



MacBook Pro 15" Unibody Mid 2010 Teardown

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INTRODUCTION

Stay tuned for an exciting look into one of Apple's latest revision of its MacBook Pro line, the Intel Core i5 MacBook Pro.

We gutted the Core i5 on April 14, 2010.

TOOLS:

- [Phillips #00 Screwdriver](#) (1)
 - [Spudger](#) (1)
 - [Tri-point Y0 Screwdriver](#) (1)
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Step 1 — MacBook Pro 15" Unibody Mid 2010 Teardown



- Apple's need for faster and better processors has led it to incorporate Core i5s and i7s into its latest lineup of MacBook Pros.
- Our new MacBook Pro's specifications:
 - 2.4 GHz Intel Core i5 with 3 MB shared level 3 cache
 - 4 GB of 1066 MHz DD3 SDRAM
 - 15.4 inch LED-backlit glossy widescreen display
 - Intel HD Graphics and NVIDIA GeForce GT 330M with 256 MB of GDD3 RAM

Step 2



- Apple is still using the model number A1286 for the new MacBook Pro. We'll have to find a new way to differentiate this laptop from previous models.
- Perhaps Model A1286 Core i5? Only time will tell.

Step 3



- Removing the rear cover will get things going.
- Servicing the battery is not super easy due to the fact that you need a Tri-point screwdriver to get it out of the machine.

Step 4



- Taking off the rear cover reveals a machine that is not very exciting or different from earlier MacBook Pro models.
- As usual, there's a sticker warning against removing the battery. Por qué, Apple?

Step 5



- Silly sticker... You can't stop us!
- For some odd reason, Apple has stopped using [five-point Torx](#) screws found on other MBP 15" Unibodies in favor of Tri-point screws. Try as you may, Apple, you won't win. We got all the screwdrivers right here.
- The battery is now rated at 77.5 Wh. That's just a tad bit more than the 73 Wh battery found in last year's 15" model, but not enough to explain the 1-2 hour battery life improvement Apple is claiming for this machine.
- Perhaps they optimized the Pro's power consumption?

Step 6



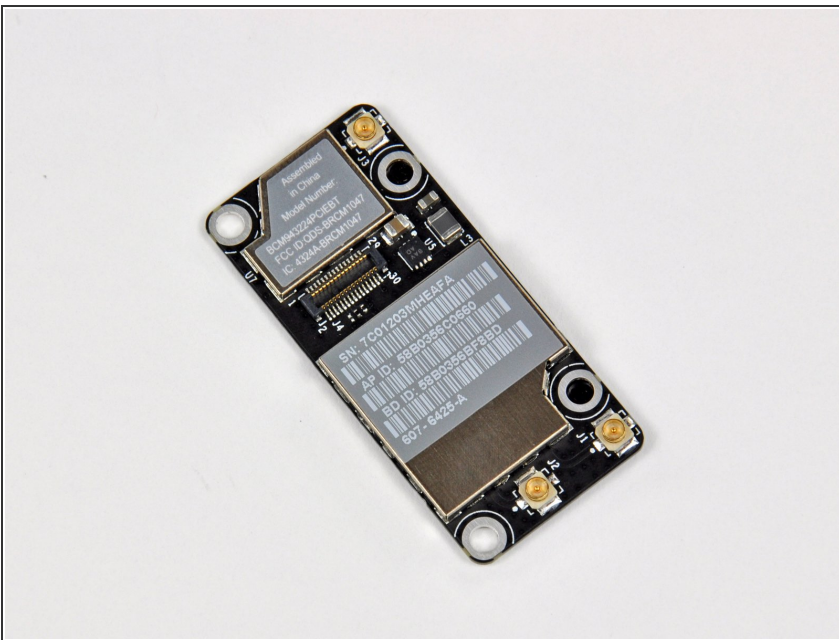
- The Wi-Fi/Bluetooth board location is one of the few major changes made to the new model.
- Its layout closely resembles that of the [MacBook Unibody](#).

Step 7



- Removing the AirPort/Bluetooth assembly first requires disconnecting the three antenna connectors with a plastic spudger.
- A single screw is all that's left holding the assembly in place.
- Two more screws need to be removed to separate the AirPort Express card.

Step 8



- A close up view of the AirPort Extreme card.
- This AirPort card is a bit different than the one mounted in the clutch cover of the [Late 2008 and Early 2009 MBP 15" Unibody](#).
- This is in fact the same AirPort/Bluetooth board found in the plastic [MacBook Unibody](#).

