



Nintendo DSi Teardown

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INTRODUCTION

We got our hands on the new Nintendo DSi.



TOOLS:

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

Step 1 — Nintendo DSi Teardown



- It's here! It's here! Whoopee!
- Contents of the box:
 - Nintendo DSi
 - Operation Manual
 - Quick Start Guide
 - AC Adapter
 - Extra Stylus
 - An invitation from Mario's hat to join Club Nintendo.

Step 2



- Oooh pretty colors!
- The manual is larger in every dimension than the DSi except for thickness. Many of the pages are in color... That's probably why the DSi costs so much more than its forbear.

Step 3



- A side by side comparison of the Nintendo DS Lite (left) and the Nintendo DSi (right).
- The DSi has a new skin: a matte-black (almost dark gray) color that feels much rougher than the DS Lite. The roughness allows for better grip of the system, as well as improved scratch resistance.
- The DSi is 3 mm thinner than the DS Lite, while its length and width increase by 4 mm and 1 mm, respectively.
- The DSi comes with 3.25" LCD panels, a full 0.25" larger than the previous model's 3" panels.

Step 4



- Two Phillips screws prevent access to the battery. They are easily dealt with using our custom-made screwdriver.
- A quick flick of the spudger (or fingernail) dislocates the battery from its housing.

Step 5



- There are a total of seven screws that hold the lower case of the DSi together:
 - Three are immediately visible without removing any plug or cover.
 - Two plugs near the top of the unit have to be removed to reveal two screws.

- Removal of the battery compartment reveals two additional screws that need to be removed.

Step 6



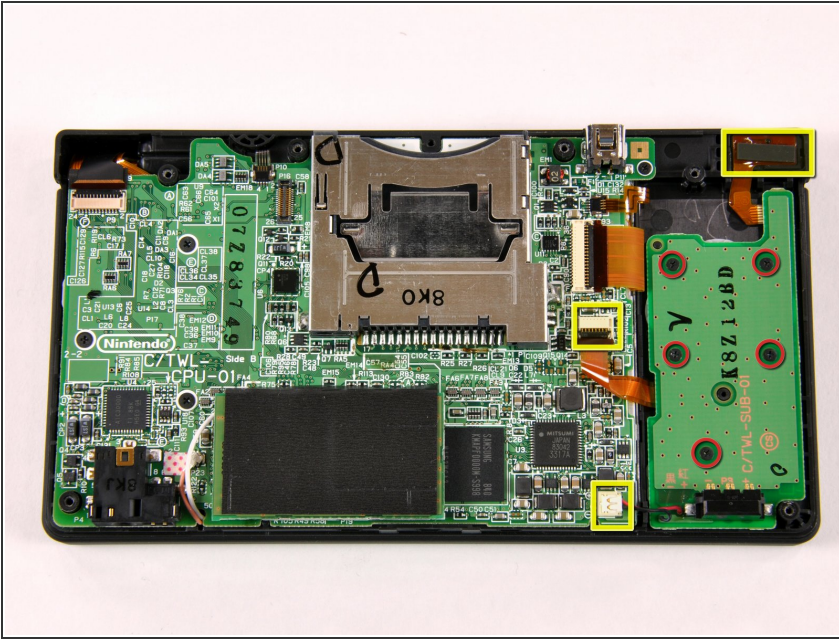
- And just like that, the case comes open.
- An orange connector joins the cases together. Care should be taken when opening the DSi to ensure this connector is not damaged in the process.

