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"biwa.ne.jp is now a defunt website.   *(Thanks to Wondershare for providing the tool for this service).*

Repair Macintosh SE/30

This guide details the symptoms, diagnoses, solutions and preventions of various hardware issues of the Apple Macintosh SE/30.

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I. Disassemble the Mac SE/30 Box

II. Trouble Shooting

In any case, it is worth trying to remove dust, clean connectors and slots or re-solder parts on the boards. Try easy things first. Just removing dust, cleaning connectors or re-soldering parts may solve the problem. If anything doesn't work, then replace parts or boards.

III. References

IV. Where and How to Get Repair Parts

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I. Disassemble the Mac SE/30 Box

1. Caution and Warning

Before working inside the Macintosh SE/30, turn off the power and disconnect the AC power cord.
The SE/30 contains high voltage (1,500 Volts), a high-vacuum cathode ray tube (CRT) and sensitive electronic parts.

To prevent serious injury, the first thing you have to do is to discharge the CRT. Discharging the CRT before working on it lessens the chance of an electric shock.
Some later compact Macs containing CRTs have a bleeder resistor on the anode that drains the charge when the power is turned off. However, if the resistor fails, the anode may retain a charge. Thus, you must perform the discharge procedure.
Never touch the anode connector or the anode aperture, that can regain some charge even after it has been discharged.

Secondly, you must be careful not to break the fragile CRT neck. Do not pick up or handle a CRT by its neck, where the tube is the thinnest. To prevent an implosion, take every precaution against breaking the CRT.
Wearing safety goggles is preferred when working with a CRT. The CRT contains a high vacuum. If cracked or broken, the CRT can implode (collapse into itself) and scatter fragments of glass.

Thirdly, precautions are required not to break IC and LSI chips on the board by electrostatic damages.

Go ahead at your own risk. Nobody can take responsibility for you.

2. Take apart SE/30

Tools required:
1. long Torx T-15 screwdriver
2. small (minus or plus) screwdriver
3. pull-apart tool (a.k.a. case opener, case spreader or case cracker)
4. discharge tool

One of my pull-apart tools is simply a spring clamp marked "Pony 3201 Made in USA". I bought a Mac opener kit from APS long ago. This Mac opener kit consisted of a long Torx driver, a pull-apart tool and a grounding wrist strap. The jaws (closed) of the clamp measure 3/4 inch (19 mm) wide and 1/16 inch (1.6 mm) thick. Just insert the jaws and squeeze. You can find a similar tool at any hardware or hobbyist shop or Home Depot or Office Depot. Instead of the pull-apart tool, you can use a medium to long flat-blade screwdriver to open the computer's case. But use it carefully not to damage the case.
You can also find a long Torx T-15 screwdriver at any hardware or hobbyist shop, Home Depot or Office Depot.
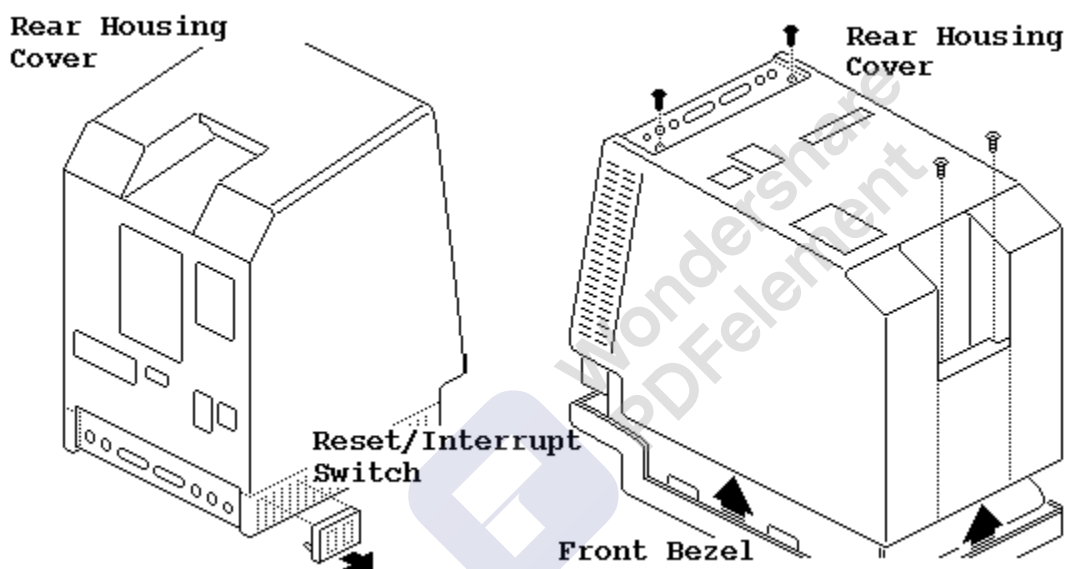
(1) Using a small screwdriver, pry off the reset/interrupt switch on the left side of the case.
(2) Using a long Torx screwdriver, remove the four case screws and separate the rear housing cover from the chassis with a pull-apart tool.
(3) Carefully lift up the rear housing cover and set it aside.
(4) Remove the paper insulating shroud from the bottom of the computer. It may come out with the rear housing cover.

