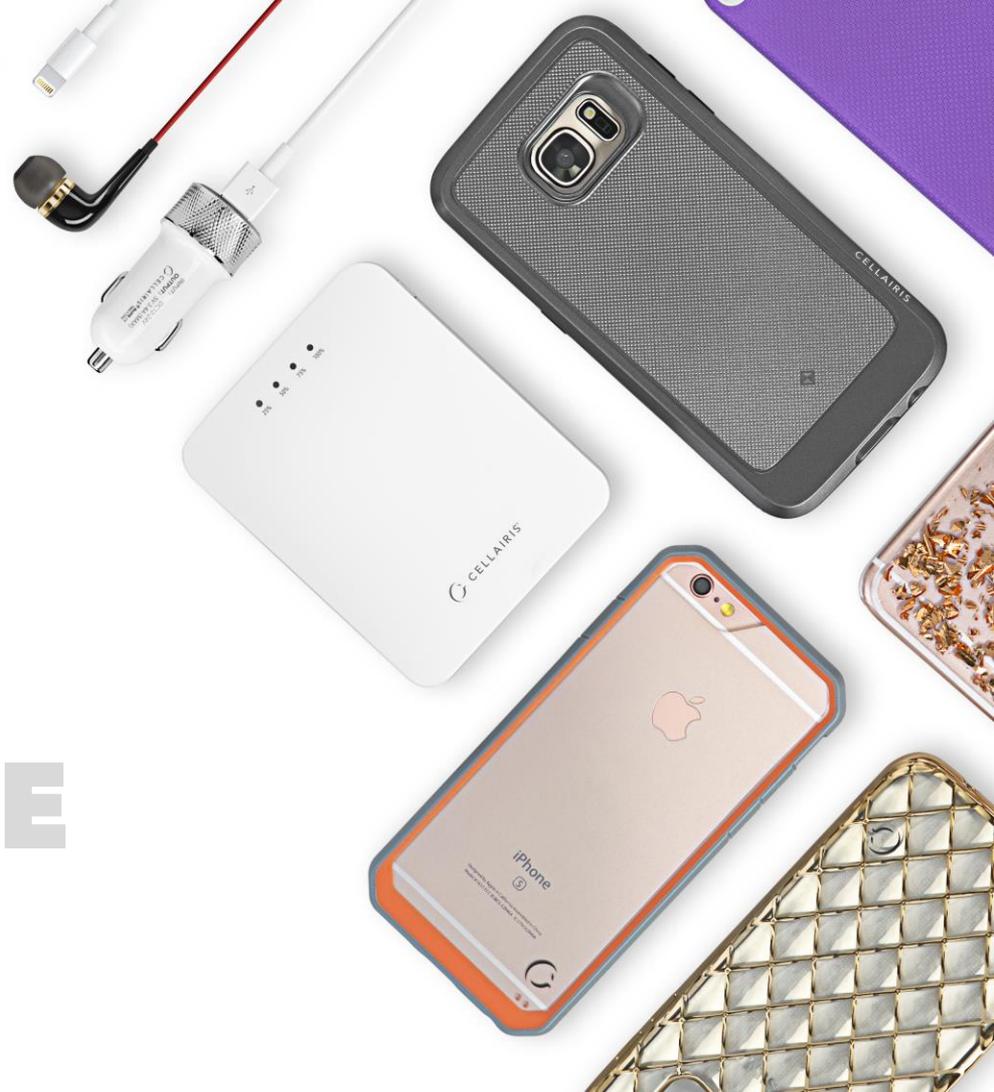




IPad mini REPAIR GUIDE

Version 1
2016 Edition





iPad Mini REPAIR GUIDE LCD AND DIGITIZER REPLACEMENT

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FOR EVERY REPAIR
MAKE SURE TO COMPLETE, INITIAL,
AND HAVE CUSTOMER SIGN THE CELLAIRIS
REPAIR LIABILITY WAIVER FORM



