



iPhone 4 Speaker Enclosure Assembly Replacement

Removing the speaker enclosure.

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INTRODUCTION

Use this guide to remove the speaker enclosure and its integrated lower antenna.

TOOLS:

- [Paper Clip](#) (1)
 - [Phillips #000 Screwdriver](#) (1)
 - [2.5 mm Flathead Screwdriver](#) (1)
 - [Spudger](#) (1)
 - [iFixit Opening Tool](#) (1)
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Step 1 — Rear Panel



⚠ Before you begin, discharge your iPhone battery below 25%. A charged lithium-ion battery can catch fire and/or explode if accidentally punctured.

- Power off your iPhone before beginning disassembly.
 - Your iPhone 4 rear cover may have either two #000 Phillips screws or Apple's 5-Point "Pentalobe" screws ([second image](#)). Check which screws you have, and ensure you also have the correct screwdriver in order to remove them.
 - Remove the two 3.6 mm Pentalobe or Phillips #000 screws next to the dock connector.
- ⓘ** Be sure the driver is well seated when removing Pentalobe screws, they are very easy to strip.

Step 2



- Push the rear panel toward the top edge of the iPhone.
- ⓘ The panel will move about 2 mm.

Step 3



- Pinch the rear panel with your fingers and lift it away from the iPhone. Alternatively, use a Small Suction Cup .

- ⚠ Be careful not to damage the plastic clips attached to the rear panel.
- ⚠ If you are installing a new rear panel, be sure to remove the plastic protective sticker from the inside of the camera lens and the sticker from the large black area near the lens.

Step 4 — Battery



- Remove the single 2.5 mm Phillips screw securing the battery connector to the logic board.
- ⓘ Some devices may have two screws, one of which holds down the contact pad which is located above the screw indicated in red in the photo.

Step 5



- Use a plastic opening tool to gently pry the battery connector up from its socket on the logic board.
- ⓘ Pry from the top and bottom of the connector bracket—there isn't as much of an overhang on the sides, and you may damage the connector.

⚠ Be very careful to only pry up on the battery connector and not the socket on the logic board. If you pry up on the logic board socket, you may break it entirely.

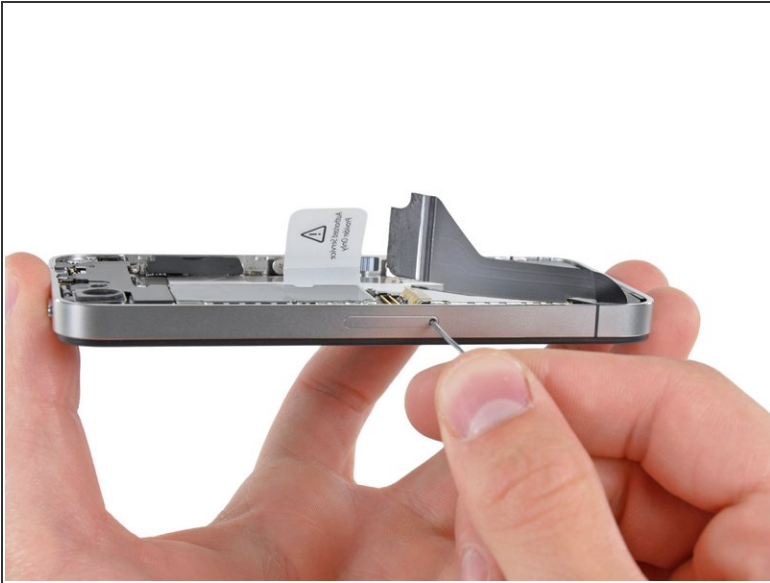
- Remove the metal clip covering the antenna connector.