Replacement Note:
Reinstall the two black case screws in the bottom of the cover and the two silver-colored case screws in the top of the cover.

3. Discharge CRT
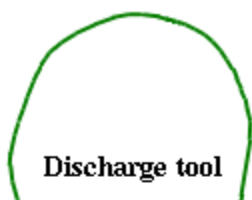
If you are working on a compact Mac that contains a CRT (just like SE/30) and incorrectly discharge the CRT to the metal chassis, you may destroy the logic board.

You must discharge to the ground lug!

YOU MUST DISCHARGE TO THE GROUND LUG!

(1) Attach the clip of the CRT discharge tool to the ground lug of the Mac.

(2) Touch the discharge tool probe to the anode aperture.
(2-1) Put one hand behind your back, and grasp the handle of the discharge tool with your otherhand.
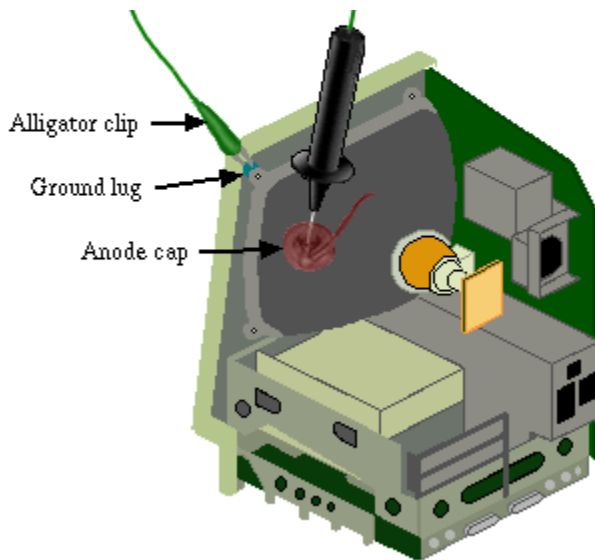(2-2) Hold the CRT discharge tool to the tube surface, and slide the tool probe under the anode cap until the probe touches the anode aperture.
(2-3) Remove the probe of the CRT discharge tool from under the anode cap.

