



Mac mini Late 2012 Logic Board Replacement

Completely replace your mini's logic board.

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INTRODUCTION

Completely replacing the logic board requires removal of the logic board itself as well as all components attached to it. Reinstallation will require reapplication of thermal compound to the CPU.

TOOLS:

- [2 mm Hex Screwdriver](#) (1)
- [Arctic Silver ArctiClean](#) (1)
- [Arctic Silver Thermal Paste](#) (1)
- [Mac Mini Logic Board Removal Tool](#) (1)
- [Spudger](#) (1)
- [T6 Torx Screwdriver](#) (1)
- [TR8 Torx Security Screwdriver](#) (1)

PARTS:

- [Mac mini A1347 \(Late 2012\) 2.5 GHz Logic Board](#) (1)
- [Mac mini A1347 \(Late 2012\) 2.3 GHz Logic Board](#) (1)
- [Mac mini A1347 \(Mid 2011/Late 2012\) I/O Bezel](#) (1)

Step 1 — Bottom Cover



- Place your thumbs in the depressions cut into the bottom cover.
- Rotate the bottom cover counter-clockwise until the white dot painted on the bottom cover is aligned with the ring inscribed on the outer case.
- ⓘ You do not need to apply much downward pressure while turning.

Step 2



- Tilt the mini enough to allow the bottom cover to fall away from the outer case.
- Remove the bottom cover and set it aside.

Step 3 — Fan



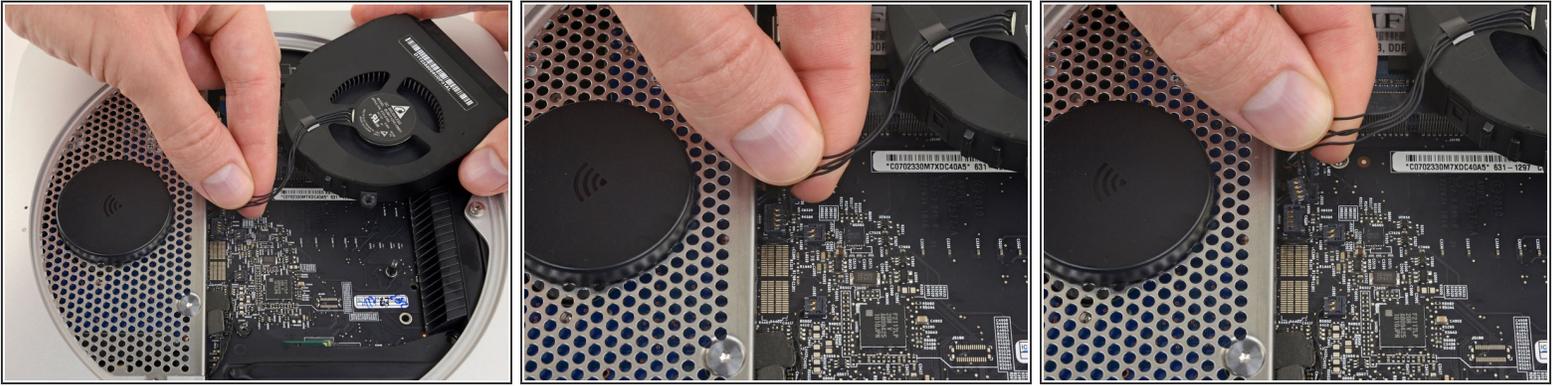
- Remove the two 11.3 mm T6 Torx screws securing the fan to the logic board near the antenna plate.

Step 4



- Lift the ear of the fan nearest the RAM up off the standoff secured to the outer case.
- ⓘ Removing the standoff screw is not necessary to remove the fan. You need only raise the fan enough to lift it off the standoff screw.

Step 5



- Lift the fan out of the mini for enough clearance to access its connector.
- Grab all the wires at once and gently pull **straight up** to disconnect the fan from the logic board.
⚠ Do not pry at the socket, or you may rip it from the logic board.
- Remove the fan.

