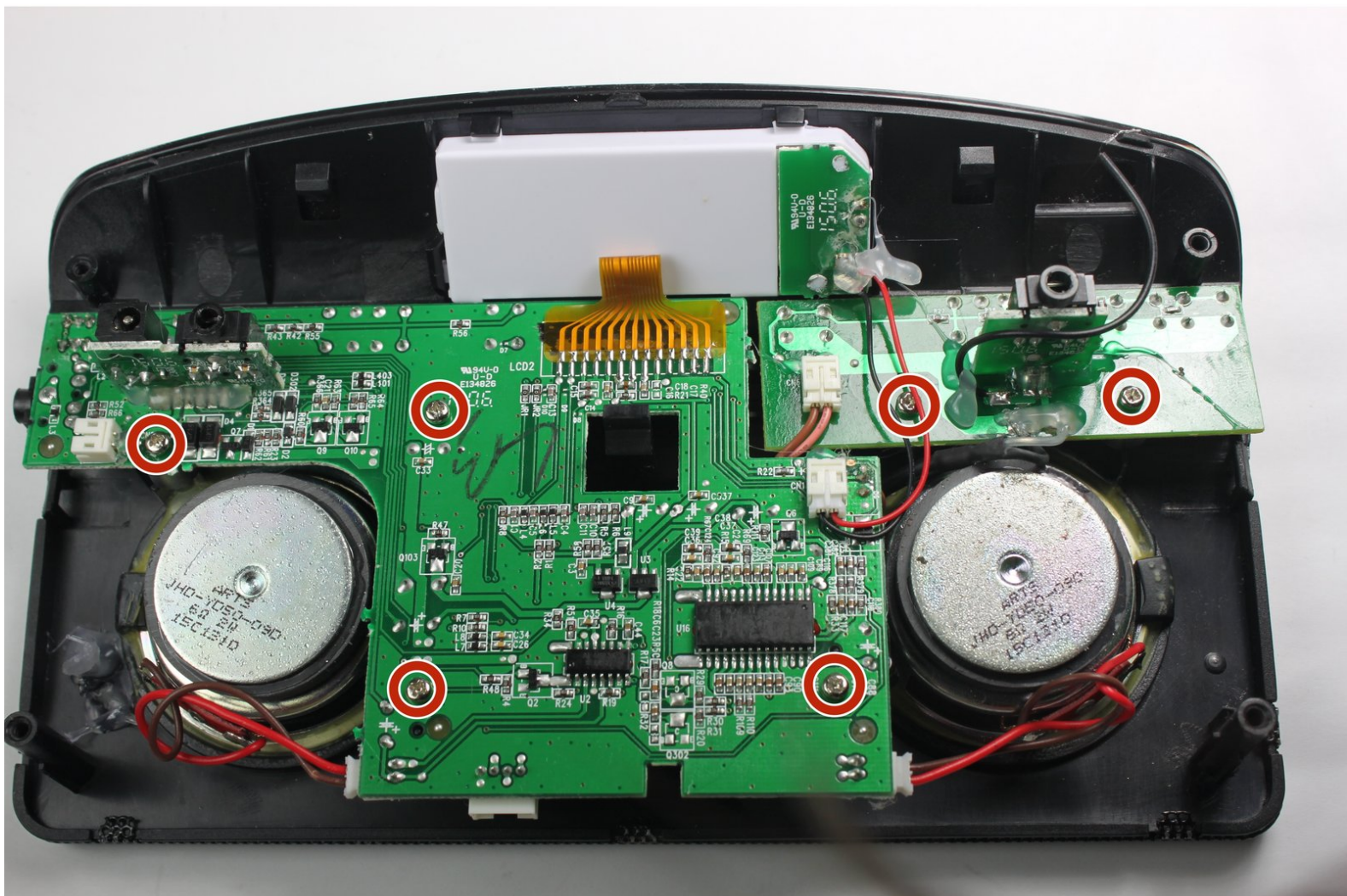




# Insignia NS-HDRAD Circuit Board Replacement

Remove the motherboard and daughterboard to assess damaged components or replace if necessary.

