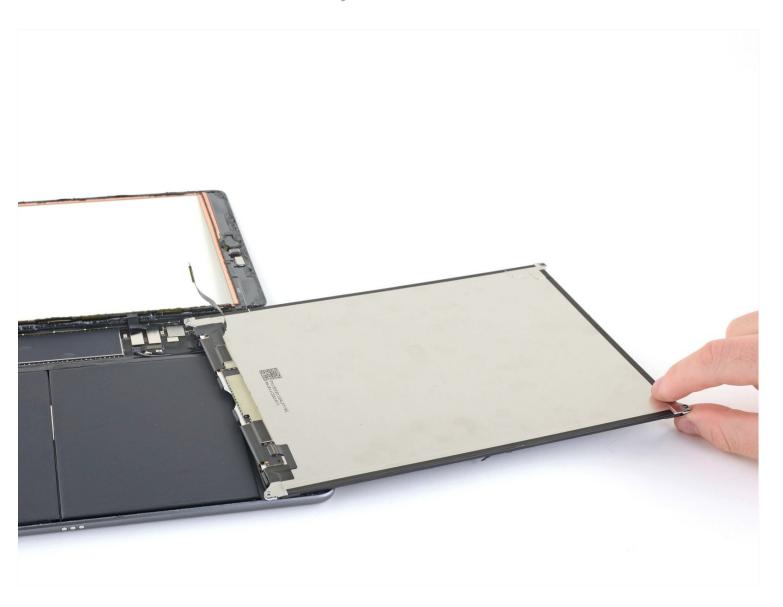


# iPad 9 LCD Replacement

Use this guide to replace the liquid crystal...

Written By: Alex Diaz-Kokaisl



#### INTRODUCTION

Use this guide to replace the liquid crystal display (LCD) in your iPad 9. Unlike newer iPads and most phones, the glass digitizer and LCD on the iPad 9 are not fused together.

Note: this guide is for the Wi-Fi version only. For the LTE version, click here.

For your safety, discharge the battery below 25% before disassembling your iPad. This reduces the risk of fire if the battery is accidentally damaged during the repair. If your battery is swollen, take appropriate precautions.

Be very careful when you isolate the battery using a battery blocker. The battery contacts are easily damaged, resulting in irreversible damage. If you choose to complete the guide without isolating the battery, avoid using metal tools except when completely necessary (like when removing screws) to prevent shorting the battery and damaging sensitive circuit components.

Some photos in this guide are from a different model and may contain slight visual discrepancies, but they won't affect the guide procedure.

#### TOOLS:

iOpener (1)

iFixit Opening Picks (Set of 6) (1)

Suction Handle (1)

Spudger (1)

Phillips #00 Screwdriver (1)

Battery Blocker (1)

Tweezers (1)

Packing Tape (1)

Safety Glasses (1)

Deck of Cards (1)

Polyimide Tape (1)

#### PARTS:

iPad 7/8/9 Adhesive Strips (1)

#### Step 1 — Heat the left edge



- i Be sure to power off your iPad before you begin your repair.
- Heat an iOpener and apply it to the left edge of the iPad for two minutes.

#### Step 2 — Screen removal information







- While you're waiting for the adhesive to loosen, note the following areas that are sensitive to prying:
  - Front camera
  - Antennas
  - Display cables
  - Ambient light sensors

#### Step 3 — Anti-Clamp instructions







- (i) The next three steps demonstrate the <a href="Anti-Clamp">Anti-Clamp</a>, a tool we designed to make the opening procedure easier. If you aren't using the Anti-Clamp, skip down three steps for an alternate method.
  - i For complete instructions on how to use the Anti-Clamp, check out this guide.
- Pull the blue handle backwards to unlock the Anti-Clamp's arms.
- Place an object under your iPad so it rests level between the suction cups.
- Position the suction cups near the middle of the left edge—one on the top, and one on the bottom.
- Hold the bottom of the Anti-Clamp steady and firmly press down on the top cup to apply suction.
  - (i) If you find that the surface of your iPad is too slippery for the Anti-Clamp to hold onto, use tape to create a grippier surface.



- Pull the blue handle forward to lock the arms.
- Turn the handle clockwise 360 degrees or until the cups start to stretch.
- Make sure the suction cups remain aligned with each other. If they begin to slip out of alignment, loosen the suction cups slightly and realign the arms.