Step 9



- The connectors as viewed, from left to right:
 - Wi-Fi/Bluetooth antenna
 - Camera cable
 - Optical drive
 - Speaker wires
 - Hard drive
- Due to the redesign of the AirPort/Bluetooth interface, its connections are no longer integrated into the camera cable, greatly decreasing the [size of the connector](#).

Step 10



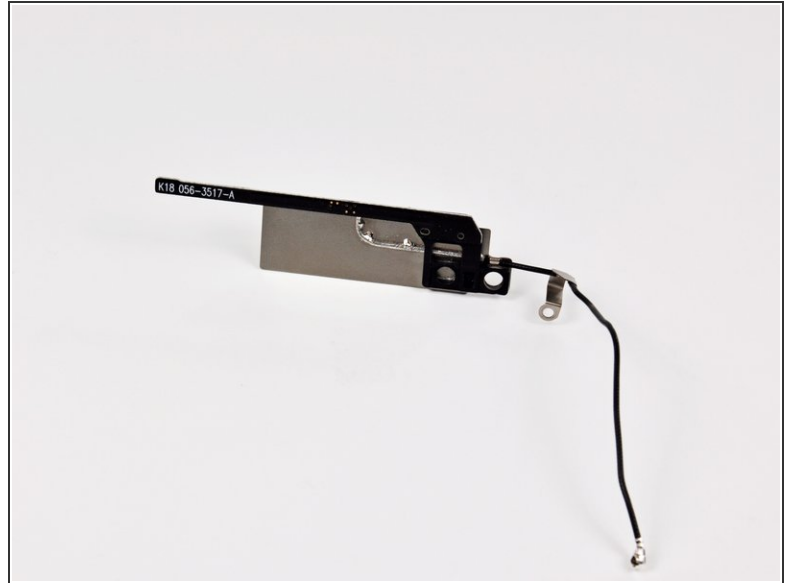
- With the antenna out of the way, the optical drive can be removed.
- The new MacBook Pro uses the same Seagate hard drive from the previous model.

Step 11



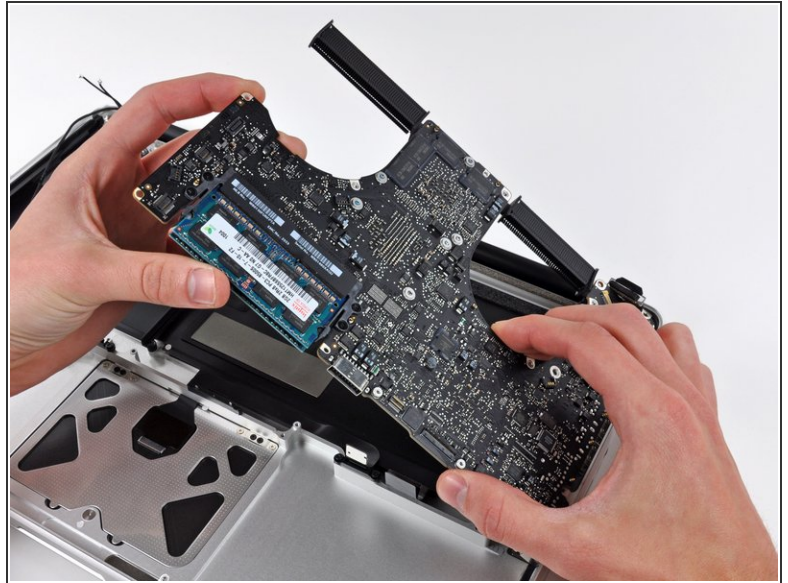
- Removing the speaker and subwoofer assembly requires removing four measly screws holding it on the upper case.
- ⓘ Apple changed the design of this speaker assembly slightly, moving from a single plastic enclosure to separate plastic enclosures for the speaker & subwoofer that are connected by the speaker leads.