Step 7



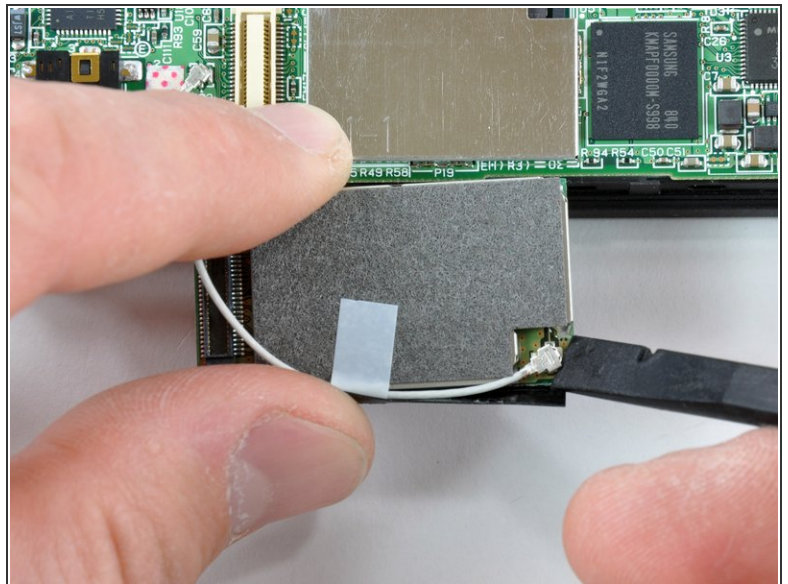
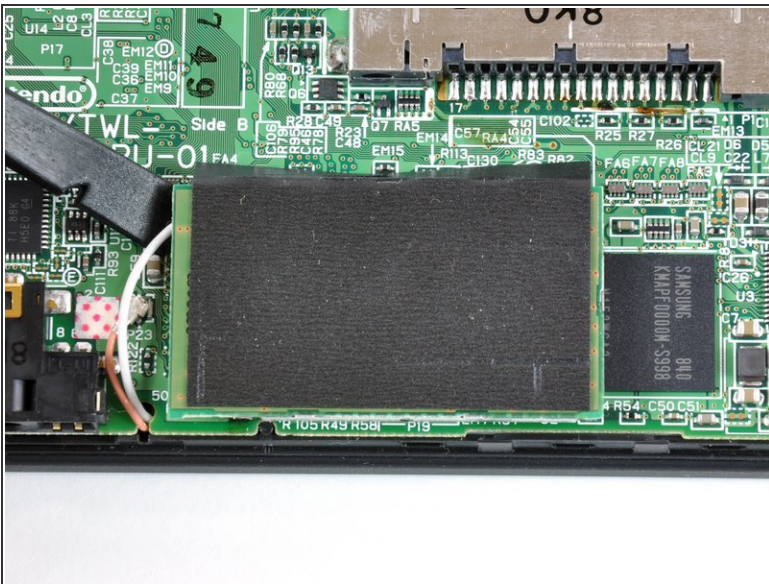
- A comparison between the old and the new. There are definite differences between the DS Lite (left) and DSi (right).
- The DSi uses a smaller 840mAh rechargeable battery (right) compared to 1000mAh for the DS Lite (left). The difference in size is proportionate to the difference in capacity. The original Nintendo DS shipped with an 850mAh battery.

Step 8



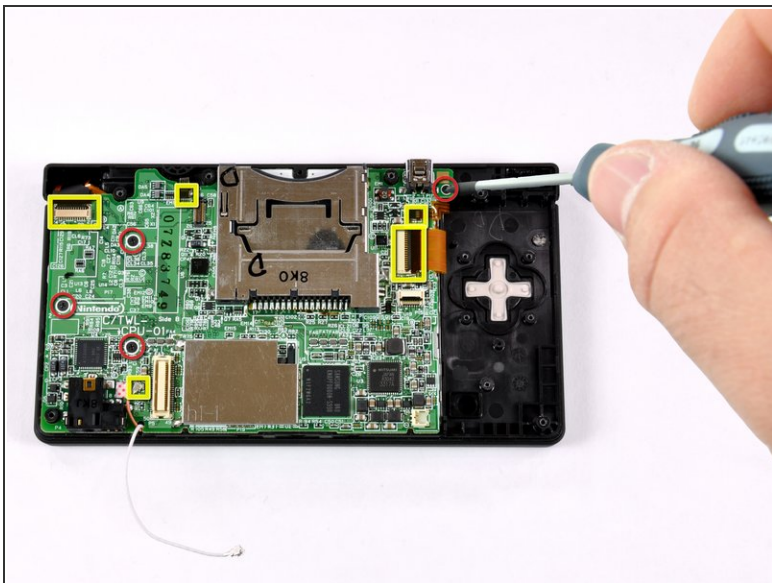
- Removing the battery PCB is a pretty straightforward procedure:
- Disconnect three connectors.
- Unscrew five Phillips screws.