Step 6 — Cowling



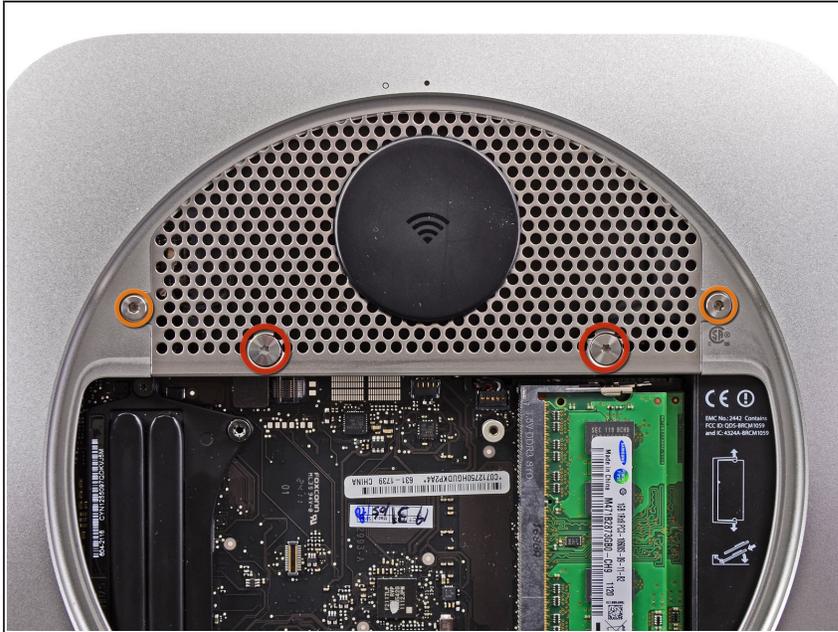
- Remove the single 3.5 mm T6 Torx screw securing the cowling to the heat sink.

Step 7



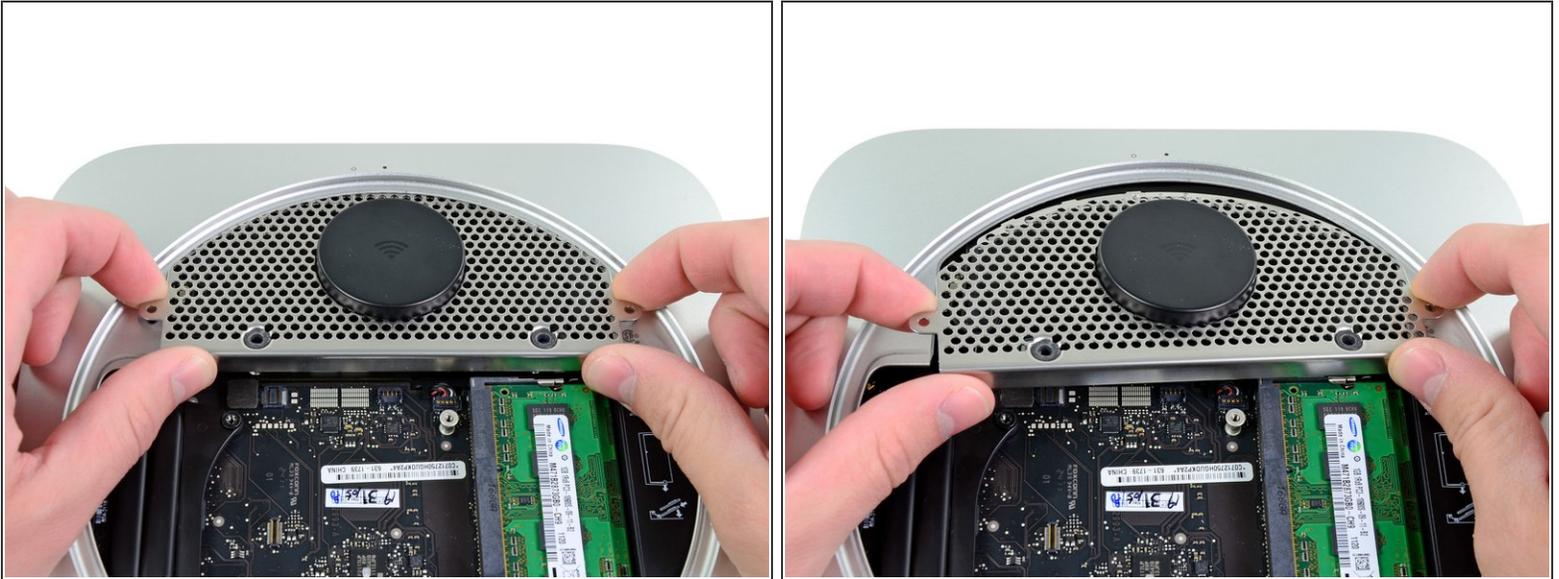
- Lift the cowling from the end nearest the antenna plate.
- Rotate the cowling away from the outer case and remove it from the mini.

