



# iPad 6 Wi-Fi Front Facing Camera Replacement

Replace the front-facing camera assembly,...

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## INTRODUCTION

Replace the front-facing camera assembly, including the ambient light sensor, for an iPad 6 Wi-Fi.

**Be very careful when you isolate the battery using a battery blocker.** The battery contacts are easily damaged, resulting in irreversible damage to the logic board. 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.

### TOOLS:

[Anti-Clamp](#) (1)  
[iOpener](#) (1)  
[iFixit Opening Picks \(Set of 6\)](#) (1)  
[Suction Handle](#) (1)  
[Tweezers](#) (1)  
[Phillips #00 Screwdriver](#) (1)  
[Spudger](#) (1)  
[Battery Blocker](#) (1)  
[Phillips #000 Screwdriver](#) (1)

### PARTS:

[iPad Air, iPad 5, iPad 6 Adhesive Strips](#) (1)  
[iPad 5, iPad 6, iPad 7 Front Camera](#) (1)

## Step 1 — Heat the left edge



- [Heat an iOpener](#) and apply it to the left edge of the device 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

### Step 3 — Anti-Clamp instructions



- ① The next three steps demonstrate the [Anti-Clamp](#), 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.**
- ① 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.
- ① 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.

## Step 4



- 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.

## Step 5



- 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.
    - ⓘ 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.
    - ⓘ 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



- ⓘ If your display is badly cracked, [covering it with a layer of clear packing tape](#) 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 toward the bottom-left corner of the device to separate the adhesive.
  - Leave the pick in the bottom-left corner to prevent the adhesive from re-sealing.
- ⓘ 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.

## Step 9



- Slide the first opening pick towards the top-left corner of the device 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 device for two minutes.

## Step 11 — Separate the top left adhesive



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

## Step 12 — Separate the top adhesive



- Slide the opening pick along the top edge of the device, 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.

## Step 13



- 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.

## Step 14



- Re-insert the pick and slide it towards the top-right corner of the device 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 device for two minutes.

## Step 16 — Separate the top right adhesive



- Rotate the pick around the top-right corner of the device 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 three 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 device 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.**
- Leave the pick in the bottom-left 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.**
- ⓘ 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.

## Step 21



- 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.

**⚠ Only insert the pick up to 1 mm to avoid damaging the right antenna.**

## Step 22



- 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 device for two minutes.

## Step 24



**⚠ 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.
- ⓘ If there's a significant amount of resistance, reheat the edges and work along them with an opening pick.

## Step 25



- Lift the left edge of the digitizer upwards to further separate the adhesive along the right edge of the iPad.

## Step 26 — Separate the right adhesive



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

## Step 27



- 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 [adhesive strips](#) or [pre-cut adhesive cards](#).
- ☑ Be mindful of the display cables when reassembling the device. Make sure they are folded properly underneath the LCD screen to prevent any damage.

## Step 28 — iOpener Heating



- ⓘ We recommend that you clean your microwave before proceeding, as any nasty gunk on the bottom may end up stuck to the iOpener.
- Place the iOpener in the center of the microwave.
  - ⚠ For carousel microwaves: Make sure the plate spins freely. If your iOpener gets stuck, it may overheat and burn.

## Step 29



- Heat the iOpener for **thirty seconds**.
- Throughout the repair procedure, as the iOpener cools, reheat it in the microwave for an additional thirty seconds at a time.

⚠ Be careful not to overheat the iOpener during the repair. Overheating may cause the iOpener to burst. Do not attempt to heat over 100°C (212°F).

⚠ Never touch the iOpener if it appears swollen.

⚠ If the iOpener is still too hot in the middle to touch, continue using it while waiting for it to cool down some more before reheating. A properly heated iOpener should stay warm for up to 10 minutes.

## Step 30



- Remove the iOpener from the microwave, holding it by one of the two flat ends to avoid the hot center.

⚠ The iOpener will be very hot, so be careful when handling it. Use an oven mitt if necessary.

## Step 31 — Alternate iOpener heating method



ⓘ If you don't have a microwave, follow this step to heat your iOpener in boiling water.