PRE-REPAIR DEVICE CHECK-IN

	Pre-Repair Device Inspection			Post-Repair Device Inspection		
Liquid Damage:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Jailbroken or Rooted:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A			
Unlocked or Flashed:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A			
Previously Repaired:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A			
Frame Damage:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Digitizer Damage:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
LCD Damage:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Device is unable to be turned on prior to repair for Device Inspection			<input type="checkbox"/> Yes	<input type="checkbox"/> NO		
	Yes (Working)	No (Not Working)		Yes (Working)	No (Not Working)	
Volume Button:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Mute Switch:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Vibration :	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Power Button:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Home Button:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
WiFi:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Cell Service/Call:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Proximity Sensor:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Ear Speaker:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Phone Microphone:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
External Speaker:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
External Microphone:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Headphone Jack:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Rear Facing Camera & Flash:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Front Facing Camera:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Charge Port:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A
Fingerprint Scanner:	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> NO	<input type="checkbox"/> N/A



TOOLS NEEDED

Philips screwdriver #00

Spudger

Tweezers

Isesamo

Large Flathead screwdriver/Hammer

Magnetic Mat

Heat Gun

Canned Air

PDI Adhesive Remover Pad

Alcohol Prep Pad

3M #94 Adhesive Primer

Silicone

Ipad mini digitizer Assembly

Safety Glasses

Nitrile Latex Gloves



HEAT-GUN PRECAUTIONS

- Always operate the heat gun on the lowest setting.
- Keep face, hands, hair, and clothing away from the air stream.
- The air nozzle also becomes extremely hot. Never grab the heat gun by the nozzle.
- Never operate the heat gun by laying it on its side on a table. It should be firmly grasped in one hand at all times during usage.
- Never operate near flammable or explosive liquids and vapors. Cleaning supplies and the 3M #94 Primer are of concern. Make sure fumes are absent from the work area before operating the heat gun
- The heat gun nozzle should never get closer than 2" to the object being heated.
- Keep heat gun moving. Never stay in one spot.



ADDITIONAL PRECAUTIONS

- **Magnetic Pad:** During the repair, you will be utilizing a magnetic pad to organize the plethora of differing screws that you will be pulling out of the iPad mini. Below is a list of several internal components of the iPad mini that should never be placed on the pad, or you risk damaging the hardware or erasing client data:

- LCD/Digitizer Assembly
- Cameras
- Motherboard
- Battery
- Speaker



ADDITIONAL PRECAUTIONS

- **Power on/off:** To avoid any damage to the hardware during the repair, it is best to have the device powered off until you can get to and disconnect the battery.
- **Battery:** Never unplug any flex cables unless the battery has been completely disconnected to avoid frying your hardware. Do not plug the battery back until all cables have been reconnected.
- **Release Screws:** Apply pressure on the screw and twist counterclockwise to initially loosen it, then lighten the pressure and continue twisting until the screw is gently released. Make sure you have properly sized screwdrivers available for the repair.
- **Pin Connectors:** extremely fragile and must be plugged or unplugged with extreme caution.
- **Battery connector:** held down by light adhesive and solder. If not cautious it will come off the motherboard. Very time consuming to be repaired. Do not break it in the first place.
- **Motherboard:** small surface mount components can be easily damaged if they are nicked by the spudger. Always take your time and never touch the surface of the motherboard.



ADDITIONAL PRECAUTIONS

THE HEAT GUN CAN REACH TEMPERATURES OF 1000° F

- Always operate the heat gun on the lowest setting
- Keep face, hands, hair, clothing etc. away from the air stream
- The air nozzle also becomes extremely hot, never grab the heat gun by the nozzle
- Never operate the heat gun by laying it on it's side on a table. It should be firmly grasped in one hand at all times during usage.
- Never use heat gun if overly tired or after taking any kind of drug that has drowsiness as a side effect
- Never operate near flammable or explosive liquids and vapors. Cleaning supplies and the 3M #94 Primer are of concern – make sure fumes are absent from the work area before operating the heat gun
- The heat gun nozzle should never get closer than 2” to the object being heated.
- Keep the heat gun moving – never stay in one spot and apply constant heat.