4. Discharge Tool

There are two official CRT discharge tools distributed by Apple.
One version is the Apple CRT Discharge Tool (Part No. 076-0381) for later compact Macs and monitors. This version features a stainless steel alligator clip, thicker insulation, and a hand guard. No internal resistor is installed, so the tool gives auditory feedback (the electrostatic crack) to assure the technician, when discharging any monitor without a bleeder resistor, that the CRT is indeed discharged.
The other one is the older version of the Apple CRT Discharge Tool (Part No. 076-0243). The older version has a copper alligator clip but no hand guard. It has a built-in 100-megohm resistor, which means you will not hear an electrostatic crack when the CRT discharges, even if the monitor has no bleeder resistor. This older tool was designed for the original Macintosh or Macintosh Plus logic board. A resistor was installed to diminish the impact of the electrostatic discharge if a technician accidentally discharged the CRT to the metal chassis instead of to the ground lug. (The Macintosh logic board circuitry is grounded to the chassis.) This older tool is safer for use on the Macintosh or Macintosh Plus CRT.
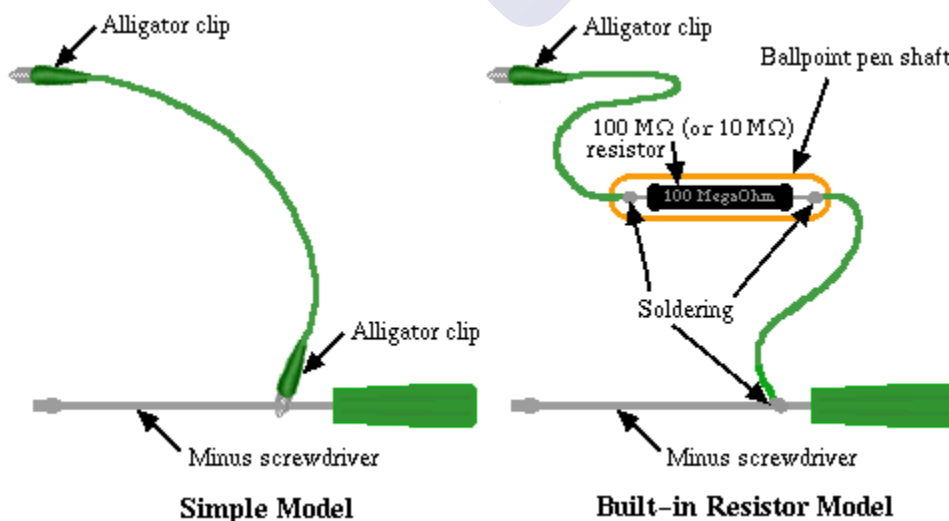
Getting these official Apple tools is difficult, unless you are an Apple authorized technician

But you can make a discharge tool with a screwdriver, clips, a 100 (or 10) meg ohm resistor, a ballpoint pen shaft (the outer tube of a ballpoint pen) and some wires. Insulating the resistor and its leads with the ballpoint pen shaft prevents careless short between the anode and other components.

The Simple Model and the Built-in Resistor Model in the left figure are corresponding to the Apple Newer and Older Discharge Tools, respectively.

5. Bleeder Resister and Flyback Transformer

The high voltage (1,500 Volts) on the anode of the CRT is supplied by the flyback transformer on the analog board. Do not touch the flyback transformer. Do not touch the yoke assembly, yoke cable/connector, high voltage cable and anode connector, either.

Several flyback transformers have been used for compact Macs as shown Table below.
Normally, Macintosh SE/30 contains a flyback transformer with a built-in bleeder resistor, and it automatically discharges the transformer, i.e., CRT when the power is shut off. However, old and/or used SE/30s may have been modified or repaired. The flyback transformer may be replaced by an older version. Thus, for your safety, you must perform CRT discharge procedures.
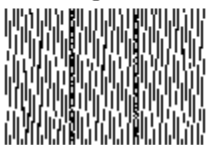
Manufacturer	Parts Number	Macintosh Model
Non-Bleeder Type Flyback Transformer		
ZFAT	AC-058	128K, Early 512K
Taiwan Totoku Electric Co.	157-0026-B	128K, Early 512K
Tai-Ho/Taiwan R.O.C.	TH-1565	Late 512K, 512Ke, Early Plus
Monitron/Taiwan R.O.C.	157-0026-B	Mid Plus
Bleeder Type Flyback Transformer		
Monitron/Taiwan R.O.C.	157-0026-C	Late Plus
Tai-Ho/Taiwan R.O.C.	TH-1565C	Mac SE
Lifon/Taiwan R.O.C.	157-0042-A	Mac SE, Repaired analog board, SE/30
Lifon/Taiwan R.O.C.	157-0042-B	Mac SE, Repaired analog board, SE/30
Lifon/Taiwan R.O.C.	157-0042-C	Mac SE, Repaired analog board, SE/30

II. Trouble Shooting

1. SimasiMac (Horizontal Stripes)
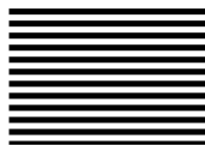

Simasima means a zebra-like stripe pattern in Japanese. OYU!(HHD00612@niftyserve.ne.jp) and Shunsuke Suzuki(VZD03711@niftyserve.ne.jp) nicely named Macintosh SE/30 with this problem SimasiMac. We SE/30ers in Japan call it SimasiMac.