- Wait one minute to give the adhesive a chance to release and present an opening gap.
- If your screen isn't getting hot enough, you can use a hair dryer to heat along the left edge of the iPad.
  - i For complete instructions on how to use a hair dryer, check out this guide.
- Insert an opening pick under the digitizer when the Anti-Clamp creates a large enough gap.
  - (i) If the Anti-Clamp doesn't create a sufficient gap, apply more heat to the area and rotate the handle clockwise half a turn.
  - ⚠ Don't crank more than a half a turn at a time, and wait one minute between turns. Let the Anti-Clamp and time do the work for you.
- Skip the next step.

#### Step 6 — Insert an opening pick







- (i) This step shows how to open the iPad using a suction handle.
- i If your display is badly cracked, <u>covering it with a layer of clear packing tape</u> may allow the suction cup to adhere. Alternatively, very strong tape may be used instead of the suction cup. If all else fails, you can superglue the suction cup to the broken screen.
- Once the screen is warm to touch, apply a suction handle to the left edge of the screen and as close to the edge as possible.
- Lift the screen with the suction handle to create a small gap between the digitizer and the frame.
- Insert an opening pick into the gap between the digitizer and the frame.

#### Step 7 — Separate the left adhesive



- Insert a second opening pick into the gap you just created.
- Slide the pick towards the bottom-left corner of the iPad to separate the adhesive.
- Leave the pick in the bottom-left corner to prevent the adhesive from re-sealing.
- ② Don't worry if you can see the opening pick through the digitizer—just pull the pick out. The LCD screen shouldn't be damaged, but you risk leaving behind hard-to-clean adhesive.

#### Step 8



 If the opening pick gets stuck in the adhesive, "roll" the pick along the side of the iPad to continue separating the adhesive.



- Slide the first opening pick towards the top-left corner of the iPad to separate the adhesive.
- Leave the pick in the top-left corner to prevent the adhesive from re-sealing.

#### Step 10 — Heat the top edge



 Heat an iOpener and apply it to the top edge of the iPad for two minutes.

## Step 11 — Separate the top left adhesive



• Rotate the pick around the top-left corner of the iPad to separate the adhesive.

## Step 12 — Separate the top adhesive



• Slide the opening pick along the top edge of the iPad, stopping just before you reach the front camera.

Avoid sliding the pick over the front camera, as you may damage the lens. The following steps will show how to prevent this.



- Pull the pick out until only the tip is between the digitizer and the frame.
- Slide the pick above the front camera to separate the adhesive.
- Leave the pick near the right side of the front camera before continuing.



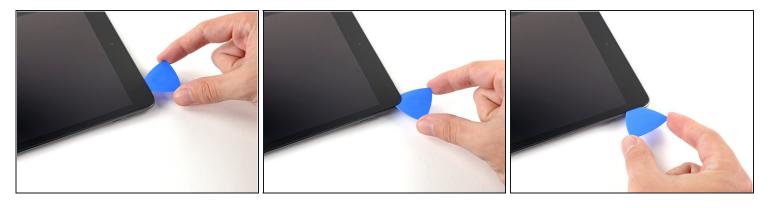
- Re-insert the pick and slide it towards the top-right corner of the iPad to completely separate the top adhesive.
- Leave the pick in the top-right corner to prevent the adhesive from re-sealing.

## Step 15 — Heat the right edge



 Heat an iOpener and apply it to the right edge of the iPad for two minutes.

## Step 16 — Separate the top right adhesive



• Rotate the pick around the top-right corner of the iPad to separate the adhesive.

#### Step 17 — Separate the right adhesive



• Insert a new opening pick and slide it to the middle of the iPad's right edge.

The display cables are located approximately halfway from the bottom of the iPad. Stop sliding once you reach 3 inches from the bottom of the iPad.

#### Step 18 — Heat the bottom edge



 Heat an iOpener and apply it to the bottom edge of the iPad for two minutes.

#### Step 19 — Separate the bottom left adhesive



- Slide the bottom-left pick to the bottom-left corner to separate the adhesive.
  Don't fully rotate the pick around the corner, as you may damage the antenna.
  - (i) The third image shows the bottom-left antenna underneath the digitizer.
- Leave the pick in the corner before moving to the next step.