Step 6



- Use the clear plastic pull tab to gently lift the battery out of the iPhone.
- i** If the tab breaks before the battery is freed, apply a few drops of high concentration (over 90%) isopropyl alcohol under the edge of the battery. Wait about one minute for the alcohol solution to weaken the adhesive. Carefully slide a spudger under the battery tab to release the adhesive.
⚠ Prying in other places may cause damage. Don't try to forcefully lever the battery out. If needed, apply a few more drops of alcohol to further weaken the adhesive. Never deform or puncture the battery with your pry tool.
- If there's any alcohol solution remaining in the phone, carefully wipe it off or allow it to air dry before installing your new battery.
- i** If your replacement battery came in a plastic sleeve, remove it before installation by pulling it away from the the ribbon cable.
- Before reconnecting the battery connector, be sure the contact clip (shown in red) is properly positioned next to the battery connector.
- ✦** Before reassembly, clean metal-to-metal contact points with a de-greaser such as windex. The oils from your fingers have the potential to cause wireless interference issues.
- ✦** Perform a [hard reset](#) after reassembly. This can prevent several issues and simplify troubleshooting.

Step 7 — Logic Board



- Use a SIM card eject tool or a paperclip to eject the SIM card and its holder.

⚠ This may require a significant amount of force.

- Remove the SIM card and its holder.

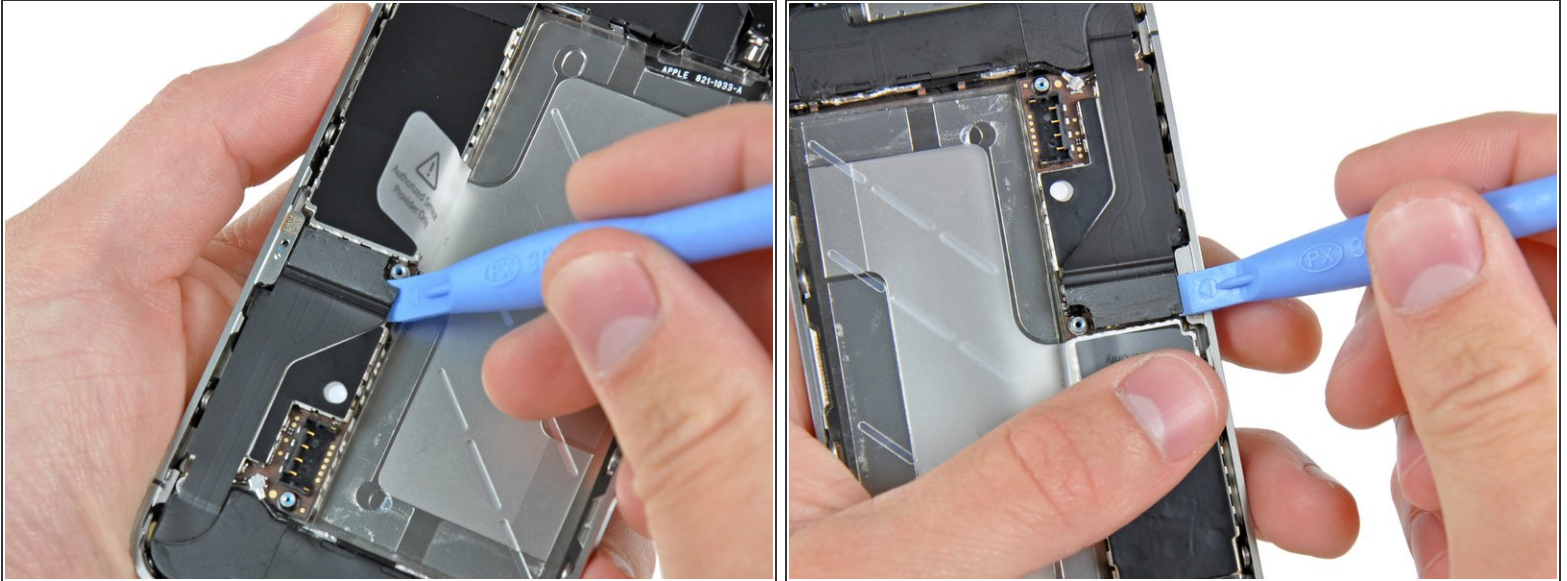
Step 8



- Remove the following two screws:
 - One 1.2 mm Phillips
 - One 1.6 mm Phillips
- Remove the thin steel dock connector cable cover from the iPhone.