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## INTRODUCTION

The motherboard is connected to the LCD screen and daughterboard. It is important to unscrew and disconnect the LCD and daughterboard before removing the motherboard so as not to damage these components.



### TOOLS:

- [Phillips #1 Screwdriver](#) (1)
  - [Small Needle Nose Pliers](#) (1)
  - [Metal Spudger](#) (1)
  - [Spudger](#) (1)
  - [iFixit Opening Tools](#) (1)
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## Step 1 — Battery



- Be sure the radio is turned off by pressing the red power button.
- Or, if using the charger, remove the power cord.

## Step 2



- Remove the panel on the back side of the radio by pressing the arrow in a downward motion.



## Step 3



- Remove the batteries one-by-one by pulling from the positive terminal of the top left battery.
- ⓘ The battery's positive terminal is indicated by a "+" on the side.
- Remove the adjacent battery by simply pulling it out of the holder.
- Repeat for the bottom row of batteries.

## Step 4 — Rear Panel



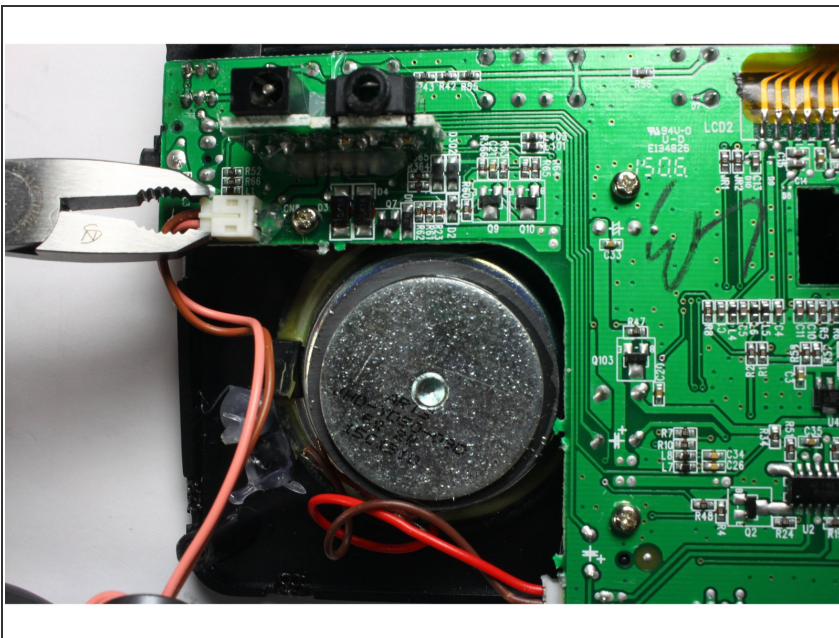
- Using the J1 Philip's head screwdriver, remove the 4 screws from the back side of the radio.
- ⓘ The 2 bottom screws are difficult to remove. Once unscrewed, either use a spudger to pull it out or knock on the front side of the radio to pop it out.

## Step 5



- Using the metal spudger, pry open the panel with the metal spudger. Work your way around the whole device.
- ⓘ The headphone jack is flush with the paneling so the panel must be moved away from the jack completely to remove.
- ☞ When reassembling, the ports don't fit into their respective holes in the back panel. Use the sharp metal end of the spudger and pull the ports to their slots.