- Fill a pot or pan with enough water to fully submerge an iOpener.
  - Heat the water to a boil. **Turn off the heat.**
  - Place an iOpener into the hot water for 2-3 minutes. Make sure the iOpener is fully submerged in the water.
  - Use tongs to extract the heated iOpener from the hot water.
  - Thoroughly dry the iOpener with a towel.
- ⚠ The iOpener will be very hot, so be careful to hold it only by the end tabs.
- Your iOpener is ready for use! If you need to reheat the iOpener, heat the water to a boil, turn off the heat, and place the iOpener in the water for 2-3 minutes.

## Step 32 — Front Panel



- If your display glass is cracked, keep further breakage contained and prevent bodily harm during your repair by taping the glass.
- Lay overlapping strips of clear packing tape over the iPad's display until the whole face is covered.
  - ⓘ This will keep glass shards contained and provide structural integrity when prying and lifting the display.
- Do your best to follow the rest of the guide as described. However, once the glass is broken, it will likely continue to crack as you work, and you may need to use a metal prying tool to scoop the glass out.

**⚠ Wear safety glasses to protect your eyes, and be careful not to damage the LCD screen.**

## Step 33



- Handling it by the tag, place the heated iOpener on the side of the iPad to the left of the home button assembly.
- Let the iOpener sit for at least a minute to soften the adhesive beneath the glass.

## Step 34



- ⓘ While the iPad looks uniform from the outside, there are delicate components under the front glass. To avoid damage, **only** heat and pry in the areas described in each step.
- As you follow the directions, take special care to avoid prying in the following areas:
    - Front-facing camera
    - Antennas
    - Display cables

## Step 35 — Anti-Clamp instructions



- ① The next three steps demonstrate the [Anti-Clamp](#), 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.**
- ① 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.
- ① 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.

## Step 36



- 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.

## Step 37



- 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.
    - ⓘ For complete instructions on how to use a hair dryer, [check out this guide](#).
  - Insert an opening pick under the screen when the Anti-Clamp creates a large enough gap.
    - ⓘ 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 two steps.**

## Step 38



- Carefully place a suction cup halfway up the heated side.
    - Be sure the cup is completely flat on the screen to get a tight seal.
  - While holding the iPad down with one hand, pull up on the suction cup to slightly separate the front panel glass from the rear case.
- i** If your iPad's screen is badly cracked, covering it with a smooth layer of clear packing tape may help the suction cup adhere. Alternatively, use a strong piece of tape (such as duct tape) and [fold it into a handle](#).

## Step 39



- Place an opening pick in the gap opened by the suction cup.
  - ⚠ Don't insert the opening pick any deeper than the black bezel on the side of the display. Inserting the pick too far may damage the LCD.**
- Pull the suction cup's plastic nub to release the vacuum seal and remove the suction cup from the display assembly.

## Step 40



- Reheat and replace the iOpener.

⚠ Be careful not to overheat the iOpener during the repair procedure. Always wait at least ten minutes before reheating the iOpener.

## Step 41



- Place a second opening pick alongside the first and slide the pick down along the edge of the iPad, releasing the adhesive as you go.

## Step 42



- Continue moving the opening pick down the side of the display to release the adhesive.
- If the opening pick gets stuck in the adhesive, "roll" the pick along the side of the iPad, continuing to release the adhesive.

## Step 43



- Take the first pick you inserted and slide it up toward the top corner of the iPad.
- If you can see the tip of the opening pick through the front glass, don't panic—just pull the pick out just a little bit. Most likely, everything will be fine, but try to avoid this as it may deposit adhesive on the front of the LCD that is difficult to clean off.

## Step 44



- Reheat the iOpener and place it on the top edge of the iPad, over the front-facing camera.  
**⚠ Be careful not to overheat the iOpener during the repair procedure. Wait at least ten minutes before reheating the iOpener.**
- ⓘ If you have a flexible iOpener, you can bend it to heat both the upper left corner and the upper edge at the same time.

## Step 45



- Slide the opening pick around the top left corner of the iPad to separate the adhesive.

