



Apple AirPort Extreme Model A1143 Teardown

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INTRODUCTION

How to take apart the Airport Extreme 802.11n.

TOOLS:

- [Phillips #00 Screwdriver](#) (1)
- [Spudger](#) (1)

Step 1 — Apple AirPort Extreme Model A1143 Teardown



- We got our new Airport Extreme 802.11n today. We decided to deviate from our standard modus operandi and run some benchmarks before we took it apart. (I know, I know-- our screwdrivers were lonely for a while.) This image is a sneak-peek to get your appetite whetted.
- The new base station is amazing. We achieved a 10x performance boost, and a 3x usable range increase (significantly better than Apple's 5x/2x claims). Actual benchmarks are on the next page.

Step 2



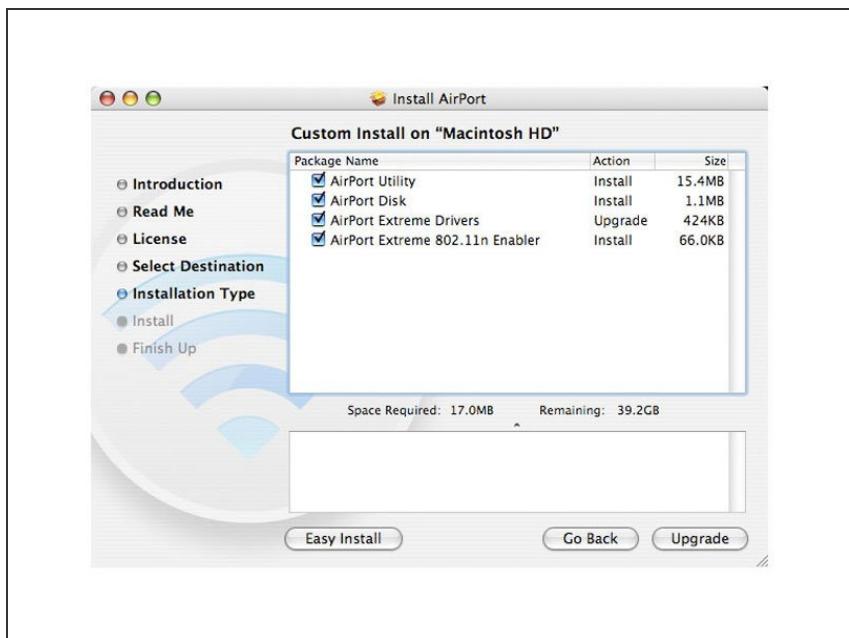
- Included: Base station, the famous \$1.99 install CD, smallish power brick, and a manual. No USB or ethernet cables.
- Our office is a little bit spread out-- we have two snow 802.11g base stations and two Airport Express units. We may be able to replace them all with just one new base station!

Step 3



- From bottom up: Mac Mini, new base station, old base station.
- *(i)* The base station is the exact same footprint as the Mac Mini, and slightly more than half as tall.
- The device feels very sturdy, and weighs a bit more (1.70 pounds) than the old base stations (1.22 pounds).