#### Step 20 — Separate the bottom adhesive



- Insert a new opening pick into the gap you just created on the bottom edge of the iPad.
- Slide the pick over the antenna, stopping just before the home button.
  - ⚠ Only slide the pick towards the home button and not away from it, as you may damage the antenna.
  - i If you need to slide the pick over this section again, remove and re-insert it at the bottom-left corner.
- Leave the pick to the left of the home button before continuing.



- Insert an opening pick into the gap you just created.
- Slide the pick underneath the home button and towards the bottom-right corner, making sure **only the tip** is between the digitizer and the frame.

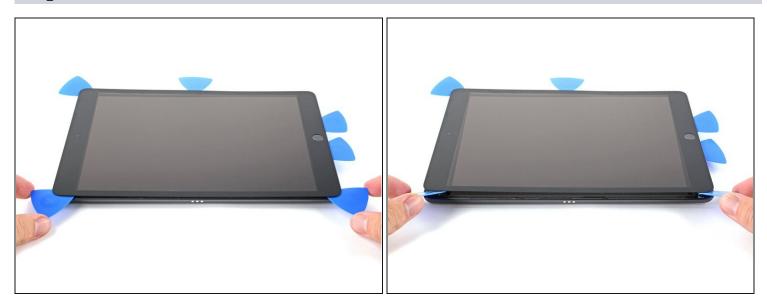


- Re-insert the pick and slide it towards the home button to completely separate the bottom adhesive.
  - ⚠ Only slide the pick towards the home button and not away from it, as you may damage the antenna.
  - i If you need to slide the pick over this section again, remove and re-insert it at the bottom-right corner.
- Leave the pick to the right of the home button before continuing.

## Step 23 — Heat the right edge



 Heat an iOpener and apply it to the right edge of the iPad for two minutes.



- ⚠ **Be very careful with this step.** Take your time, ensure the adhesive is hot and soft, and make sure you separated all of the adhesive with a pick. Don't be afraid to stop and reheat.
- Twist the two opening picks on the left corners of the iPad to lift the digitizer slightly, separating the the last of the adhesive in the process.
- (i) If there's a significant amount of resistance, reheat the edges and work along them with an opening pick.



- Lift the left edge of the digitizer upwards to further separate the adhesive along the right edge of the iPad.
- (i) Throughout the remaining steps, try not to touch the back side of the glass or the surface of the LCD with your fingers—any fingerprints can be tough to clean off.

#### Step 26 — Separate the right adhesive



• While supporting the digitizer, slide an opening pick between the two digitizer cables to separate the last of the adhesive.

<u>A Be careful not to damage the two digitizer cables with your opening pick.</u>





- Once all of the adhesive has been separated, open the digitizer like a book and rest it parallel to the iPad.
- During reassembly, clean the remaining adhesive from the frame—and the digitizer if you're re-using it—with isopropyl alcohol. Replace the adhesive with our <u>adhesive</u> <u>strips</u> or <u>pre-cut adhesive cards</u>.
- Be mindful of the display cables when reassembling the iPad. Make sure they are folded properly underneath the LCD screen to prevent any damage.

## Step 28 — Remove the LCD





- Use a Phillips screwdriver to remove the four 4.2 mm-long screws securing the LCD to the frame.
  - Remove any tape obscuring the LCD screws.
- Throughout this repair, <u>keep track of each screw</u> and make sure it goes back exactly where it came from to avoid damaging your iPad.

#### Step 29 — Flip the LCD over

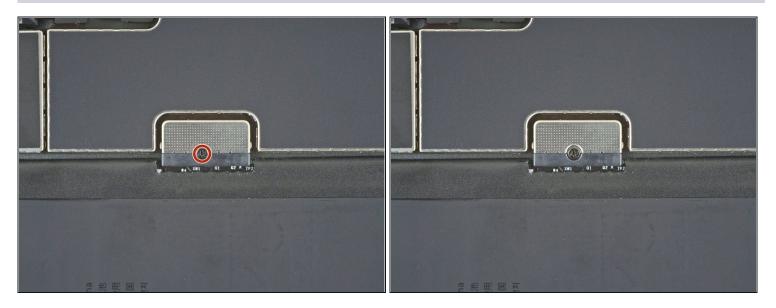


⚠ Don't attempt to fully remove the LCD during this step, as it's still connected by several cables at the home button end.