## Step 46



- Slide the opening pick along the top edge of the iPad, stopping just before you reach the camera.
- ⓘ The third image shows where the front-facing camera and housing are in the iPad.
  - ⚠ Avoid sliding the opening pick over the front facing camera, as you may smear adhesive onto the lens or damage the camera. The following steps will detail how to best avoid disturbing the front facing camera.

## Step 47



- Pull the pick out slightly, and slide the very tip gently along the top of the front-facing camera section of the top edge.

## Step 48



- Leave the opening pick in the iPad slightly past the front-facing camera.
- Take a second pick and insert it to the left of the camera, and then slide it to the corner of the iPad to finish cutting the adhesive on that edge.

## Step 49



- Insert the previous pick deeper into the iPad and slide it away from the camera toward the corner.

## Step 50



- Leave the three picks in the corners of the iPad to prevent re-adhering of the front panel adhesive.
- Reheat the iOpener and place it on the remaining side of the iPad—along the volume and lock buttons.

## Step 51



- Slide the opening pick around the top right corner of the iPad, releasing the adhesive there.
- ⓘ Leave this pick in place to keep the adhesive from re-sealing itself, and grab a new pick for the next step.

## Step 52



- Insert a new opening pick and slide it to the middle of the right edge of the iPad, releasing the adhesive as you go.

**⚠ The display cables are located approximately halfway from the bottom of the iPad. Stop sliding the pick when you get ~4.5" from the bottom of the iPad.**

## Step 53



- Leave the opening picks in place, and set the reheated iOpener on the home button end of the iPad.

## Step 54



- Slide the lower left pick to the lower left corner to cut the adhesive on that corner.
- Leave the pick at the corner. Do not pry any farther, and do not remove the pick from the iPad.
- ⓘ The third image shows the two antennas and the home button cavity in the lower case of the iPad.
  - The following steps will direct you where to pry to avoid damage to these components. Only apply heat and pry where directed.

## Step 55



- ① Leave the pick from the last step in place to prevent the adhesive from re-sealing.
- With a new pick, slice gently over the left-hand antenna, stopping before the home button.
  - ⚠ Only slide the pick from the outer edge toward the center of the iPad. Do not move the pick back toward the outer edge, as moving in this direction may damage the antenna.
- ① If you need to slide the pick over the lower section more than once, remove it and re-insert at the outer edge, and slide inwards.
- Leave the pick in place before moving on.

## Step 56



- Take a new pick and slip it in to the right of the previous pick.
- Slide across the home button and right-hand antenna using **only the very tip** to remove the adhesive.

## Step 57



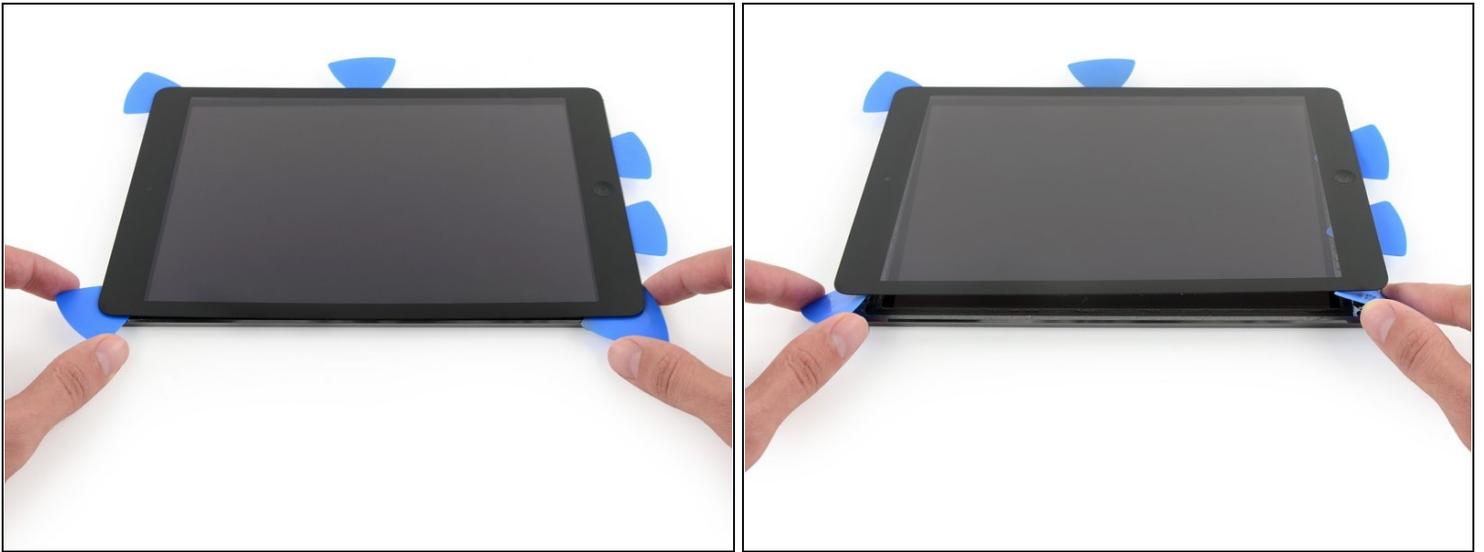
- With the adhesive loosened, you can now insert the pick near the right-hand corner. Slide the pick to the left, and stop just short of the Home button.  
**⚠ Just like with the left antenna, only slide from the outer edge toward the center. Reversing this direction may damage the antenna.**