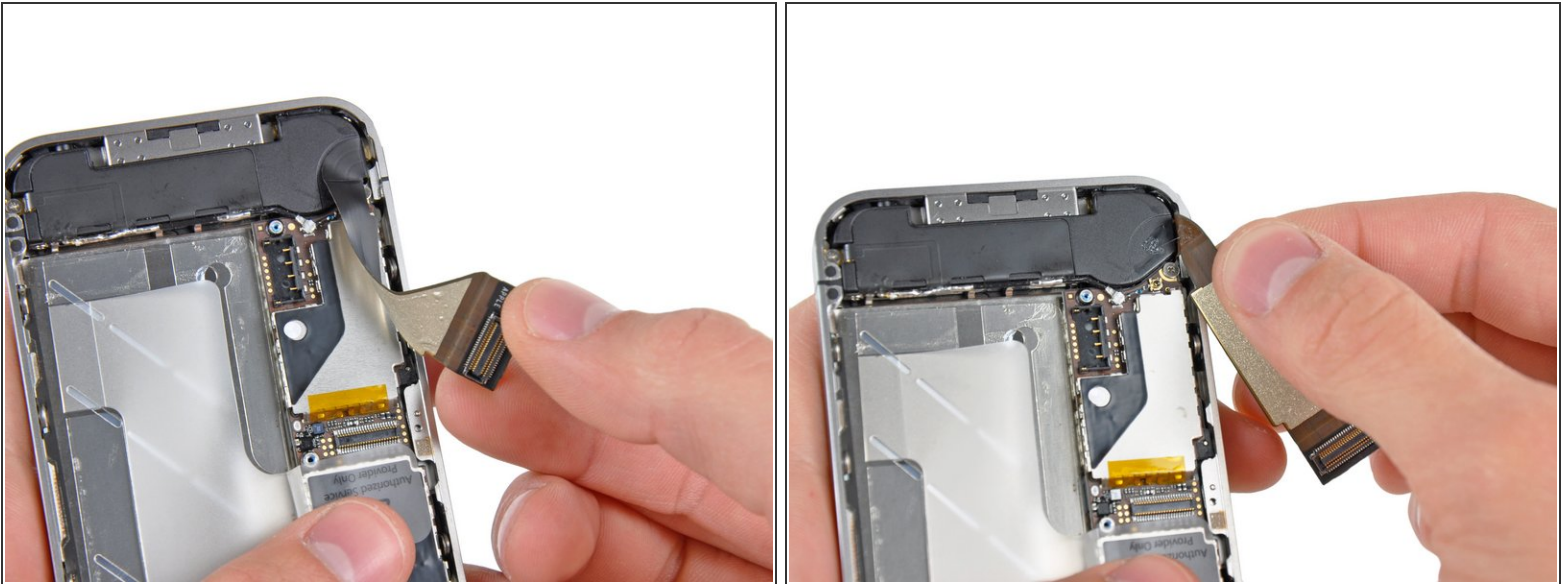
⚠ Before reassembly, be sure to clean all metal-to-metal contact points on the dock connector cable cover with a de-greaser such as windex. The oils on your fingers have the potential to cause wireless interference issues.

Step 9



- Use an iPod opening tool to gently pry the dock cable connector up off the logic board from both short ends of the connector.

Step 10



- Carefully peel the dock ribbon cable off the logic board and the lower speaker enclosure.

