Upgrade iMac Intel Core i3 CPU to Core i7

Upgrade mid 2010 27 inch Apple iMac from a Core...

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INTRODUCTION

Upgrade mid 2010 27 inch Apple iMac from a **Core i3** 3.2GHz (Dual core) to **Core i7** 2.93GHz (Quad core) processor.

I used this guide for disassembly and reassembly.

http://www.btobey.com/learn/imac-ssd-ins...

Also added a 3TB SATA drive and 32Gb of RAM to max out this system under Lion 10.7

- Update : Removed the 3Tb SATA drive and replaced with 512Gb SSD and upgraded to Mountain Lion 10.8
- If you upgrade or change the HD, you will need to buy HDDFanControl software to control the HDD fan which will run at full speed otherwise.
- April 2013 - 1 year later : This system has been absolutely ROCK SOLID with no crashes, no kernel panics and no freezes!
- April 2014 - 2 years later : now running OS X 10.9 Mavericks successfully with zero issues. System continues to be fast - but is starting to show its age compared to Sandy Bridge, Ivy Bridge and Haswell architectures! Newer apps are starting to creak at the seams & the beachball is now a fixture.
- April 2015 - 3 years later. Yosemite 10.10.3. Continuity works but Handoff does not (lacks built-in Bluetooth LE v4.0). Not as fast as my Haswell Macbook Pro or 2010 Xeon 12 proc Mac Pro, but still rock solid. With these simple mods, I have gained years of additional service out of this "obsolete" machine!
- May 2016 - 4 years later. Running El Capitan 10.11.5 . Only Handoff does not work (see above) but everything else is rock solid. New Notepad app rocks as does a stable version of Apple Mail (at last), and now that the abomination that was 'discoveryd' is dead and the tried and true 'mDNS-Responder' is back, networking is stellar once again. The system continues to amaze with its longevity.
- August 2016 - 4+ years later. Now running Sierra 10.12 Beta 2 with zero issues other than the usual beta bugs.
- November 2017 - It’s been 5 years since I did the upgrade and I still use this iMac in anger every day! Now running a OWC 1TB SSD and High Sierra 10.13 with APFS. Machine has been absolutely flawless!
- September 2018 - It’s been 6 years, yes SIX years! since I did the upgrade and I still use this iMac in anger every day! Now running Mojave 10.14 with APFS, using Dosdude's Mojave Patcher. Please note - this 2010 iMac (11,3) built in video card is *NOT* Metal compatible so video acceleration is DISABLED with Mojave which makes your iMac screen refresh sluggish, Photos to go black and other graphics anomalies but everything else is stellar. Dark Mode makes the upgrade worth it.
- Don’t install Mojave or Catalina on this machine. It will barely run and the experience is terrible. This quote is from DosDude1 himself: “Radeon HD 5xxx and 6xxx series video cards are not, and most likely never will be, supported under Mojave or later.“
- March 2019 - I have abandoned using Mojave 10.14 on this 2010 27” iMac. The slow GPU makes it completely unusable. I’m back to High Sierra 10.13 with APFS, 1TB internal SSD and 32Gb RAM. This appears to be my optimal configuration for this 2010 27” iMac

TOOLS:

Arctic Silver ArctiClean (1)
Arctic Silver Thermal Paste (1)
Heavy-Duty Suction Cups (Pair) (2)
Pro Tech Toolkit (1)

PARTS:

Intel Core i7 870 2.93GHz 8MB LGA 1156 Quad Core Processor 95W (1)
CPU

Step 1 — CPU

- Start by gathering your parts, tools, anti-static strap and gloves (gloves are for glass & LCD)
- Remove glass
- Then remove LCD. iFixit has step-by-step- write-ups on how to do this.

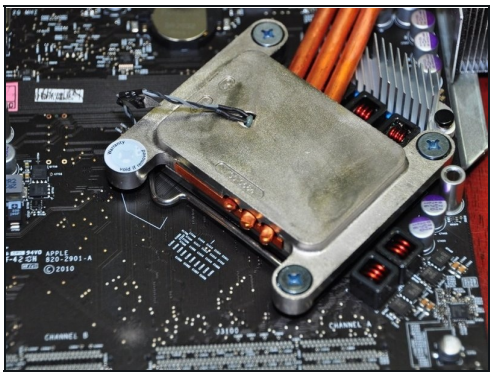
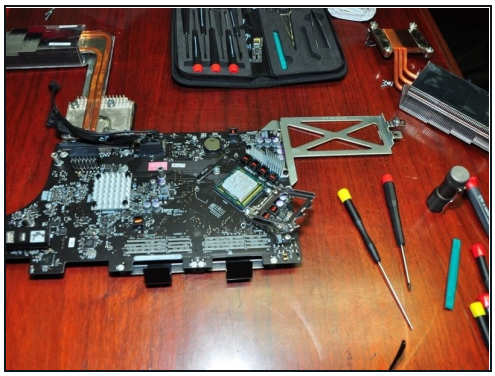
Step 2