Symptoms
(1) Early Symptoms
　　No startup bongs
　　Irregular fine rasters, usually vertical although variable
　　Delay of startup after power-on
　　Unexpected intermittent restart
(2) Terminal Symptoms
　　No startup
　　Horizontal stripes

Diagnosis and Background
On startup, Power-ON reset signals are generated endlessly.

Solutions
First of all, please try solutions (1), (2) and (3). It is easy.
(1) Check and clean connections between SIMMs (ROM-SIMM) and SIMM (ROM-SIMM) slots, and restart.
(2) Remove PDS card(s) such as an accelerator card if installed, and restart.
(3) Check the battery. Replace it with a new one if voltage is low, and restart.

If nothing above works, try solutions (4), (5) or (6) AT YOUR OWN RISK. You NEED soldering and desoldering skill.

Chip capacitors soldered on the original logic board

Radial lead type capacitor

It is difficult to get chip type capacitors at retail shops. You can use lead type electrolytic capacitors.

(4) Replace electrolytic capacitors C6 (1μF 50V) and C7 (47μF 16V) on the logic board with new ones. Surface mount chip type capacitors are soldered on the original logic board. But you can use miniature radial lead type capacitors instead.
Anyway, be carefull about desoldering and soldering procedures not to break circuit patterns on the board. Make sure the polarity of electrolytic capacitors before soldering.
If you find liquid leak or corrosion of other capacitors, it is a good idea to replace them or all electrolytic capacitors with new ones.

Macintosh SE/30 was introduced in 1989 and discotinued in 1991. Electrolytic capacitors have been degraded after years.

(5) If solution (4) doesn't work, pull up the sound IC chip (UB11). You can see letters "SONY 0F09G 3430045B APPLE85" or "SONY 9A04 3430045B APPLE85" printed on the chip. To pull up the IC chip, connect pin 7 to pin 15 of the chip with a 1 kilo ohm resistor.
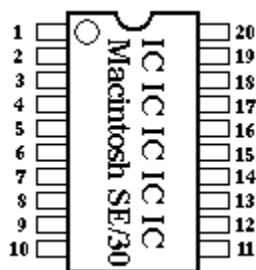
Numbering of IC Pins:
IC pins are numbered counterclockwise. Pin 1 is located at the corner marked by a small circle or dot on the chip.

(6) If solution (5) doesn't work either, replace the network filter RP2 (Bourns 4120R-601-250/201).
Also see 9. Bright Monitor with neither Arrow Pointer nor Startup

Replacement of chip type electrolytic capacitors solves the SimasiMac problem in most cases.

Even if you don't have capacitor-related troubles, it's a good idea to replace them.
C1, C3, C4, C5, C7, C8, C9, C10, C12, C13: 47μF 16V
C6: 1μF 50V

2. A Bright Vertical Line in the Black Monitor

Symptoms
When starting up Mac SE/30, only a bright vertical line is shown in the black monitor. The width of the vertical line is approximately 5 mm. During start-up, you can see moving raster patterns in the vertical line. You can hear spinning sound of the hard disk drive also. The hard drive seems to be OK, and the vertical line seems to show the startup picture though very compressed to 5mm in width.

Diagnosis
The horizontal sweep circuit on the analog board is broken.
Ageing and/or cracks in the soldering of either (1) P1 connector, (2) C15 electrolytic capacitor (3.9uF, 35V, 85degree C, HighFrequency, NonPolar) or (3) L2 variable inductor on the analog board is the major cause of the problem.
The most frequent cause is soldering failure of the P1 connector due to ageing and/or cracks. In this case, you will see the burnt and/or charred P1 connector.

Solutions
The first thing to do is to check the connector, capacitor or the inductor, and then desolder, clean and resolder them. If the problem still persists, replace the parts with new ones.

3. A Fine Vertical Line in the Black Monitor

The First Thing To Do Is To Turn Off The Power!!!!!!!!!!!

Symptoms
Mac SE/30 shows a fine vertical line in the black monitor. In addition, you may be able to see and/or smell smoke coming up from the SE/30. It's burning. Shut off the SE/30 immediately, and pull out the power plug.

Diagnosis
The horizontal sweep circuit on the analog board is broken.
The R19 resistor (220 ohm, 1/4W, 5%) on the analog board is burnt out.

Solutions
Check the R19. If it is burnt, cracked and/or charred, replace it with a new one.