Step 4



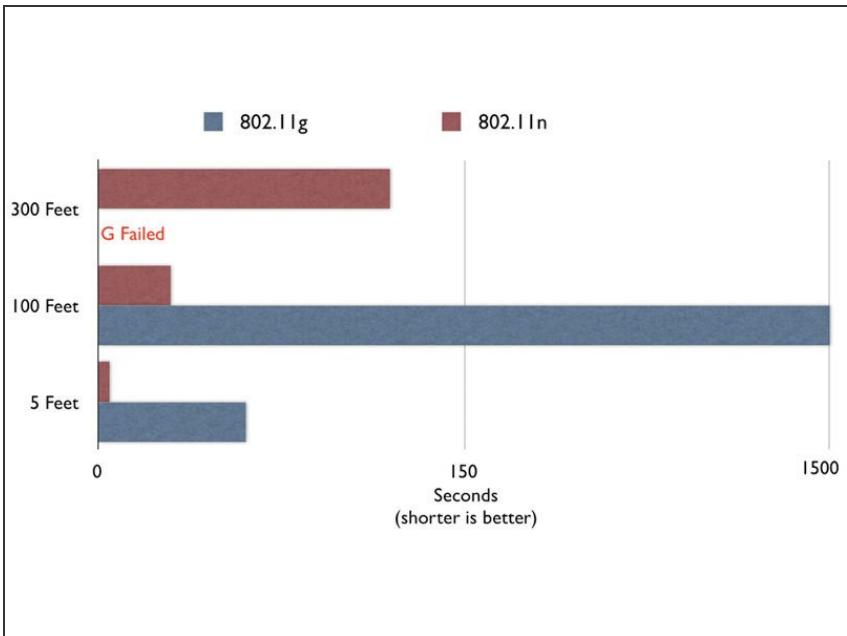
- This is the infamous 802.11n Sarbanes-Oxley mandated \$1.99 802.11n enabler.
- *(i)* These benchmarks are crude, but should give you a rough idea. All benchmarks were performed with a MacBook Pro 15" Core 2 Duo, a 'snow' 802.11g Airport Extreme Base Station, and the new 802.11n Airport Extreme Base Station.

Step 5



- ⓘ We ran all the benchmarks at least three times, and we're presenting you with average numbers. Your mileage will vary significantly, particularly with distance-- our base stations were inside, but the building wasn't big enough so we had to go outside to get 300 feet away.
- ⓘ This graph shows transfer speeds at 5, 100, and 300 feet for both base stations. The graph is not linear or particularly to scale.

Step 6



- We transferred two 35MB quicktime files (70 MB total). The first location was 5 feet from the base station. With the G base station, we had a reported comm quality of 56, and with the N base station the commQuality was 76. To get the commQuality, run the command `~/System/Library/PrivateFrameworks/Apple80211.framework/Versions/Current/Resources/airport -l`.

ⓘ At 5 feet, N was giving me a whopping 9 MB/s! (It averaged at 7.8 MB/s.) I'm accustomed to keeping an ethernet cable at my desk to plug in when I need to make large transfers. With 802.11n, I'll be able to get rid of the extra cable.

ⓘ At 300 feet (with a building in the way), we were still getting 500 KB/s. We got tired of walking and stopped. I suspect you could still get signal at twice that.

Step 7



- There is a rubber pad covering the bottom attached by an adhesive. To get into the base station, you have to peel the pad off.
- There are five Phillips #0 screws underneath the pad you need to remove.

i The numbers on the bottom are: FCC ID BCGA1143, IC: 579C-A1143, Model Number A1143.

Step 8



- Lift the perforated plastic cover out.

Step 9



- Lift the guts of the base station out of the casing.

i There are two large blocks of aluminum on the upper case that Apple is using as heat sinks. The upper case alone is .9 lbs-- over half the weight!

i There are three antennas mounted internally: one on front (white cable), left (grey cable), and right (black cable). They all have standard antenna connectors on them.

Step 10



- This is the top of the logic board. Interesting things: 3V (clock?) battery, two Samsung memory chips, and imprinted Apple part #820-1942-A. The processor is covered by a heat sink.

 Here's a [hi-res](#) photo of the top of the logic board.

Step 11



- This is the bottom of the logic board. Not much to see here--something large covered by another heat sink. At the top right is a plastic cover over the LED. Four ethernet ports, one USB port, a power jack, and a reset button. The Apple part number on the airport card is 603-9396-A.

 Here's a hi-res

photo of the bottom of the logic board.

Step 12



- Shameless plug:
 - iFixit sells iPod parts. It's easy to fix an iPod yourself with our [iPod parts](#) and free [iPod repair guides](#).
 - We also sell [Mac laptop parts](#). We've got virtually any part or upgrade for an iBook, PowerBook, MacBook, or MacBook Pro, at very competitive prices.

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