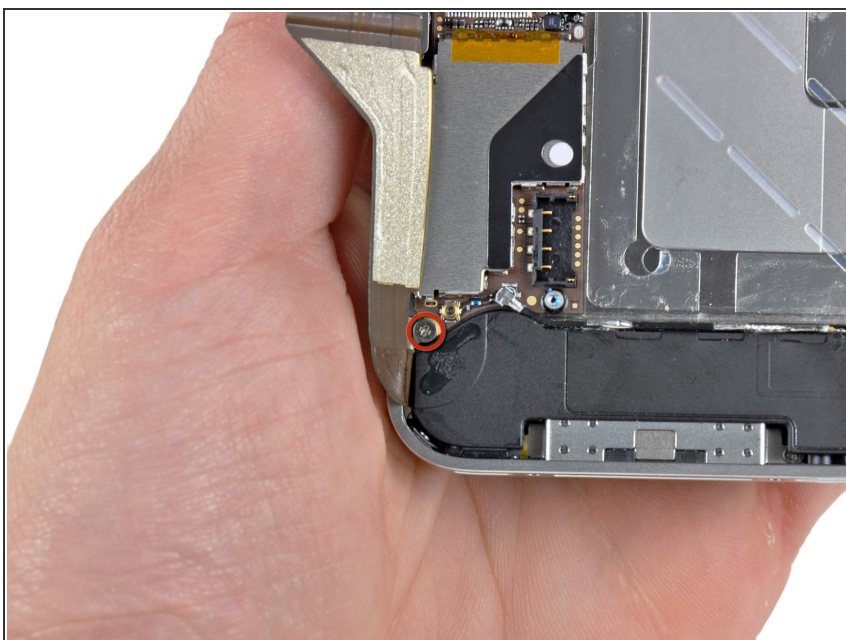
⚠ Do not use excessive force to peel the dock ribbon cable off the logic board. Doing so may tear the cable.

Step 11



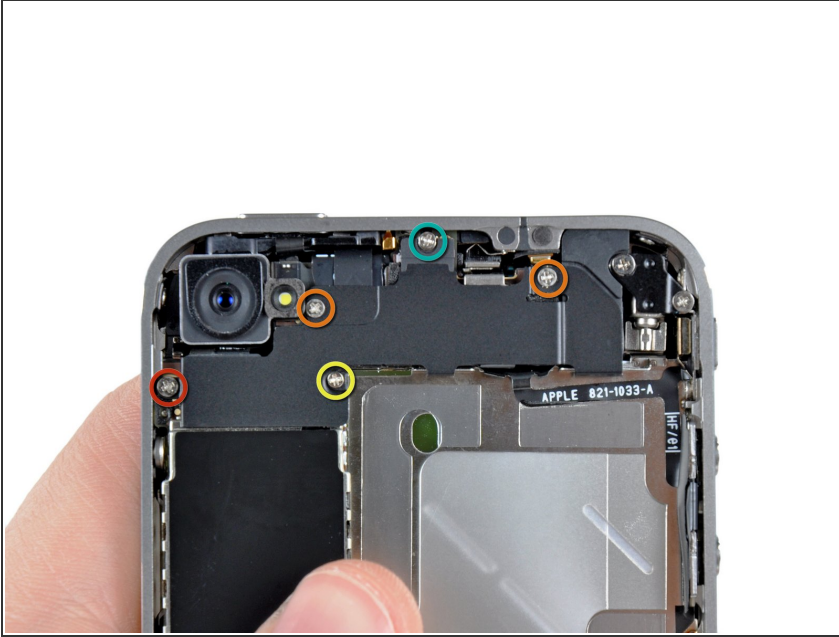
- Use a plastic opening tool to pry the lower antenna connector up off its socket on the logic board.

Step 12



- Remove the 1.9 mm Phillips screw securing the bottom of the logic board to the inner case.

Step 13



- Remove the following five screws securing the Wi-Fi antenna to the logic board:

- One 2.3 mm Phillips
- Two 1.6 mm Phillips
- One 1.4 mm Phillips
- One 4.8 mm Phillips

⚠ When re-assembling, start off with replacing the 4.8 mm Philips screw first, then the 2.3 mm. *This is to ensure there is no mix-up, and avoid rendering the LCD and digitizer useless.*

⚠ Also make sure to put the long 4.8 mm Philips back in correctly when reassembling. This is the ground for the Wi-Fi antenna and is often the culprit if you are having bad Wi-Fi reception after reassembly.