Step 8 — Antenna Plate



- Remove the following screws securing the antenna plate to the mini:
 - Two 6.6 mm T8 Torx screws
 - Two 5.0 mm T8 Torx or 2.0 mm Hex screws (either screwdriver will work)
- When putting back together:
 - ⓘ It can be difficult to get the hard drive seated correctly such that the antenna plate fits in place correctly. If the screw holes don't line up with those on the hard drive, make sure that the two pins that are in the back of the hard drive are properly seated in the holes at the back of the case, above the housing for the second hard drive.
 - ★ The antenna attaches directly to the hard drive (red markers), therefore attaching the antenna can move the hard drive around and loosen the connection of the hard drive cable to the logic board.

Step 9



- Slightly lift the antenna plate from the end closest to the RAM.
- Carefully pull the antenna plate away from the circular rim of the outer case.

⚠ Do not remove the antenna plate yet. It is still attached to the AirPort/ Bluetooth board.

Step 10



- Use the tip of a spudger to carefully pry the antenna connector up from its socket on the AirPort/Bluetooth board.

Step 11



- Remove the antenna plate from the mini.

Step 12 — Logic Board



- Use the flat end of a spudger to pry the hard drive connector up from its socket on the logic board.

Step 13



- Use the tip of a spudger to lift the IR sensor connector up and out of its socket on the logic board.

⚠ Make sure to pry up from beneath the wires and not underneath the socket.

Step 14



- Remove the following three screws:
 - One 5.0 mm T8 Torx or 2.0 mm Hex screw (either screwdriver will work)
 - One 16.2 mm T6 Torx screw
 - One 26 mm T6 Torx standoff

Step 15



⚠ To remove the logic board, the two cylindrical rods of the Mac mini Logic Board Removal Tool must be inserted into the holes highlighted in red. Inserting instruments into any logic board holes other than the ones highlighted in red may destroy the logic board.

- Insert the [Mac mini Logic Board Removal Tool](#) into the two holes highlighted in red. Be sure it makes contact with the top side of outer case below the logic board before proceeding.
- Carefully pull the tool toward the I/O board. The logic board and I/O board assembly should slightly slide out of the outer case.
- i** Cease prying when the I/O board is visibly separated from the outer case.
- Remove the Mac mini Logic Board Removal tool.

Step 16



- Pull the I/O board/logic board assembly out of the outer case enough to access the power connector.
- Use your fingers to disconnect the DC-In cable from the logic board.
- Pull the power cable connector toward the front side of the mini.