4. Herringbone Pattern Regardless of Startup

Symptoms

When turning on the SE/30, the monitor is wavy and shows herringbone rasters. Sometimes with startup bong and smile Mac, sometimes without startup bong nor smile Mac.

Diagnosis

One cause is a trouble of the flyback transformer on the analog board at reference T2. The T2 flyback transformer is shielded by a metal cage, and a cable with an anode cap is attached on its top.

For SE/30, three versions of the flyback transformer were used as listed below.

157-0042A
157-0042B
157-0042C

You can identify the version/parts number by the label attached on the side of the flyback.

This trouble has been found most frequently in the early lots of SE/30, in which the 157-0042A flyback was installed. The later lots of SE/30 even with the 157-0042B or 157-0042C version also can show the same trouble because of ageing and degradation of the flyback transformer.

Solutions

Replace the flyback transformer with new one. Don't use 157-0042A. Use 157-0042B or 157-0042C. Even if the flyback you can get is a used one, check its version.

5. Monitor Black Out with/without Startup
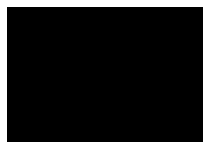
Symptoms

As to the symptoms when turning on the power, there are four types including

(1) Black monitor with startup bong;

(2) Black monitor with startup bong and with spining sound of fan and hard disk drive;

(3) Black monitor without startup bong but with click noise; and

(4) Black monitor without startup bong and without click noise.

Diagnosis

The most probable cause of this trouble is damage of the CR2/CR3 rectifiers or the Q2 transistor.

Troubles of the T2 flyback transformer sometimes results in this problem.

The broken CR5 rectifier also causes these symptoms, though rarely.

CR2 and Q2 are placed on the outer surface of the metal cage, which shields the flyback transformer on the analog board. The cage metal around CR2 and Q2 is locally discolored/charred, or these parts are exploded by high temperature.

If the CR3 rectifier is damaged by heat, explosion of CR3 usually occurs. CR3 is placed on the inner surface of the shielding metal cage.

When CR3 is damaged but not exploded, the Q2 transistor may be damaged simultaneously. In this case, Q2 is sometimes burnt and sometimes is not.

When Q2 is burnt out but CR3 seems to be OK, the CR5 rectifier is probably damaged.

Even if all CR2, CR3, CR5 and Q2 appear to be OK, the inner circuits of these parts are sometimes destroyed by heat.

Even if all these semiconductors are OK, destruction of the R22 resistor also can cause Symptom(2) as described above (Black monitor with startup bong and with spining sound...).

Solutions
Replace the broken semiconductor or resistor with new one.
CR2 and CR3 (silicon rectifying diode): GI854 (600V,3A). The much better is MR824 (600V, 5A).
CR5 (silicon rectifying diode): 1N4937 (600V, 1A).
Q2 (NPN transistor): BU406 or BU406D (7A, 60W). If you cannot get BU406/BU406D, use RCA SK9085.
R22 (resistor): 470 Kohm, 1/2 W, 5%.

When the SE/30 appears totally dead (black out monitor, no startup bong, no spinning sound, no noise), the major cause of the problems is the power supply (SONY or ASTEC). Check the power supply/power switch with a digital multimeter. If the power supply doesn't work, replace it with another one (new or used).

6. A Bright Horizontal Line in the Black Monitor

Symptoms
(1) The SE/30 starts up and works normaly. After a while, the monitor suddenly blacks out only with a bright horizontal line.
OR
(2) When turning on the SE/30, you can hear the startup bong but see only a bright hrizontal line in the black monitor.

Diagnosis
The vertical sweep circuit on the analog board doesn't work.
The major cause of this trouble is either of (1) connection failure due to ageing and/or cracks in the soldering of the P1 connector, or (2) troubles of the vertical sweep IC chip at reference U2 (12-pin TV, TDA1170A) on the analog board.

Solutions
(1) The first thing to do is to check the P1 connector. If the problem is caused by connection/soldering failure of the P1 connector, you will see the burnt and/or charred P1 connector. Desolder, clean and resolder the P1 connector.
(2) If the problem still persists and the culprit is the U2 IC chip, replace it with a new TDA1170N chip.