Step 12



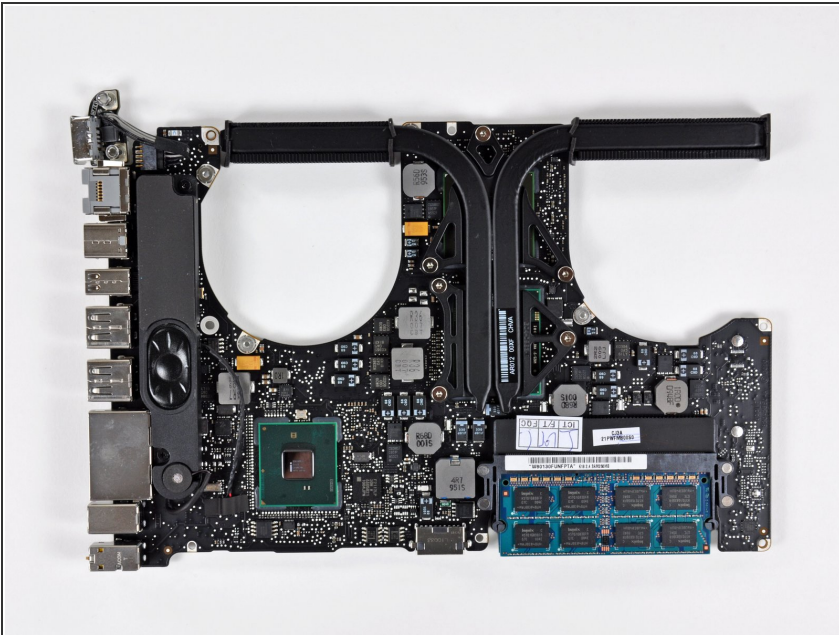
- Since the AirPort/Bluetooth board is mounted inside the all-metal case of this machine, Apple added an antenna that is mounted on the frame for the optical drive opening. Pretty clever!
- ⓘ This antenna is not found on the [MacBook Unibody](#), probably because the case of that machine is plastic and blocks less RF transmission & reception.

Step 13



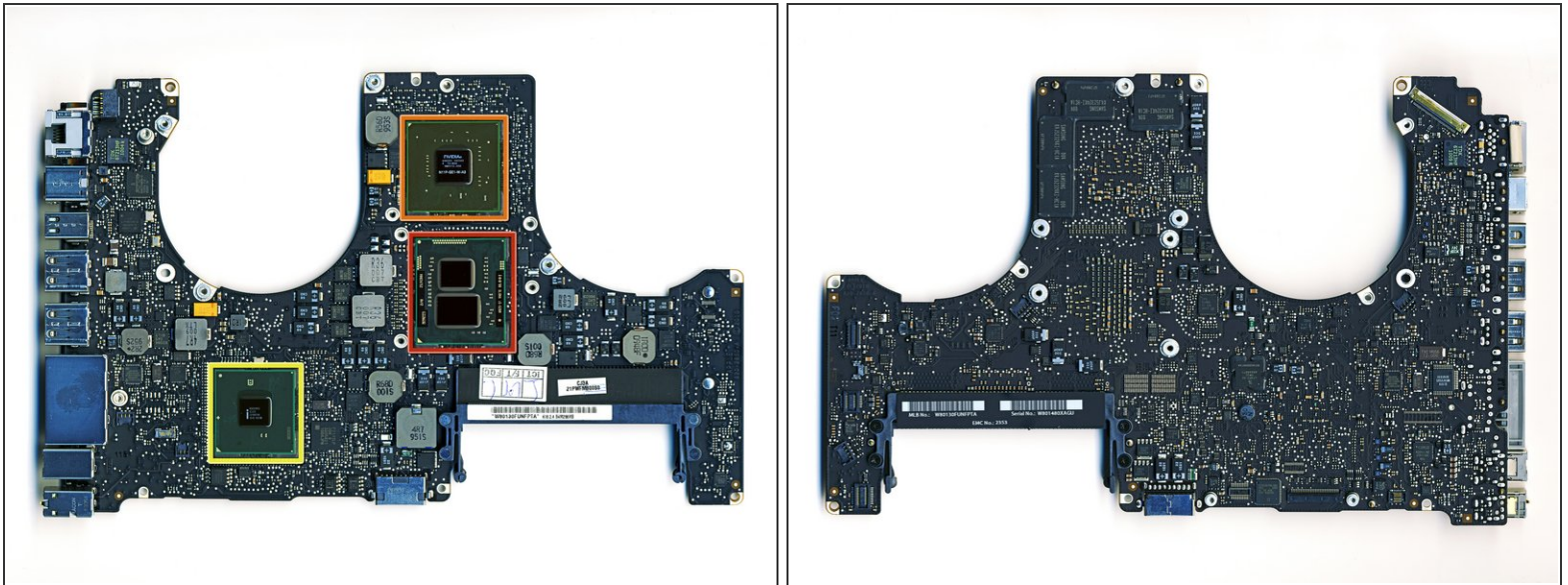
- After removing the two cooling fans and disconnecting many connectors, the logic board and DC-In board can be removed as one piece.