Step 17



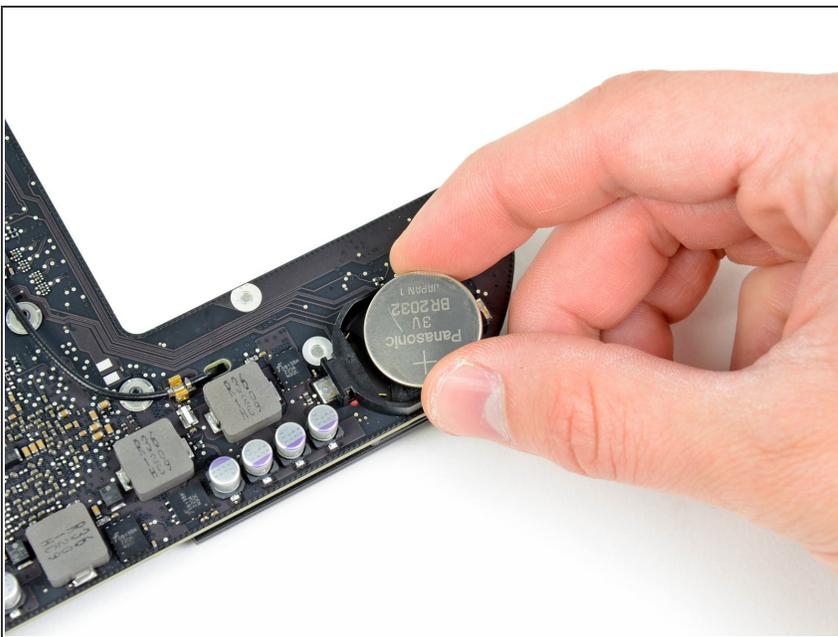
- Carefully slide the logic board assembly out of the mini, minding any cables that may get caught.

Step 18 — PRAM Battery



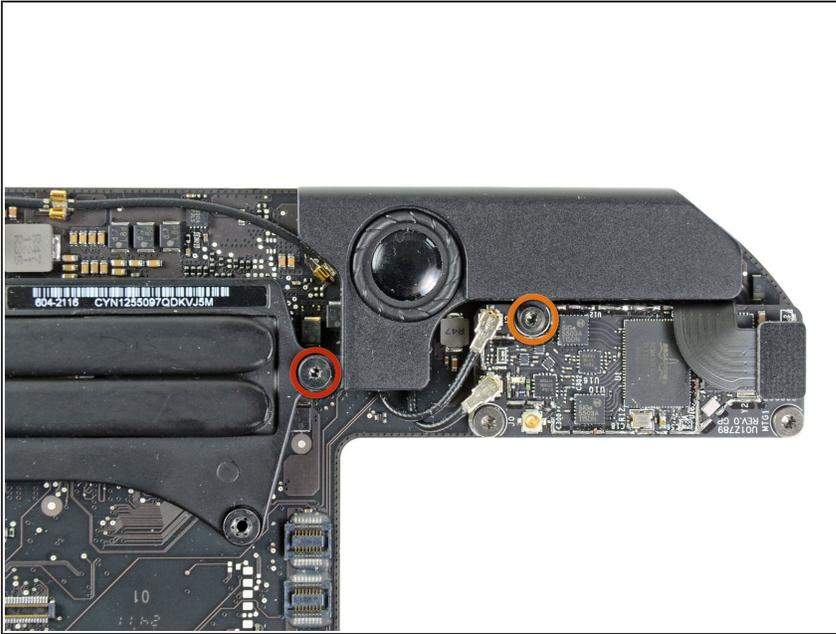
- i** The PRAM battery is located on the top side of the logic board.
- Use the tip of a spudger to carefully pry the PRAM battery up and out of its holder on the logic board.