ADDITIONAL PRECAUTIONS

WEAR SAFETY GLASSES DURING SCREEN REMOVAL

When removing the old digitizer, the glass often splinters and shatters. This discharges small glass shards at high velocities that can become lodged in the soft tissue of the eye, causing serious injury. Safety glasses should be worn until all glass has been removed from the iPad frame.

WEAR LATEX GLOVES AT ALL TIMES

Small glass splinters are created when the old digitizer is removed, and they can be spread all over the work area. If you run your hand over them, they can become embedded in your skin. This is painful and they can be very difficult to see and remove. Wearing gloves should keep the splinters from endangering your skin.

Wearing gloves also keeps fingerprints off of the LCD and digitizer, and from getting finger oils on the frame which may weaken the new adhesive.



Pre-Repair

Check-in

Hardware/Functionality to be Checked:

- Wifi
- Home button
- Volume Keys-Up&Down
- Mute-UP&Down
- Charging
- Cellular Signal(3G Version Only)
- Built in Microphone
- External Speaker
- Headphone Jack
- Rear Facing Camera
- Front Facing Camera
- Power Button/Power off

Has:

- The Device Been Repaired Before?
- The Device Been Exposed to water?
- The Charge port Been smashed/Damaged?



Pre-Repair

Check-in

Turn on Assistive Touch

Since the home button will not be useable during the digitizer replacement, it is usually advisable to turn on assistive touch for any testing/diagnostic that needs to be done before the new digitizer is installed.

You can turn on assistive touch by opening setting, general, accessibility, assistive touch, turn on.



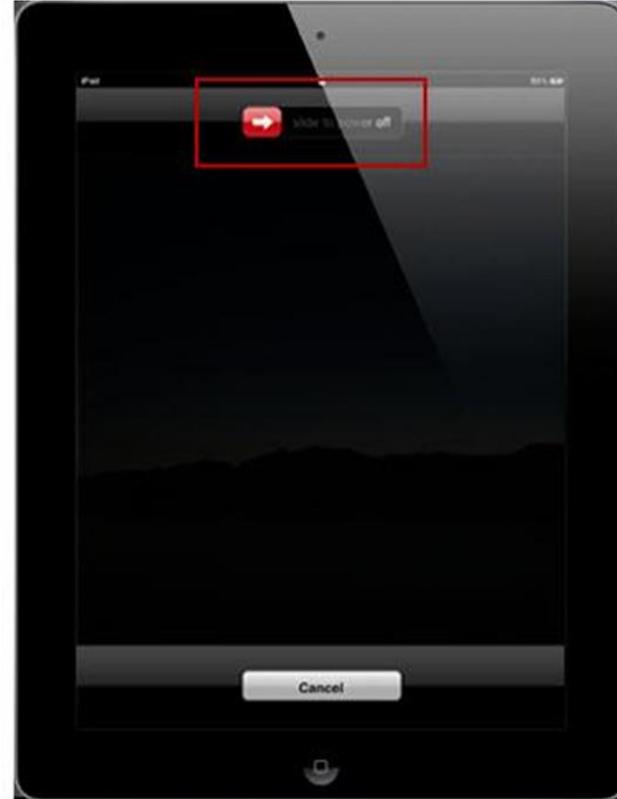
Pre-Repair

Check-in

To avoid any damage to hardware during the repair, it is best to have the device powered off until you can get to and disconnect the battery.

Normal power off: Hold down power button and home button until the screen goes black, the Apple logo appears, and then the screen goes black again and release.

Nonfunctioning Power Button: Use assistive touch, press and hold "lock Button" until "slide to turn off" appears, slide to turn off



STEP 1

Disassemble the device

Tools: heat gun, Painters knife, Tweezer, Philips screwdriver, spudger

Tips: Put iPad on a flat surface!! Never start from the bottom the digitizer cable is located in that area as well as the home button significant pieces that should not be touched by metal.