When the U2 IC chip is broken, you may see another symptoms such as:
(1) The screen is shrunken to the upper/lower half of the monitor and the opposite half blacks out,
(2) The upper/lower half of the screen is extended in the vertical direction.

7. Checker Flag Pattern

Symptoms
When turning on the power, you don't hear startup bong. The monitor displays the checker flag pattern.

Diagnosis
(1) The most probable cause is connection troubles between the ROM-SIMM and the ROM-SIMM slot.
(2) Another cause is inappropriate installation of RAM-SIMMs. The memory size of RAM-SIMMs in Bank A is smaller than that in Bank B. You recently upgraded the memory but the configuration was wrong.
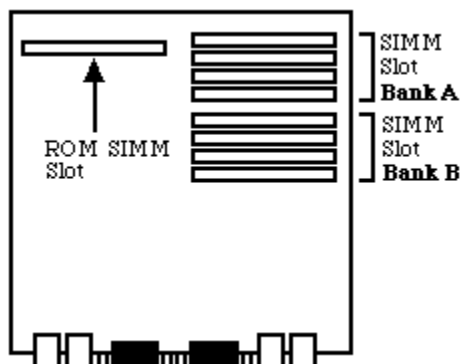
Solutions
(1) Pull out the ROM-SIMM from the ROM-SIMM slot. Clean the ROM-SIMM and the ROM-SIMM slot with volatile cleaner or ethanol. Then connect the ROM-SIMM to the ROM-SIMM slot correctly and tightly.
(2) See "Principles of memory upgrade for the SE/30" in the next section, **8. Jail Bar Pattern or Smile Mac in Jail**.
When you install SIMMs of different memory size, install the larger ones to Bank A and the smaller ones to Bank B. Each Bank requires a set of four SIMMs of the same memory amount.

8. Jail Bar Pattern or Smile Mac in Jail

Symptoms
When you turn on the SE/30, the monitor displays vertical stripes (jail bar pattern) with/without a smile Mac. The memory was upgraded recently. The SE/30 was completely nomal before memory upgrade.

Diagnosis
SIMMs were inserted to the wrong SIMM slots/banks.

Solutions
The working memory configurations for the SE/30 are shown in the table below.
Check and re-insert the SIMMs.

Note 1
The SE/30 has eight RAM-SIMM slots on the logic board: Four slots at Bank A and four slots at Bank B.
Principles of memory upgrade for the SE/30:
(1) Use 30-pin SIMMs.
(2) You need to install a set of four SIMMs of the same memory size to each bank.
(3) When you use only a single bank, use Bank A.
(4) When you install SIMMs of different memory size, install the larger ones to Bank A and the smaller ones to Bank B. You also have to remember that each Bank requires a set of four SIMMs of the same memory amount.
(5) It has been reported that some 2MB SIMMs and some 16MB SIMMs don't work for the SE/30.

Note 2

The SE/30 has a "dirty ROM" that can recognize only 8MB RAM, and the maximum RAM for the SE/30 is 8MB under the normal condition.
But if you install the MODE32 extension file, the SE/30 can recognize up to 128MB RAM.
You can download the MODE32 extension file (click here) from the Apple download site.
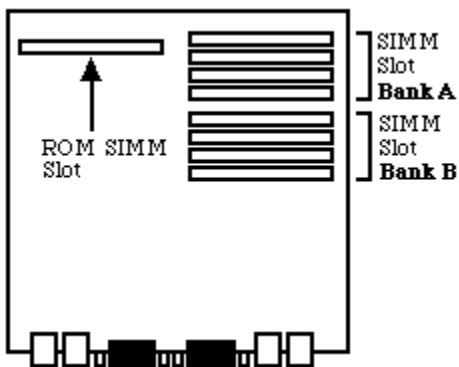
Total Memory	Bank A	Bank B
1MB	256KB x 4	Empty
2MB	256KB x 4	256KB x 4
4MB	1MB x 4	Empty
5MB	1MB x 4	256KB x 4
8MB	1MB x 4	1MB x 4
12MB	2MB x 4	1MB x 4
16MB	2MB x 4	2MB x 4
16MB	4MB x 4	Empty
17MB	4MB x 4	256KB x 4
20MB	4MB x 4	1MB x 4
24MB	4MB x 4	2MB x 4
32MB	4MB x 4	4MB x 4
64MB	16MB x 4	Empty (No Good)
68MB	16MB x 4	1MB x 4
72MB	16MB x 4	2MB x 4
80MB	16MB x 4	4MB x 4
128MB	16MB x 4	16MB x 4

## 9. Bright Monitor with neither Arrow Pointer nor Startup

Symptoms
When turning on the power, you can see bright rasters on the monitor, but neither startup bongs nor arrow pointer comes up.