Step 19



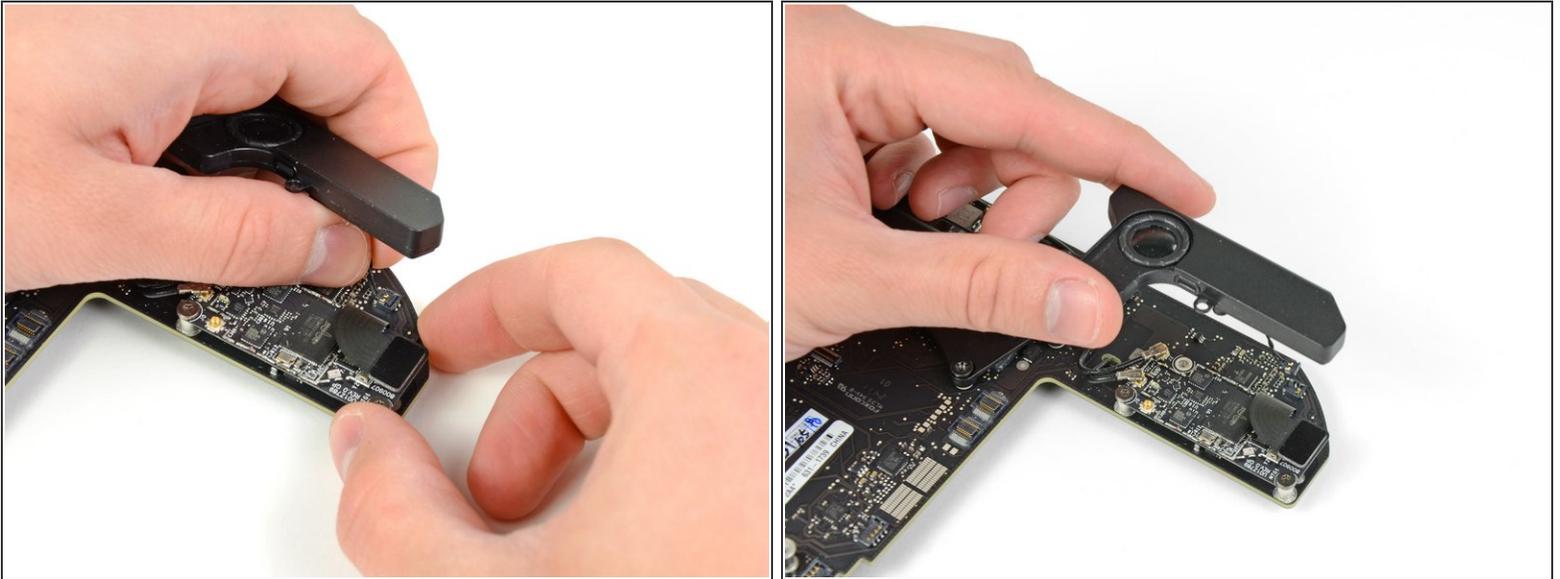
- Remove the PRAM battery from the logic board.
- i** The PRAM battery is a commonly available BR2032 coin-cell.

Step 20 — Speaker



- Remove the following two screws securing the speaker to the logic board assembly:
 - One 3.5 mm T6 Torx screw
 - One 3.7 mm T6 Torx screw

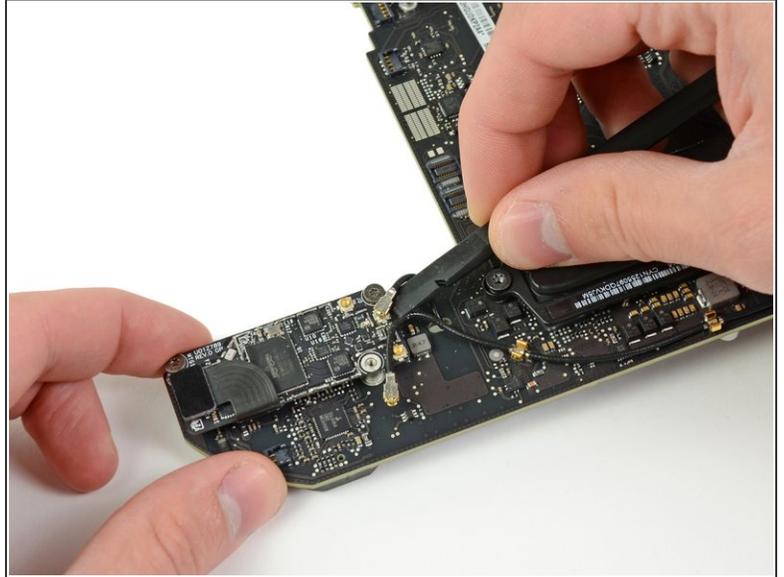
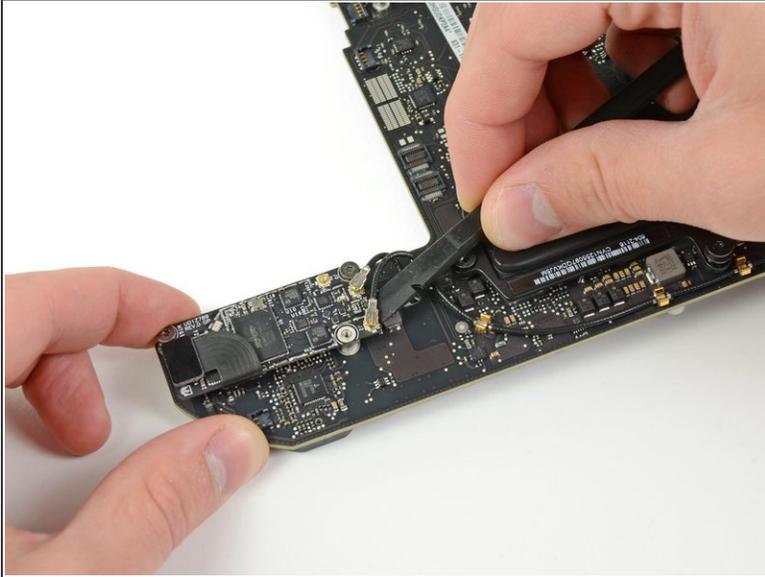
Step 21