Step 14



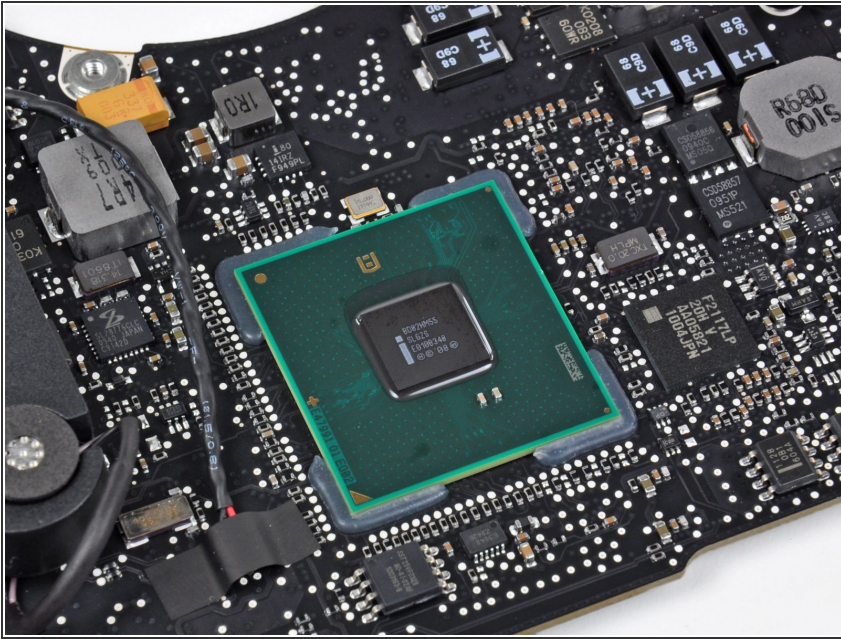
- The logic board and heat sink assembly by itself.
- The speaker, microphone, and port layout are unchanged from previous MBP 15" Unibody machines.

Step 15



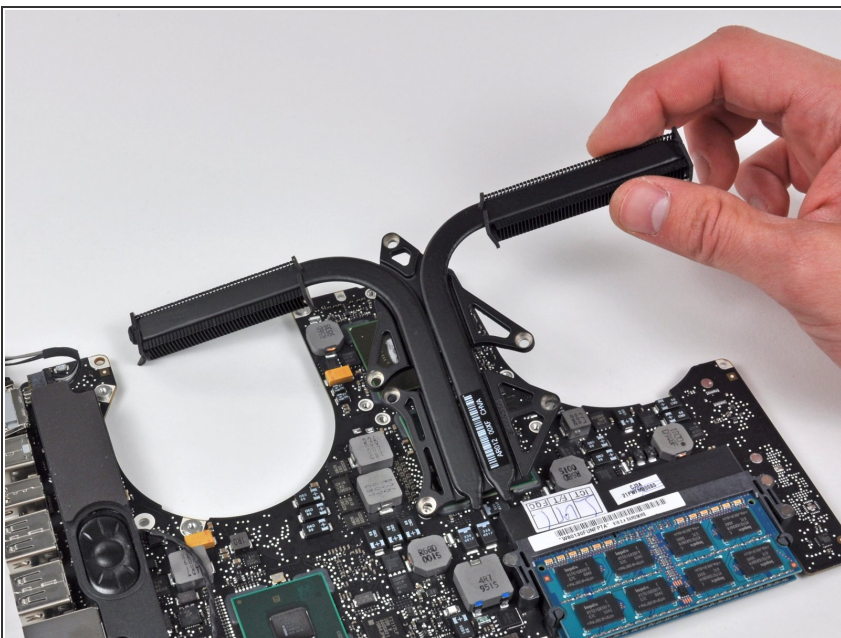
- Huge versions of these scans can be found [here](#) and [here](#). 56K beware!
- Intel Core i5 processor with integrated graphics.
- [NVIDIA GeForce GT 330M](#). The OS switches to the NVIDIA graphics for higher demand applications.
- Intel BD82HM55 S LGZS Platform Controller Hub. Interestingly enough, the hub is not connected to the heat sink. Apparently, enough heat is convected from the surface of the silicon to remove the small amount of heat generated by the graphics switching operations.

Step 16



- Upclose of the [Intel BD82HM55 S LGZS Platform Controller Hub](#).
- We assume this chip could be some sort of switch between the Intel and NVIDIA graphics.

Step 17



- The heat sinks can be separated from the logic board, leaving it very cold and lonely.

Step 18



- The Core i5 was no match for iFixit.
- Here are the remains of this lovely machine...