Diagnosis
The culprit is the network filter located on the logic board at reference RP2.
The model of the chip is Bourns 4120R-601-250/201, M/C 8908L 115-0002 or P9120M115-0006, depending on the lot, year and/or country where the logic board was made.

Solutions
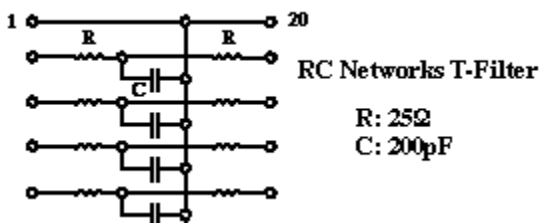
(1)Replace the network filter.

(2)This network filter chip, however, is hard to find/obtain at resale parts shops. If you have a skill to make it yourself, refer the circuit schematic of the filter as shown in the left figure. It is made of sixteen 25 ohm resistors
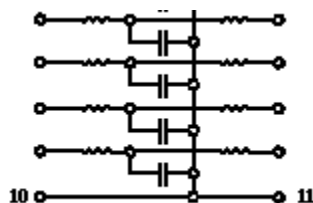
and eight 200pF capacitors. Assemble and solder them on a small IC socket, and then solder this socket on the logic board at reference RP2.
You can download the data sheet of Bourns 4120R-601-250/201 at the Bourns site.

10. An Arrow Pointer on the Left Upper Corner but No Smile Mac and No Startup

Symptoms
When turning on the power of the SE/30, the monitor shows the bright rasters and an arrow pointer appears on the left upper corner. But the monitor doesn't show a smile Mac, and the SE/30 doesn't start up.
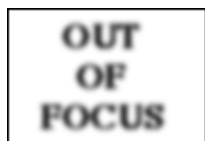
Diagnosis
The most probable cause is a trouble of the SCSI chip on the logic board at reference UI12.
This chip is labeled "NCR 53C80 CP02346 609-3400257 8907N" on the top.

Solutions
Replace the UI12 SCSI chip with new one (44-pin PLCC, 53C80-P44).

11. Monitor Out of Focus

Symptoms
The monitor of the SE/30 is out of focus. Except that, everything is OK.

Diagnosis
The variable resistor at reference R27 on the analog board is not adjusted correctly.

Solutions
Open the SE/30 and look at the vinyl jacket of the analog board. You can see a hole labeled Focus Control.
Adjust the focus using a hex tool (or screw driver) put into the hole.
If you cannot get the best focus only with re-adjustment of R27, replace the R26 (not R27) resistor with new one (1 Mohm, 1/2 W, 5%).

12. Too Bright Monitor with Horizontal Sweep Lines

Symptoms
The SE/30 monitor is too bright, and you can see many horizontal sweep lines.

Even if you adjust the brightness control under the front bezel, the symptom is not improved.

Diagnosis
There are five known causes for this symptom.
(1) The R24 variable resistor on the analog board is not adjusted correctly. This resistor controls the cut-off voltage.
(2) Troubles of the resistors R20 and/or R21 on the analog board.
(3) Troubles of the resistor R25 on the analog board.
(4) Troubles of the IC chip U1 on the analog board.
(5) Troubles of the transistor Q1 on the video board. The video board is a small board where the CRT socket is soldered.

Solutions
(1) On the vinyl jacket of the analog board, you can see Focus Control, Brightness Control, Width Control and Height Control for video adjustments. Using the plastic hex alignment tool (screwdriver may be OK, if you don't have the hex tool) put into the Brightness Control hole, adjust the brightness so that the sweep lines disappear and the monitor shows the best images.
(2) If the above solution doesn't work, replace either or both of the resistors R20 (100 Kohm, 1/2 W) and R21 (1 Mohm, 1/2 W).
(3) If solutions (1) and (2) don't work, replace the resistor R25 (470 Kohm, 1/4 W).
(4) If solutions (1), (2) and (3) don't work, replace the U1 IC chip (74LS38).
(5) If none of the above doesnt't work, replace the transistor Q1 (2N3904, NPN transistor) on the video board.