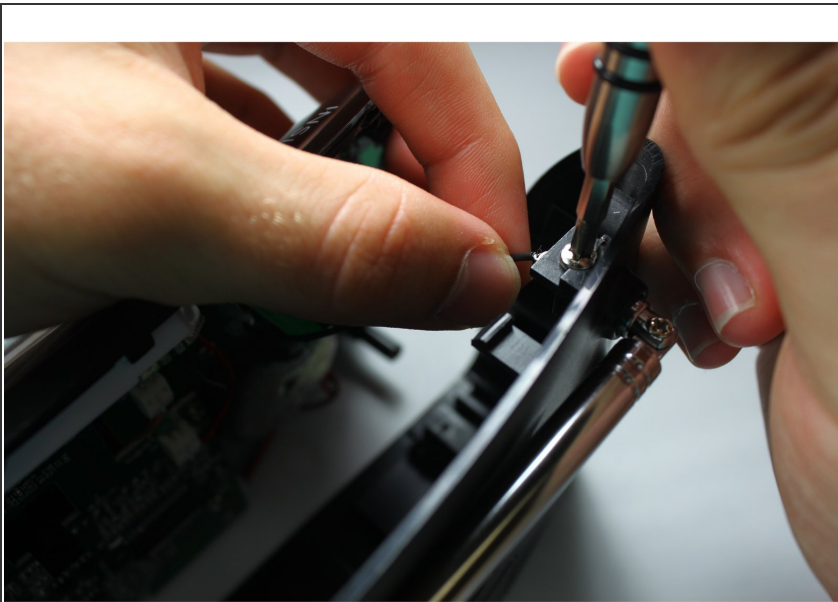
## Step 6



- Using the pliers, separate the wire connector above the left speaker.
- ⓘ If this is the first time removing the wire connector, there may be glue holding the wires flush against the panel. Remove this glue with a finger or the plastic spudger.
- ⓘ Using regular pliers or needle nose pliers are fine for this task. They are interchangeable.

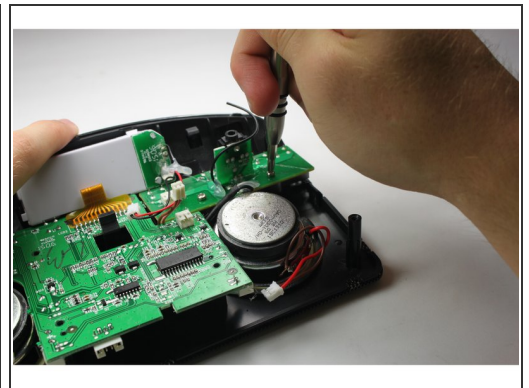
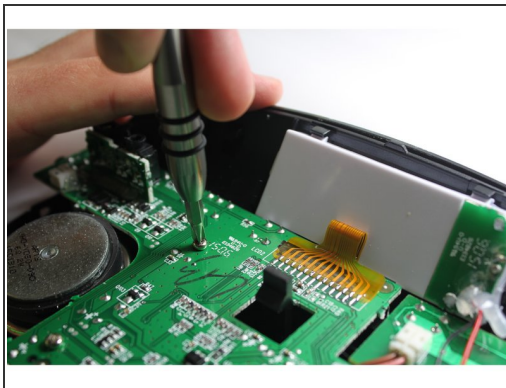
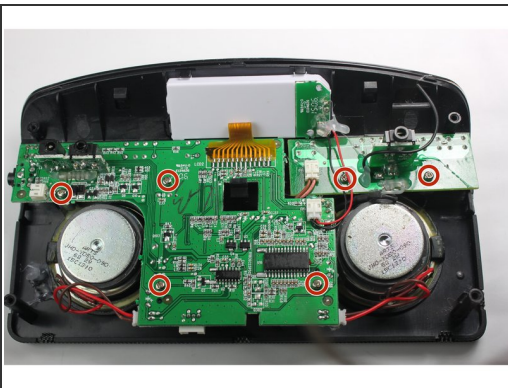