⚠ Lift but do not remove the speaker assembly, as it still remains connected to the logic board via the speaker connector.

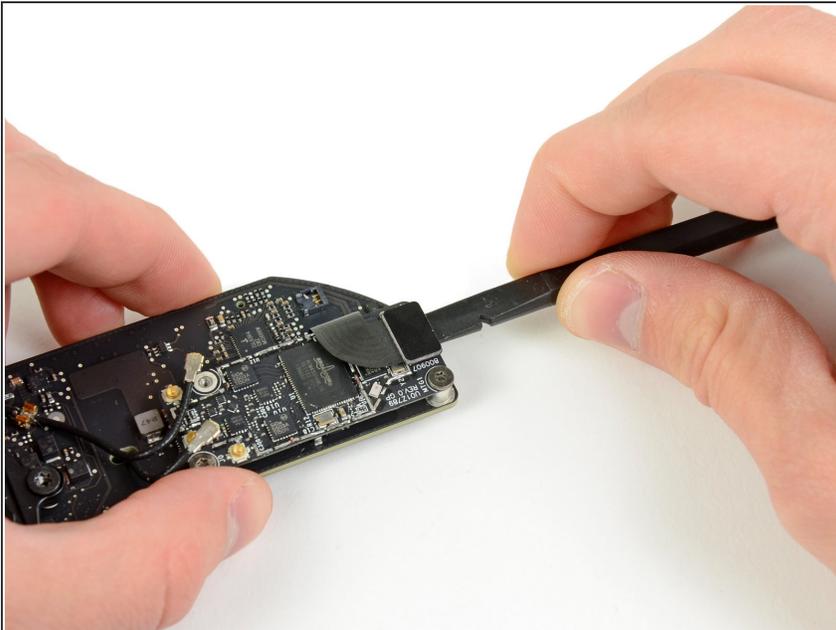
- Carefully lift the speaker wires upward to lift the speaker connector up and out of its socket on the logic board.
- Lift and remove the speaker away from the logic board.