Step 9



- The Wi-Fi board is held in place via one large connector. A quick wedge-and-twist action of the spudger releases it from the main board.
- Another flick of the spudger removes the Wi-Fi board's connector wire.

Step 10



- The main board comes off almost as easily as the battery PCB:
 - Four Phillips screws need to be removed.
 - Six connectors need to be disconnected prior to removal: five on the visible side, and one on the other side.

Step 11



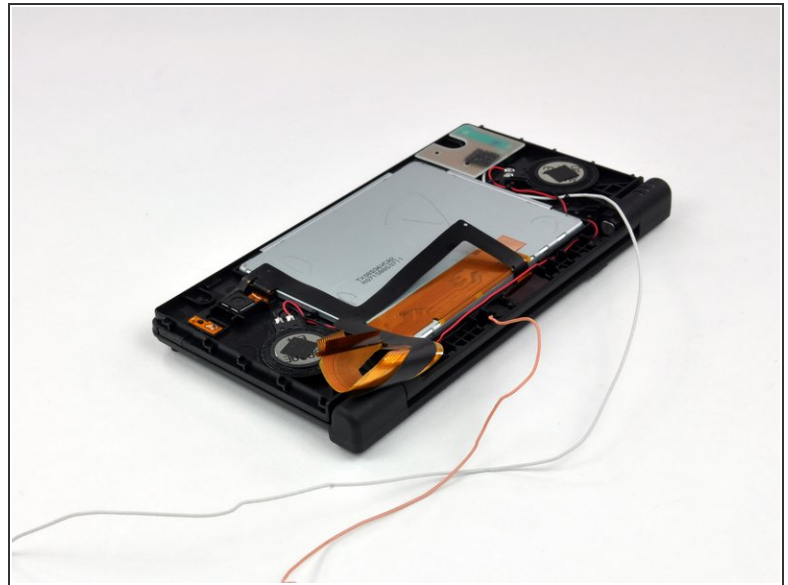
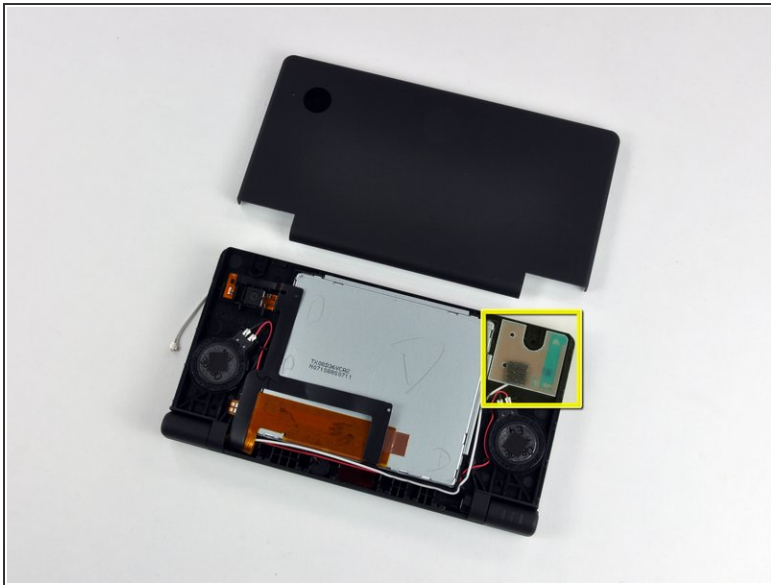
- We are done with the first level of the disassembly.