## Step 58



- Reheat and reapply the iOpener to the volume control side of the iPad.

## Step 59



**⚠ Be very careful with this step.** Take your time and ensure the adhesive is hot and soft, and that you've been through all of the adhesive with an opening pick. Don't be afraid to stop and reheat.

- On the side of the iPad opposite the volume controls, you should have a pick lodged into each corner. Twist the picks to lift the glass slightly, separating the last of the adhesive along the display cable edge.
- ⓘ If you encounter a significant amount of resistance, leave the picks in place, reheat, and reapply the iOpener to the problem areas.

## Step 60



- Lift slowly and gently to further detach the adhesive along the display cable edge.

## Step 61



- While supporting the front panel glass, use an opening pick to cut the last of the adhesive.

**⚠ Be very careful not to cut or damage any of the display cables.**

## Step 62



- Once all of the adhesive has been separated, open the glass panel like a page in a book and rest it on your workspace.
- ☑ During reassembly, clean the remains of the adhesive from the case (and the front glass if you are re-using it) with isopropyl alcohol, and replace the adhesive using our [display adhesive application guide](#) and [pre-cut adhesive strips](#).
- ☑ It's easy to pinch a flex cable between the front glass and the iPad's frame during reassembly. Be mindful of the flex cables and make sure they gently fold and tuck under the frame. If the folds in a flex cable are pressed completely flat, it may be damaged beyond repair.

## Step 63 — LCD



- Remove any tape obscuring the LCD screws.

## Step 64



- Remove the four Phillips #00 4.3 mm screws securing the LCD.

## Step 65



**⚠ Do not attempt to fully remove the LCD. It is still connected to the iPad by several cables at the home button end. Lift only 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. There may be glue around the screw holes that needs to be cut with a knife.
- Flip the iPad LCD like a page in a book, lifting near the camera and turning it over the home button end of the rear case.

**⚠ Be gentle and keep an eye on the LCD cables as you flip the display over.**

- Lay the LCD on its face to allow access to the display cables.
  - ⓘ Set the LCD down on a soft, clean, lint-free surface.