## $\triangle$ Only lift the LCD from the front-facing camera end.

- Use the flat end of a spudger to pry the LCD out of its recess just enough to grab it with your fingers.
- Flip the iPad LCD like a page in a book, lifting near the camera and turning it over the home button end of the frame.
- Lay the LCD down onto a clean, soft, lint-free surface to allow access to the display cables.

#### Step 30 — Disconnect the battery



• Use a Phillips screwdriver to remove the 2.3 mm-long screw securing the battery connector to the logic board.

#### Step 31 — Battery connector information



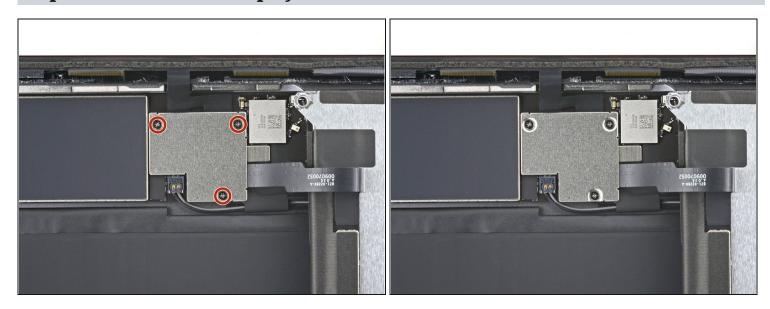
- ① These photos show what the battery connector looks like underneath the logic board. Use these photos as a reference while you safely disconnect the battery.
- (i) Notice that the battery connector has cantilever springs on the logic board that press against the battery contact pads. Since both the logic board and battery are glued down, you'll need to slide something thin and flexible between the contact points to disconnect the battery.

#### Step 32 — Disconnect the battery



- ⚠ Follow the instructions carefully if you're isolating the battery using a battery blocker. The battery contacts are easily bent or broken, resulting in irreversible damage.
- (i) Ensure that the iFixit logo on the battery blocker is facing up.
- Slide the battery blocker underneath the logic board's battery connector at a 35 degree angle.
  - (i) Don't push the battery blocker underneath the connector with excessive force. If you're having trouble fitting the battery blocker underneath the logic board, you can try <u>using a playing card</u> to disconnect the battery instead.
  - (i) The battery blocker or playing card ideally should slide under the logic board without encountering any blockages. After insertion, it should rest at about a 15 degree angle.
- Leave the battery blocker in place as you work.

## Step 33 — Unfasten the display cable bracket



• Use a Phillips screwdriver to remove the three 1.4 mm-long screws securing the display cable bracket.

## Step 34 — Remove the display cable bracket



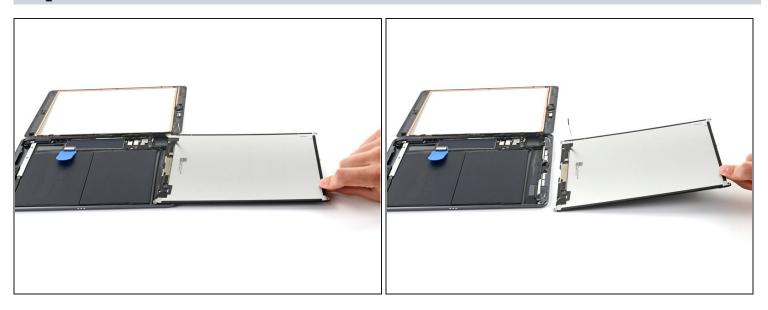
• Remove the display cable bracket.

#### Step 35 — Disconnect the LCD



- Use the flat end of a spudger to pry up and disconnect the LCD cable press connector.
- To re-attach <u>press connectors</u> like this one, carefully align and press down on one side until it clicks into place, then repeat on the other side. Do not press down on the middle. If the connector is misaligned, the pins can bend, causing permanent damage.

#### Step 36 — Remove the LCD



• Remove the LCD completely and rest it face down on a clean, soft, lint-free surface.

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

Take your e-waste to an R2 or e-Stewards certified recycler.

Repair didn't go as planned? Try some <u>basic troubleshooting</u>, or ask our <u>iPad 9 Answers</u> <u>community</u> for help.