- Core i7 2.93GHz Quad Core processor, Arctic Silver thermal compound and iFixit + OWC tools
- Processor is Intel Core i7 870 2.93GHz 8MB LGA 1156 Quad Core Processor 95W. I bought this CPU used on eBay.
- http://ark.intel.com/products/41315/Inte...

Step 3

- Remove HD, Superdrive and motherboard. Follow the excellent iFixit guides to remove these items.
- To remove motherboard (a little tricky), I followed this excellent guide - http://www.btobey.com/learn/imac-ssd-ins...
- Not mentioned in the guide is that you have to remove the IR sitting in back of the front Apple logo before you can remove the motherboard.

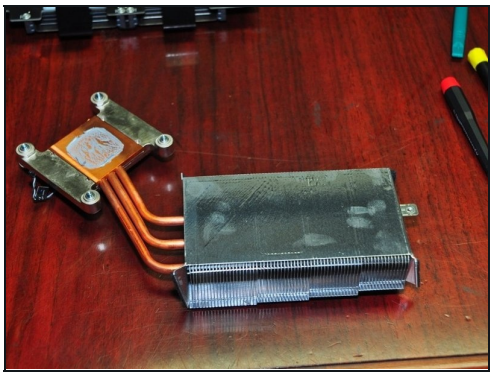
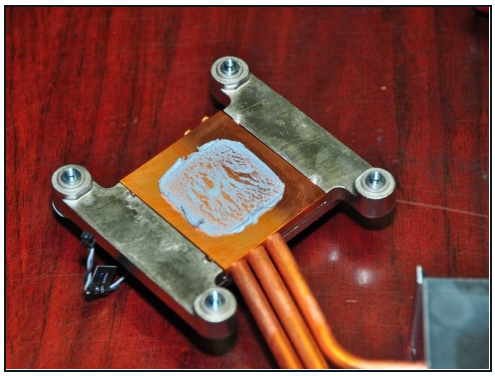
Step 4

- Flip over motherboard, gently remove 4 x Torx 8 heatsink screws on the bottom (not the big Phillips screws on the top).

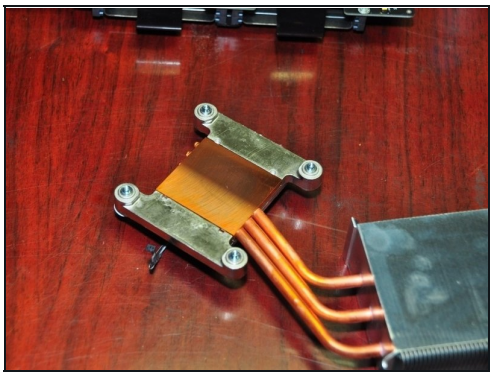
ⓘ This step will void the warranty.

Step 5

- Use Arctic Silver thermal compound remover and preparation solutions to get rid of factory compound.

Step 6



- Goodbye Core i3 and hello Core i7.
- Note arrow on CPU (bottom left in picture). New CPU must be installed in the same orientation.
- Apply Arctic Silver thermal compound with finger covered in plastic. Spread evenly on CPU only. Guide is here - How to Apply Thermal Paste
- Reverse to reassemble. Enjoy the new speed demon!

Step 7

- More than 5 years later - now running High Sierra 10.13 - machine has been flawless!

Step 8

- More than 6 years later - now running Mojave 10.14. Dark Mode makes the upgrade worth it.
- http://dosdude1.com/mojave/
- This 2010 iMac (11,3) built in video card is *NOT* Metal compatible so video acceleration is DISABLED with Mojave which makes your iMac screen refresh sluggish, Photos to go black and other graphics anomalies but everything else is stellar.
- However... Don't install Mojave or Catalina on this machine. It will barely run and the experience is terrible. This quote is from DosDude1 himself: "Radeon HD 5xxx and 6xxx series video cards are not, and most likely never will be, supported under Mojave or later."
- After Mojave installation, your colours will be inverted. To fix - Go to System/Library/Extensions and put this file into the trash: AMDRadeonX3000.kext then reboot

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To reassemble your device, follow these instructions in reverse order.