## Step 66 — Battery connector information



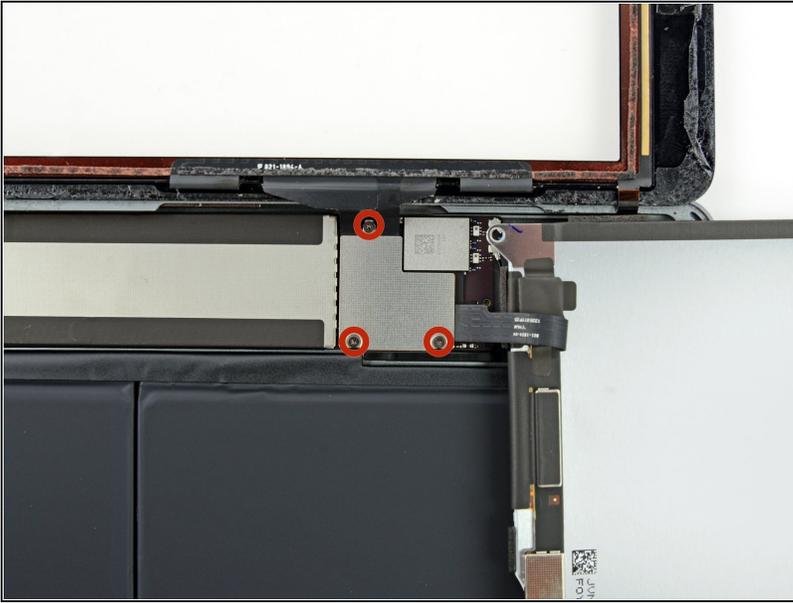
- ⓘ These photos show what the battery connector looks like underneath the logic board. Use these photos as a reference while you safely disconnect the battery.
- ⓘ Notice that the battery connector has cantilever springs on the logic board that press against the battery contact pads. Since both the 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 67



- Remove the single 2.3 mm Phillips #000 screw securing the battery connector to the logic board.
- ⓘ To reduce the risk of a short, you can use a battery isolation pick to disconnect the battery.
- Slide the battery blocker underneath the logic board's battery connector at a 35 degree angle.
  - ⓘ 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 [using a playing card](#) to disconnect the battery instead.
  - ⓘ The battery blocker or playing card ideally should slide under the logic board without encountering any blockages. After insertion, it should rest at a 15 degree angle.
- Leave the battery blocker in place as you work.

## Step 68



- Remove the three 1.4 mm Phillips #000 screws from the display cable bracket.

## Step 69



- Use the flat end of a spudger to gently pry the display cable bracket straight up from the logic board.

**⚠ The display cable connector is adhered to the underside of the bracket, so don't push the spudger too far under the bracket, or you may damage the connector.**

## Step 70



- Remove the LCD.

## Step 71 — Front Panel Assembly



- Remove any tape covering the home button ribbon cable connector.

## Step 72



- Use the flat end of a spudger to flip the tab on the home button ribbon cable ZIF connector upward.
- Carefully pull the home button ribbon cable straight out of the ZIF connector.