13. A Bright Pixel at the Center of the Black Monitor

Symptoms
When you turn on the The SE/30, you can see only a bright pixel at the center of the black monitor.
This phenomenon appeared after disassembling and reassembling the SE/30.

Diagnosis
Both horizontal and vertical sweep circuits on the analog board don't work.
Althogh both circuits may be broken simultaneously, this possibility is very small.
This occurs most frequently when you disassemble and reassemble the SE/30. The most probable cause is that the yoke cable does not connect tightly to the P1 connector on the analog board.

Solutions
Disassemble the SE/30 again, and check the connection between the yoke cable/connector and the P1 connector.

14. Wavy Display, Swaying Back and Forth of the Image

Symptoms

Normal startup and normal display. But for a short period, the display is sometimes wavy, and the image is swaying back and forth (or small and large) on the display. Then, the display becomes normal.

Diagnosis

The power supply is getting degraded and unstable with ageing. All components of the SE/30 can be affected by unstability of the power supply. The monitor is most vulnerable, because it requires very high voltage. This symptom, in general, indicates fluctuation of voltage for the monitor.

Solutions

Replace the power supply.
The power supply of the SE/30 (and SE) was made by SONY and ASTEC. The SONY power supply has less trouble than the ASTEC.

III. References

1. Books

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    Larry Pina, Heyden Books, 1990.
(2) The Dead Mac Scrolls.
    Larry Pina, Goldstein & Blair,1992.
(3) Mac Classic & SE Repair and Upgrade Secrets.
    Larry Pina, Peachpit Press, 1993.
(4) Macintosh II Repair and Upgrade Secrets.
    Larry Pina, Brady Publishing, 1993.
(5) Build Your Own Macintosh and Save a Bundle., 2nd Ed.
    Bob Brant, Windcrest/McGraw-Hill, 1992.
(6) Upgrading & Repairing Mac.
    Lisa Lee, Hayden Books,1995.
(7) PC & Mac Handbook: Systems, Upgrades & Troubleshooting.
    Steve Heath, Butterworth-Heinemann, 1996.
(8) Professional Macintosh Repair.
    David Presnell, Prompt Publications, 1996.
(9) Guide to the Macintosh Family Hardware, 2nd Ed.
    Addison Wesley, 1990.
(10) Troubleshooting and Repairing Computer Monitors, 2nd Ed.
    Stephen J. Bigelow, McGraw-Hill, 1996.

2. Magazines

(1) OPEN DESIGN No.2, Macintosh Interface and Networking (in Japanese).
    CQ Publishing, 1994.

3. CD-ROMs

(1) Apple Service Source v2.0 CD-ROM.

Apple, 1997.

4. Mailing Lists

(1) se30ers mailing list (in Japanese).
Maintained by Junichi Takeuchi, the president of **The SE/30ers of Japan, Enthusiasts for Macintosh SE/30**.

5. Forum and BBS

(1) OldMac SIG Library in the Mac Users Forum of NiftyServe (in Japanese).

6. Other Documents

(1) Other various technical documents.

IV. Where and How to Get Repair Parts

Listed in alphabetical order.

1. Parts and/or Used/Refurbished Macs

Alltech Electronics
Electronic Surplus Online
GALAXY
ICN (Innovative Computer & Networking)
MacResQ
Mac Sale International
MacSensei
MacVizion
MacWorks
MediaGuide
MC Computers
MP Computers
NEXCOMP
PowerBook1
Power ON
Shreve Systems
Sun Remarketing
Symmetry Computers
Timco Computers
Union Electronic Distributors
Vintage Computer

2. Memories

A & R Computing
Eritech

HBR Enterprises
Memory Lane
Memory Technologies Texas
MicroExchange
Source Computing

3. Web Auction

eBay Computer, Search Keywords=(SE/30,SE30,SE-30)

4. Search on the Web

Google
Go to Google, and put "Macintosh parts" or "Mac parts" or anything you like for keywords. You will find a lot of parts/used Mac stores on the Web.

V. Acknowledgment

Thanks All Mac/Computer Wizards, Gurus, Geeks, Nerds, Maniacs, Enthusiasts and Devoutees.

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