- The first very important step to fixing the glass on a iPad mini is the glass separation. It will determine if we will have a successful repair. The heating process takes some finesse because you do not want to over heat in areas to cause burn spots on the LCD. It's a constant motion around the glass specifically black rim of the screen is what needs to be heated up to release the adhesive as you slide the painters knife or isesamo around the frame. Now, when you begin to heat the glass the heat gun needs to be tilted at a 45 degree angle. Always start at the top of the mini and it's important to know exactly which one your working with because some have cellular service which means the top portion will have cellular cables that need to be separated from glass without tearing.



Tools: prop tool, Tweezers

STEP 2

Disassemble the device

- Once the glass is lifted I would suggest using canned air or something to lean the screen on so your not pulling on the cables by laying it down flat. There is a few things you will remove before you can lift the lcd up to get to the battery and digitizer/lcd cables. Starting from the top left side you will remove the small pieces of foam (containing a magnet) with tweezers to expose the screw. There is a total of two the next one is the bottom left side of the screen.

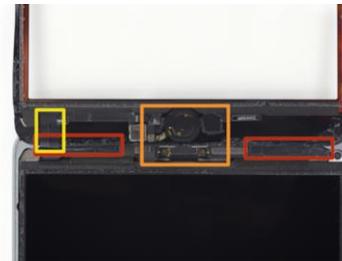


STEP 3

Disassemble the device

- Next, we will need to separate the two (2) black adhesive strips holding down the lcd by simply pulling them up but not completely removing them. However, there is usually two (2) black foam strips over top of the black strips they do come off if so just place them to the side we will put back on once the new digitizer is on. Then lift the adhesive strips up.

Tips: Use tweezers to lift these foam pieces off by sliding pointy end of tweezers in the foam pieces you should see small opening.



Tools: Tweezers, Fingers

STEP 4

Disassemble the device

- Still working to loosen the lcd we will need to remove the small piece of tape that has grey foam on it and place to the side will be put back on once the new digitizer/Lcd is on.



Tools: Spudger, Philips screwdriver

STEP 5

Disassemble the device

- After getting the lcd to a point where all adhesive is lifted or removed we will take the four (4) lcd corner screws out using the Philips screw driver. Some screws will be covered with adhesive tape remove tape to expose the corner screws then remove keep them organized on magnetic mat.



Tools: Spudger, tweezers

STEP 6

Disassemble the device

- The four lcd corner screws should be removed by now, and lifting the lcd from the top of the iPad is the next step but, the foam adhesive strip located around the lcd usually has to be pried up with tweezers or hand before lifting the lcd. Then lift lcd from top to bottom using the spudger. Slide the spudger in between the lcd and frame of iPad starting on the left side. Be gentle you don't want to break lcd in the process. Adhesive holds down the lcd underneath so slide spudger along the side of the frame all the way to the bottom until you feel it pop up on that side. Then start at the top again and slide spudger across the top of the lcd until the top pops up. Then repeat same step on right side as you did on left side so the right side pops up.

