

Introduction to Mac Triage and Troubleshooting

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Welcome!

- I'm Mike Solin - @flammable on Twitter.
- I've been an Apple Certified Macintosh Technician since 2008, and I've worked for two different Apple Authorized Service Providers in Philadelphia.
- Starting mid-May, I'll be working here at Penn State as a Mac Systems Administrator in the Classroom And Lab Computing department.

Let's get started.

- Goal of session: Quick Diagnostics
- Save time, save money

Quick Fixes: Overview

- Reset the PRAM
- Reset the SMC
- Swap RAM

Reset the PRAM

(Parameter Random Access Memory)

- You can do this on any Mac.
- Clears out many settings:
 - Screen resolution, brightness, date and time, volume, network, and more.
- Useful when: blank or blurry screen, time not sticking, no sound.

How to: Reset the PRAM

1. Turn on the computer.
2. Immediately hold Command, Option, P, and R until you've heard two chimes.
3. Release all keys and let the machine boot.

Reset the SMC (System Management Controller)

- Intel Macs only.
- The SMC handles power-based functions - unlike the PRAM, you do not set these.
- Useful when: machine not powering on, battery not charging.

How to: Reset the SMC

Portables with a removable battery

1. Shut down the computer.
2. Unplug the power adapter and remove the battery.
3. Press and hold the power button for 5 seconds.
4. Reconnect the power adapter and battery.
5. Press the power button to turn on the computer.

How to: Reset the SMC

Portables with a built-in battery

1. Shut down the computer.
2. Press (left side) Shift, Control, Option, and power button.
3. Release all of the keys at the same time.
4. Press the power button to turn on the computer.

How to: Reset the SMC

Desktops

1. Shut down the computer.
2. Unplug the power cord.
3. Wait 15 seconds.
4. Plug in the power cord.
5. Press the power button to turn on the computer.

Swap RAM

- Easy and cheap! Keep the spare chips when upgrading machines.
- Useful when: error beeps at startup, powers on but doesn't boot.

Software vs. Hardware

- Determine if there is a hardware or software problem by booting to a known good OS.
 - I recommend a USB hard drive - a flash drive is even better (minimum 16 GB).
 - Install a clean OS, update, install utilities.
 - NetBoot is great for this, if it's available.
- If the problem also occurs in your known good OS, you're probably looking at a hardware problem.

Software Troubleshooting

- Boot into Safe Mode: hold down the Shift key at startup. This clears caches and enables only the essentials.
- Reinstall the latest Mac OS X Combo Update.
- Reinstall the OS.
- Nuke preferences, check the Console logs, etc.

Still doesn't work?

- Quick fixes didn't help.
- You've determined it's not a software problem.
- One more thing before you send out the machine...

Liquid Spills

- Happen all the time.
- Not covered by AppleCare!
- Usually not worth fixing the machine.
- When you swap RAM, it's a good time to take a closer look.

Detecting a Liquid Spill

- Check for stains on the outside of the computer, especially on the keyboard and by the ports.
- Inspect the logic board for stains or corrosion.
- Does the computer smell overwhelmingly like wine or coffee?
- Is the computer dripping? (Yes, I have seen this.)

Vintage, Obsolete, & Otherwise

- Many computers just aren't worth fixing.
- Almost all of these computers were brought in for repair:









Just kidding :)

Q & A

Resources

- Marc Asturias and Moira Gagen. Desktop and Portable Systems: A Guide to Supporting, Servicing, and Troubleshooting Apple Computers. 3rd edition. Berkley: Peachpit Press, 2007.
- Accelerate Your Mac. <http://xlr8yourmac.com>
- Apple's Support Website. <http://apple.com/support>

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