## Step 7



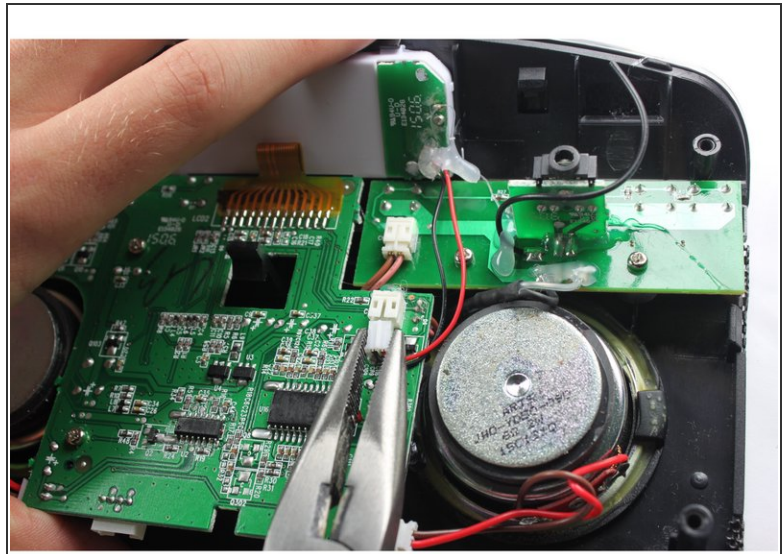
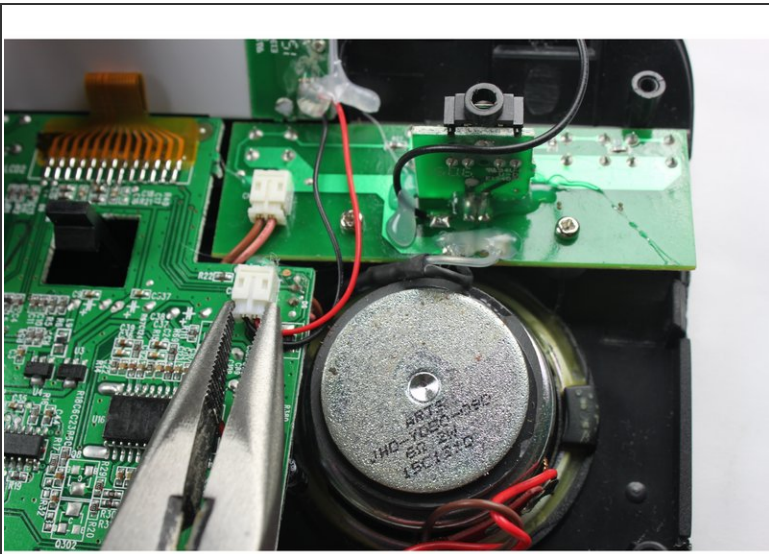
- Using the J1 Philip's head screwdriver, unscrew the bolt attaching the antenna to the back panel.

## Step 8 — Circuit Board



- Using the J1 Philip's head screwdriver, remove the 6 screws holding the central circuit board and the upper right circuit board to the panel.
- ⓘ Because the two circuit boards are soldered together, we are going to treat them as one circuit board and leave them connected.

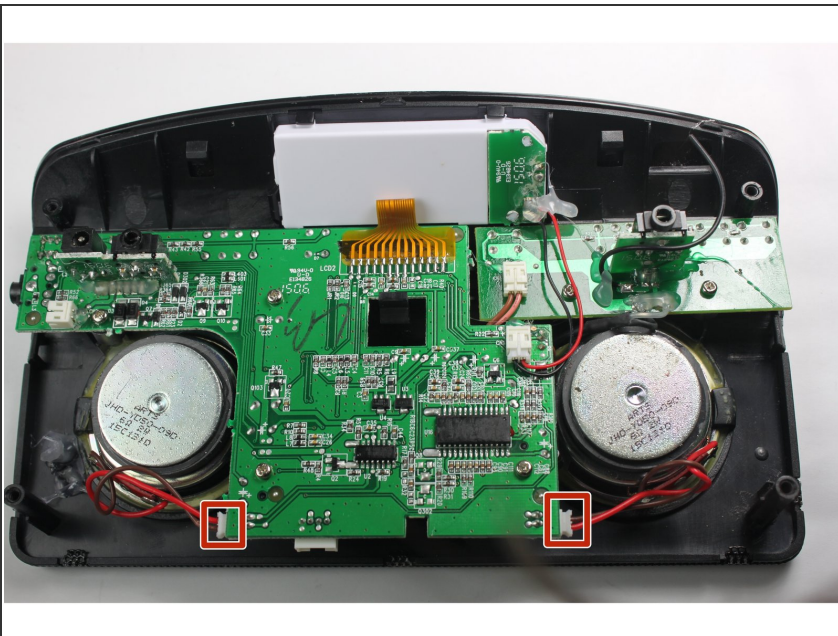
## Step 9



⚠ The speakers are magnetic and will attract metal objects. Try to avoid get your tools stuck.