Step 22 — AirPort/Bluetooth Board



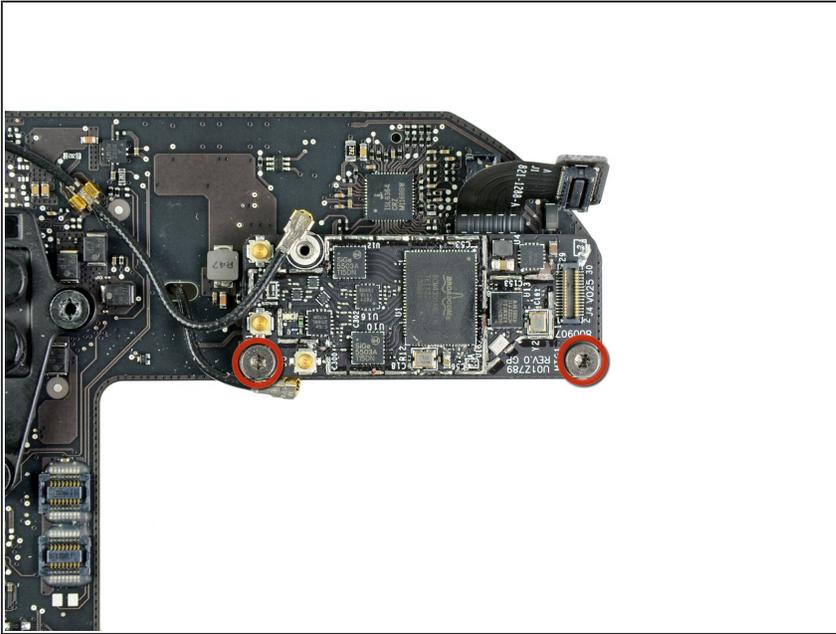
- Use the flat end of a spudger to pry both antenna connectors up from their sockets on the AirPort/Bluetooth board.

Step 23



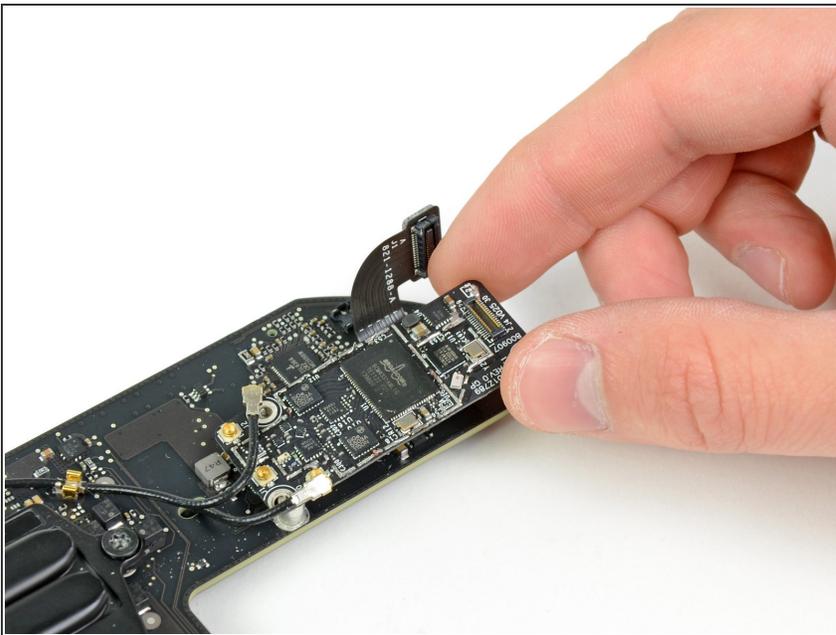
- Use your spudger to help disconnect the AirPort/Bluetooth ribbon cable from its socket on the AirPort/Bluetooth board.

Step 24



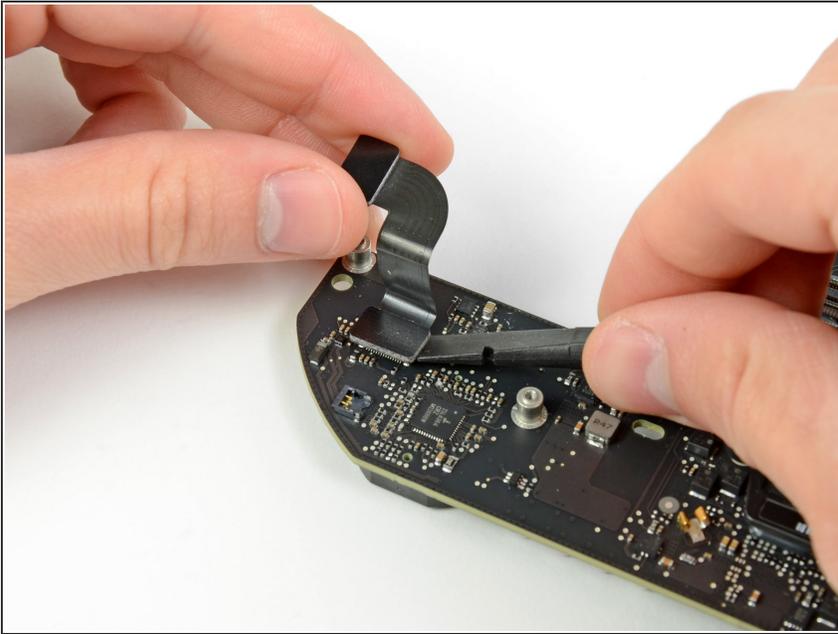
- Remove the two 2.6 mm T6 Torx screws securing the AirPort/Bluetooth board to the logic board.