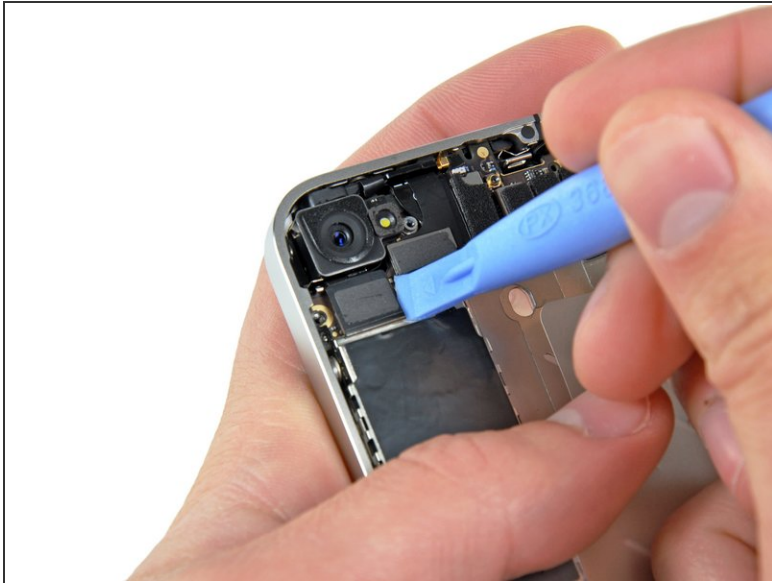
Step 14



- Use an iPod opening tool to slightly lift the top edge of the Wi-Fi antenna away from the logic board.
- Use the tip of a spudger to pull the Wi-Fi retaining clips away from the inner frame.
- Remove the Wi-Fi antenna from the iPhone. Make sure you don't lose the metal clips on the top of the cover where the 4.8mm screw attaches or the 4.8mm screw. That's the primary reason for abnormal Wi-Fi performance after the reassembly.

⚠ Before reassembly, be sure to clean all metal-to-metal contact points on the connector cover with a de-greaser such as Windex. The oils on your fingers have the potential to cause wireless interference issues. Do not clean the connectors themselves with Windex.

Step 15



- Use an iPod opening tool to carefully lift the rear camera connector up off its socket on the logic board.
- Remove the rear camera.

Step 16



- Remove the small circular white sticker (warranty sticker and water indicator) covering the screw near the battery pull tab.
- Remove the 2.4 mm Phillips screw that was hidden underneath the sticker.

Step 17



- Use the edge of a plastic opening tool to gently pry the following connectors up and out of their sockets on the logic board:
 - Digitizer cable (pry from bottom)
 - LCD cable (pry from bottom)
 - Headphone jack/volume button cable (pry from top)
 - Top Microphone/sleep button cable (pry from top)

- Front camera cable (pry from top)

Step 18



- Remove the 4.8 mm standoff screw near the headphone jack.
 - ⓘ Standoff screws are best removed using a [standoff screwdriver](#) or bit.
 - ⚠ In a pinch, a small flathead screwdriver will do the job—but use extra caution to ensure it doesn't slip and damage surrounding components.
 - ⓘ When reassembling the device, this standoff sets the height of the Wi-Fi shield removed in step 13. If not torqued down, the shield will be above the plane of the frame and the back will not slide into place in step 2. The shield should be flush with the headphone jack.
 - ✦ When reassembling the motherboard, ensure that its edge sits under the circled standoff, otherwise the screws will not fit.
 - ✦ When reassembling ensure that the small rubber spacer attached to the top of the motherboard is in place.
 - Without this part, the motherboard could damage the ribbon cables around it.

Step 19



- Carefully remove the logic board from the iPhone, minding any cables that may get caught.

⚠ Be careful not to damage the small gold prong (marked in red, near the top) as it's very fragile.

- ☑ On reassembly, be careful not to trap the lower antenna cable beneath the logic board.

Step 20 — Speaker Enclosure Assembly



- Remove the single 2.4 mm Phillips screw securing the speaker enclosure to the side of the inner frame.

Step 21



- Remove the speaker enclosure from the iPhone.

- ☑ Before re-fastening the speaker enclosure to the inner frame, be sure the four small EMI fingers rest below the lip of the LCD frame.

⚠ Before reassembly, be sure to clean all metal-to-metal contact points between the EMI fingers and the internal frame as well as the brass screw mounting point with a de-greaser such as Windex. The oils on your fingers have the potential to cause wireless interference issues.

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