- Using needle nose pliers or regular pliers, disconnect the wire connector with the red and black wires on the mother board by grabbing the end of the wires.

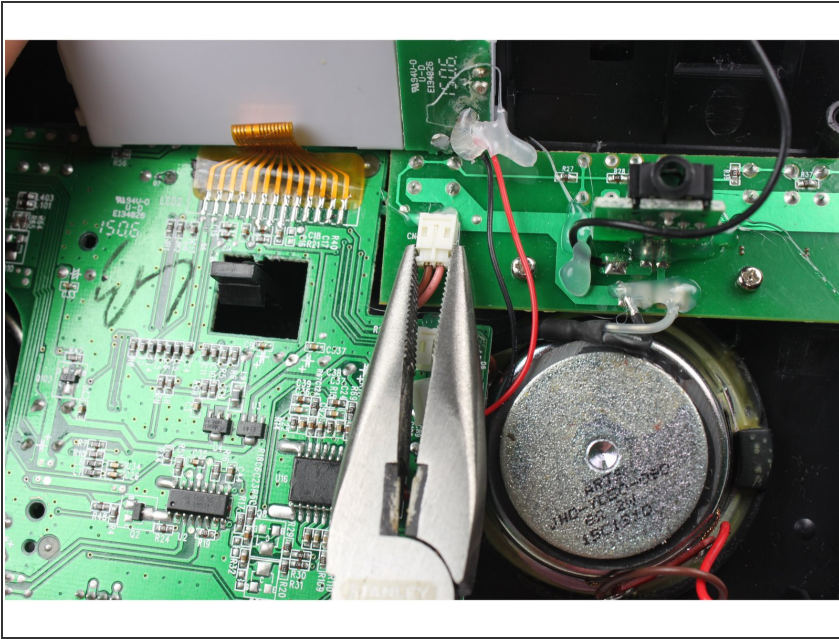
## Step 10



- Using the needle nose pliers or regular pliers, separate the wire connectors attaching the speakers to the circuit board on its right and left side.



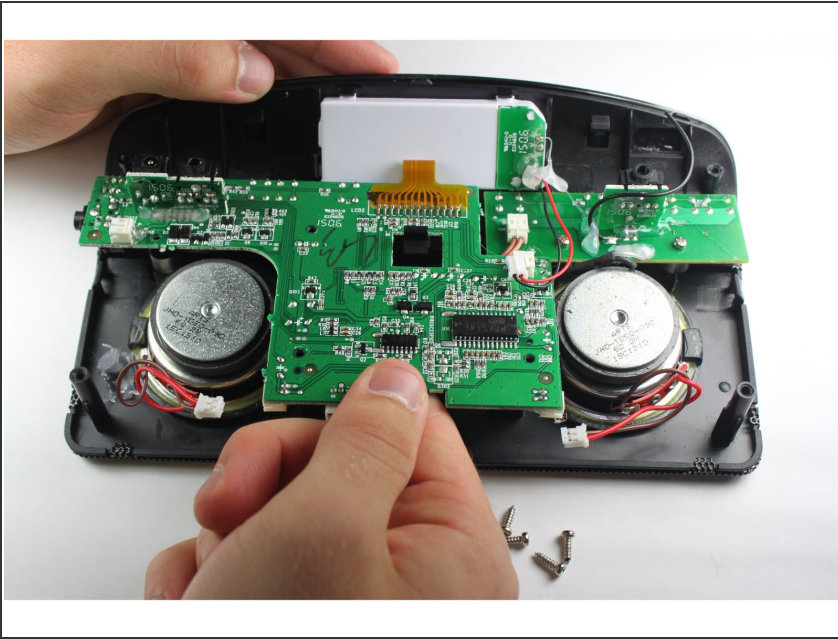
## Step 11



- i** This step is completely optional. Leaving the wire connector alone will not cause a problem.
- Using the needle nose pliers or regular pliers, remove the wire connector with the brown and pink wires to separate the small circuit board from the larger circuit board.