Step 12



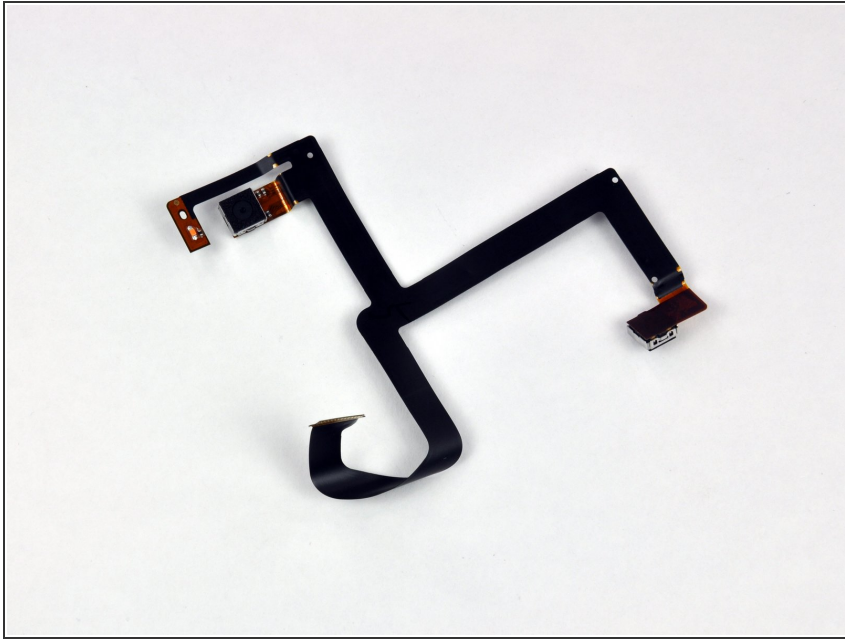
- Four black plastic covers need to be removed to reveal the Phillips screws underneath.
- Removing the four Phillips screws allows access to the top display.