Step 25



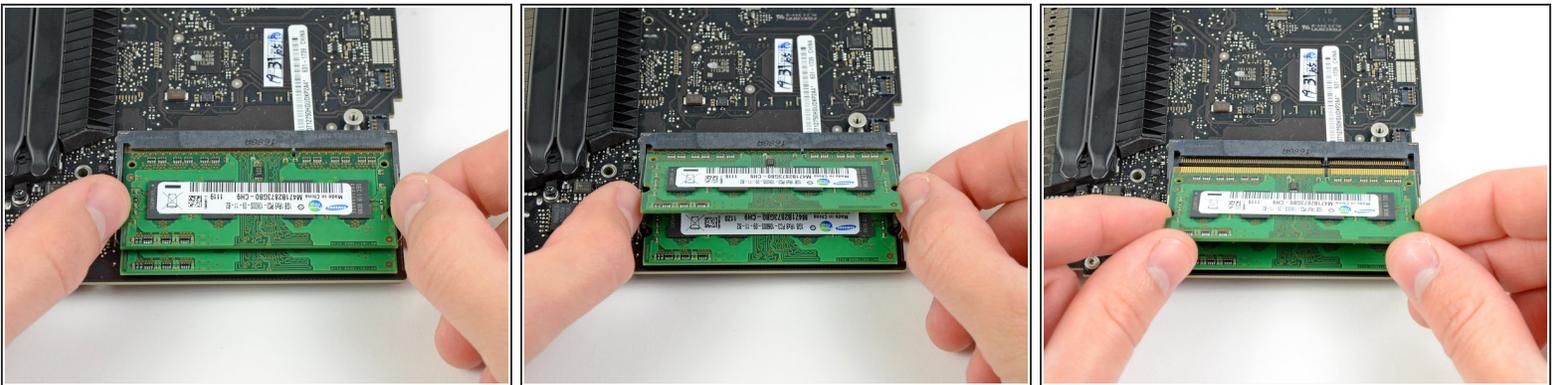
- Remove the AirPort/Bluetooth board from the logic board.

Step 26 — Logic Board



- Use the flat end of a spudger to pry the AirPort/Bluetooth ribbon cable up off the logic board.
- Remove the AirPort/Bluetooth ribbon cable.

Step 27



- Release the tabs on each side of the RAM chip by simultaneously pushing each tab away from the chip.
- ⓘ These tabs lock the chip in place and releasing them will cause the chip to "pop" up.
- After the RAM chip has popped up, pull it straight out of its socket.
- ➡ Repeat this process if a second RAM chip is installed.

Step 28



- Remove the single 5 mm T6 Torx standoff from the heat sink near the edge of the logic board.

Step 29



- Remove the following screws securing the heat sink to the logic board:
 - Four 8.6 mm T8 Torx screws
 - One 2.6 mm T6 Torx screw

⚠ Keep track of the springs held beneath each of the T8 heat sink screws.

Step 30



- Remove the heat sink from the logic board, minding any cables that may get caught.
- ⓘ If the heat sink appears to be stuck to the logic board after removing all screws, it may be helpful to use a spudger to separate the two components.
- ★ If you need to mount the heat sink back onto the logic board, we have a [thermal paste guide](#) that makes replacing the thermal compound easy.
- Logic board remains.

To reassemble your device, follow these instructions in reverse order. Be sure to follow our [thermal paste guide](#) to reapply the thermal compound on the CPU.