## Step 73

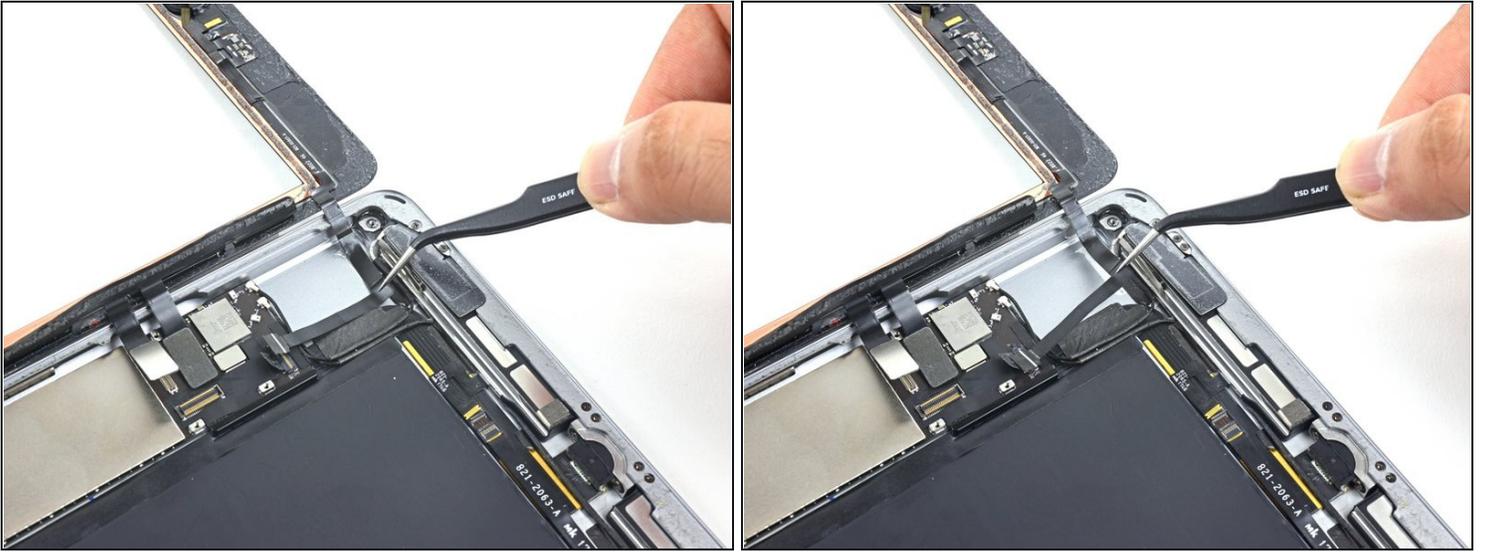


- Use a the flat end of a spudger or a fingernail to carefully pop the two digitizer cable connectors straight up from their sockets.

**⚠ To avoid damaging your iPad, pry only on the connectors themselves, **not** on the socket on the logic board.**

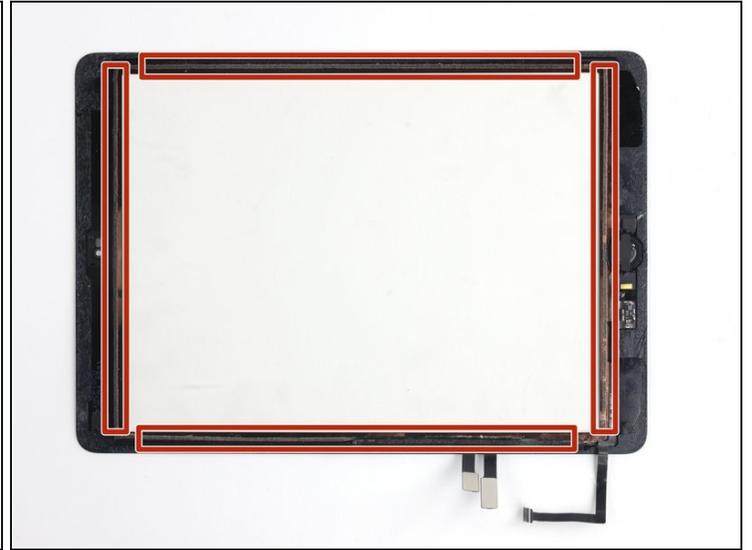
- ☑ During reassembly, make sure that these connectors are completely seated in their sockets, or you may encounter display issues.

## Step 74



- Carefully peel the home button ribbon cable up off of the adhesive holding it to the rear case.

## Step 75



- Remove the front panel assembly.
- If you experience "ghost" or "phantom" touch input issues with your new display, this can be resolved by adding a layer of very thin insulating tape, such as [Kapton \(polyimide\) tape](#), to the highlighted areas on the back of the panel. **iFixit panels come with the proper insulation, and should not require the addition of any tape.**
  - ☒ Without the proper insulation, these areas of the digitizer can ground out against other components, causing touch input malfunction.
  - ⓘ The insulation is not visible to the naked eye, and is different from the foam dust barrier strips found on many iPads.

## Step 76 — Upper Component Cable Bracket



- Remove the three 1.4 mm Phillips #000 screws securing the upper component cable bracket.

## Step 77



- Remove the upper component cable bracket.

⚠ If you have the Wi-Fi/Cellular model, your iPad will look slightly different and will require the removal of two additional screws to access components covered by this bracket.

## Step 78 — Front Facing Camera



- Use the flat end of a spudger to disconnect the front-facing camera connector from the logic board.

⚠ Only pry up on the connector—**not** on the socket itself.

## Step 79



- Use a spudger to pry the front-facing camera housing up and lift it out of the case.
  - ⓘ Depending on how you performed the digitizer removal, this component may be adhered to the inner side of the front panel.

## Step 80



- Slide a spudger under the front-facing camera to separate it from the adhesive securing it to the rear case.
  - ⓘ There is conductive tape between the front camera ribbon cable and the headphone jack cable underneath. When replacing your front camera, apply pressure on the gold contacts to reattach these cables.
- Remove the front-facing camera from the iPad.

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