Step 13



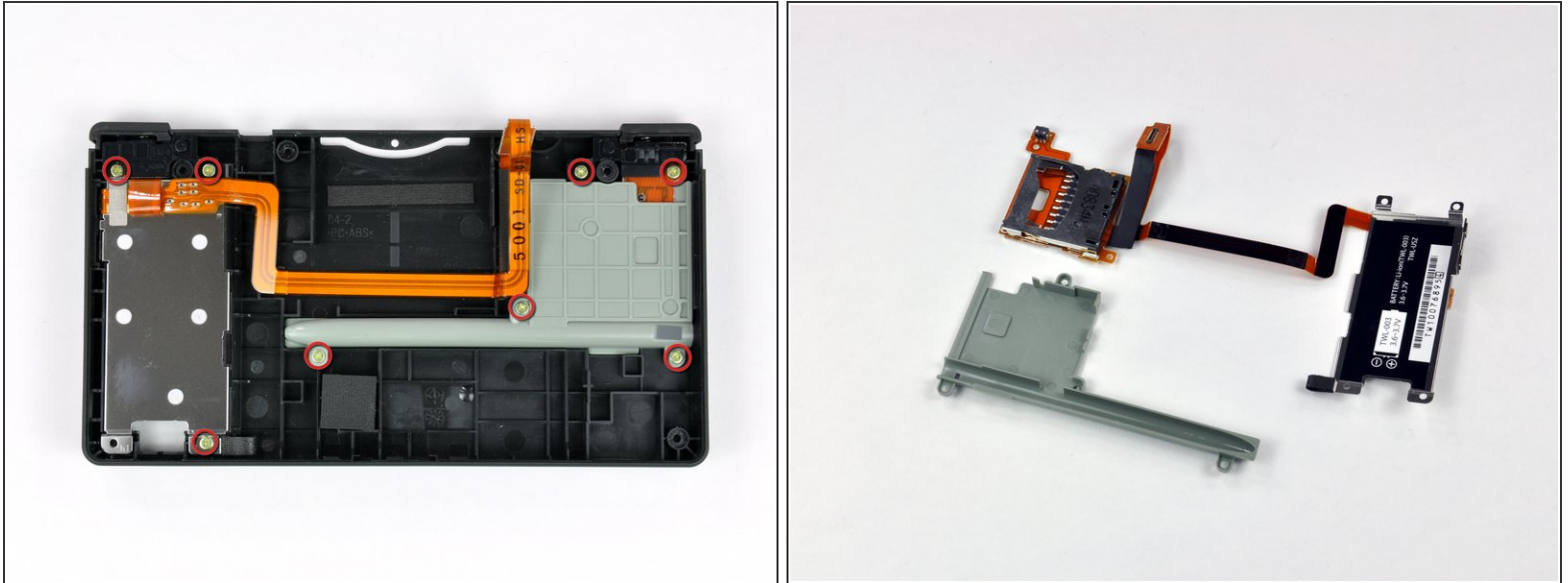
- The upper half with outer case removed.
- The antenna board for Wireless LAN is mounted in the upper right corner of the chassis.
- The ribbon cables for the top display and cameras are coiled and routed through the hinge between case halves. We'll go ahead and add that to the list of parts we want to watch a robot assemble.
- The thin orange wire seen in the second photo is for the microphone. Little DJs everywhere will drool over a new feature allowing users to distort the pitch and speed of music during playback.

Step 14



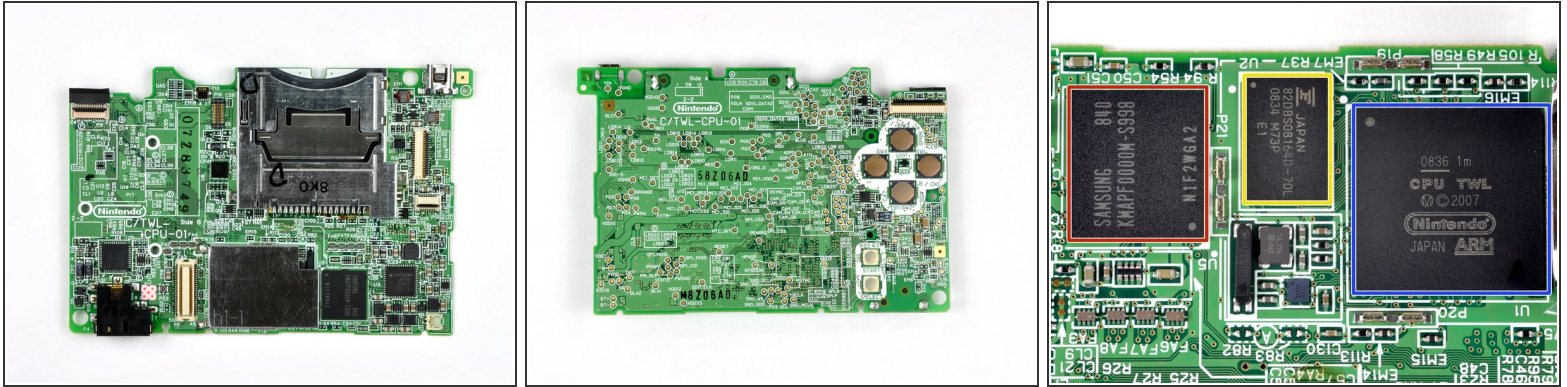
- The DSi has two VGA CMOS digital cameras (0.3 megapixels); one on the internal hinge pointed towards the user and the other in the outer shell.

