out 1 sec later after turning on the device, if not, then the reset circuit is broken.