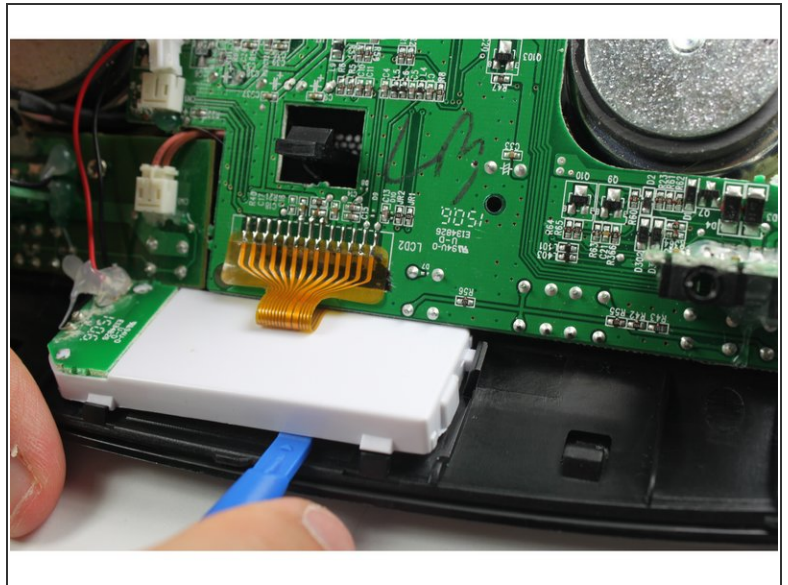
## Step 12



**⚠** Do not lift up the board too fast or too high. This may cause the copper ribbon to break and disconnect the LCD screen permanently.

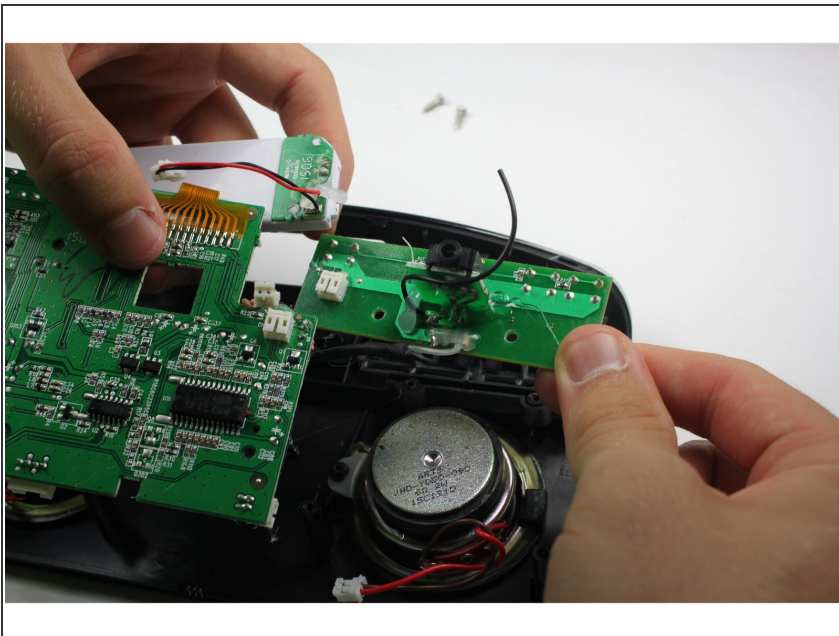
- Loosen the circuit board by lifting it up.
- i** If this is the first time removing the circuit board, there will be a weak adhesive holding the circuit board to the front panel. Remove this with a metal spudger or sharp tool.
- i** The power button may fall out of place. This is fine and you haven't broken anything, but be sure to place it back before inserting the circuit board.

## Step 13



- Remove the LCD Screen by pulling the black guard away from the LCD screen with a plastic spudger.
- Use the plastic spudger to lift up the top side of the LCD screen.

## Step 14



**⚠** This step is important to ensure that the copper ribbon wire connecting the circuit board and the LCD screen is not damaged.

- Lift the LCD screen up together with the circuit board.

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