Step 15



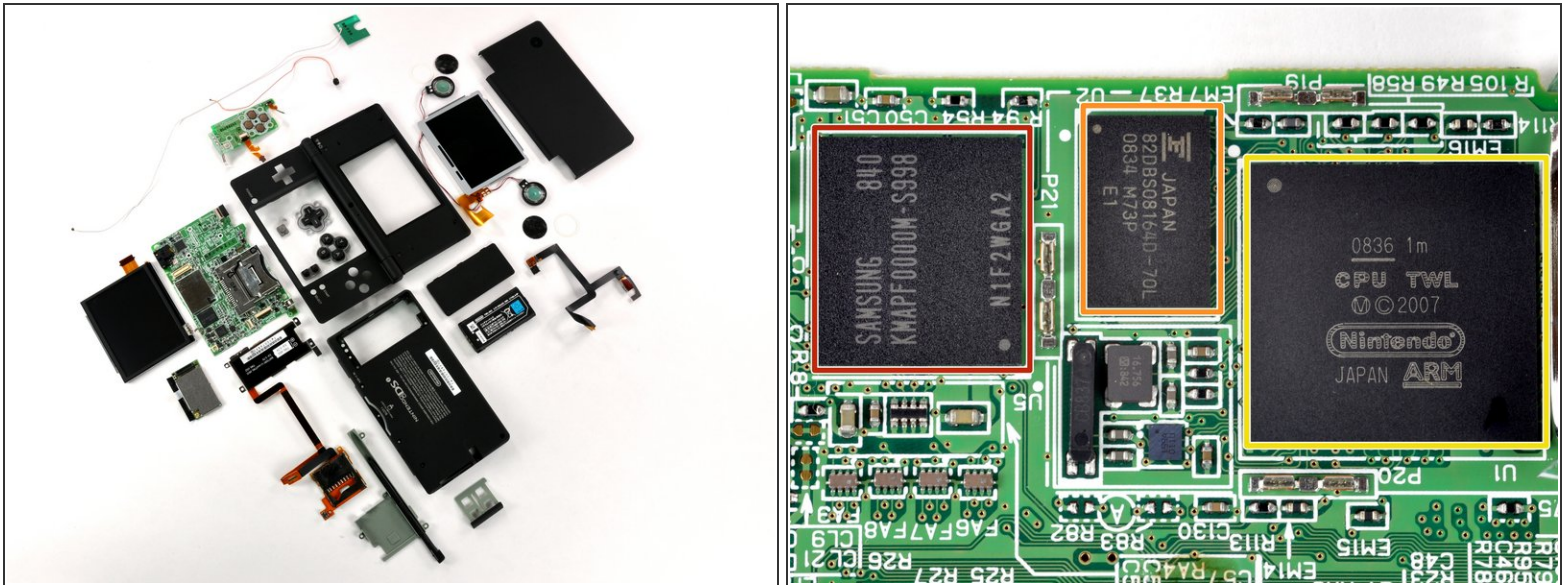
- Eight Phillips screws secure the battery compartment and the stylus tray/SD/SDHC expansion slot to the case.
- The DSi has an integrated SD/SDHC expansion slot. You can now use a normal SD card for the playback of AAC audio files and external storage of pictures or downloaded software. Can anyone say homebrew apps?

Step 16



- The logic board in its full glory.
- Chips of interest, left to right:
 - Samsung 1st generation [MoviNAND](#) KMAPF0000M: 256 MB NAND Flash and MMC controller. The integrated MMC controller allows the CPU to offload the complex work of directly talking to the flash memory.
 - 82DBS08164D-70L: Fujitsu Ltd 128-bit [FCRAM](#) (fast-cycle RAM) chip.
 - Nintendo's custom ARM CPU. Our CPU was manufactured in September of 2008.

Step 17



- Nintendo DSi... REST IN PIECES!
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To reassemble your device, follow these instructions in reverse order.