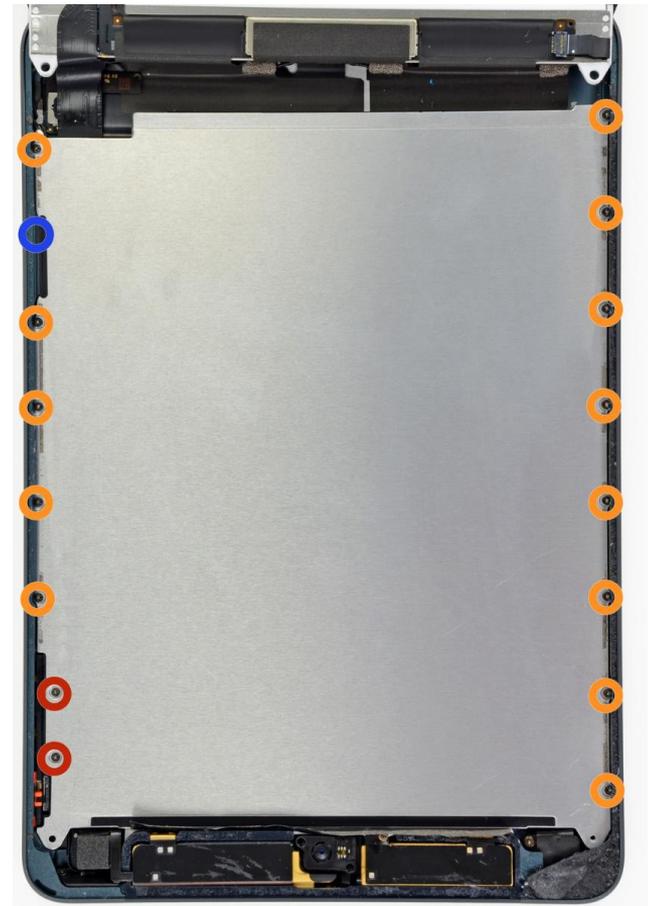


Tools: Spudger, Philips
screwdriver

STEP 7

Disassemble the device

- After the lcd is lifted you will notice the lcd heat plate. This plate covers the battery and Digitizer/lcd cables also covered by a smaller heat plate. Remove the 16 screws holding down the heat plate some are different sizes so lay them on the magnetic mat organized to the way you will put them back in correct order.

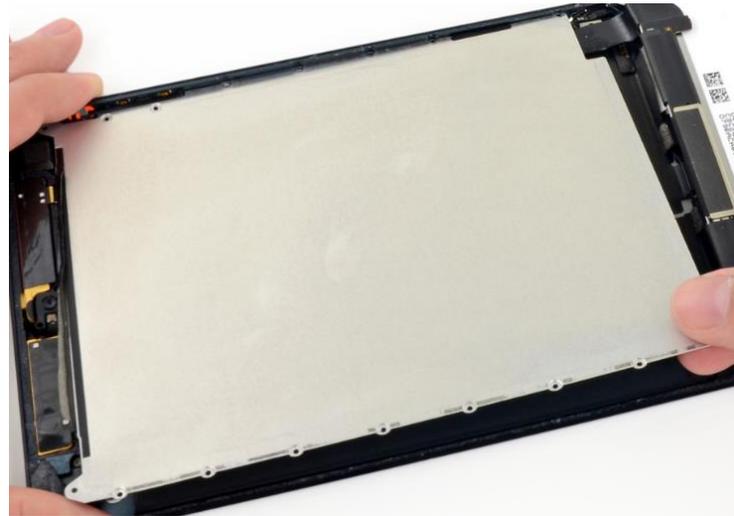


Tools: Spudger, Hands

STEP 8

Disassemble the device

- The screws are now removed next take the heat plate and slide it out from the right side because the left side is underneath frame edge so pull down as you slide to clear edge then up and out.

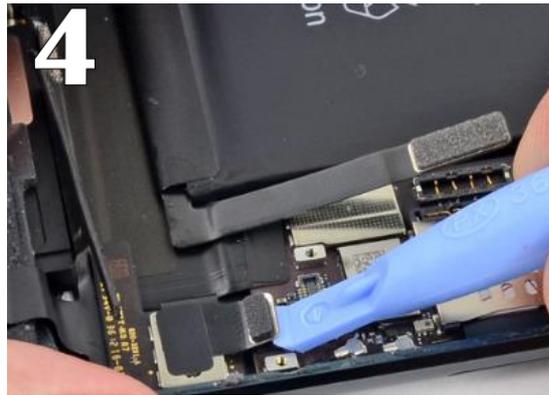
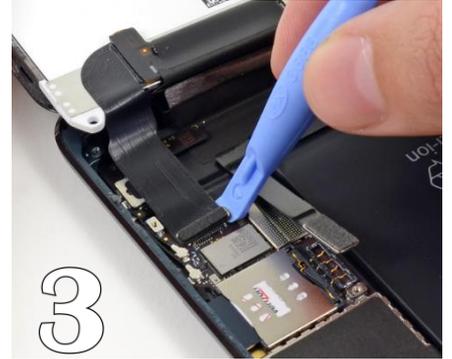
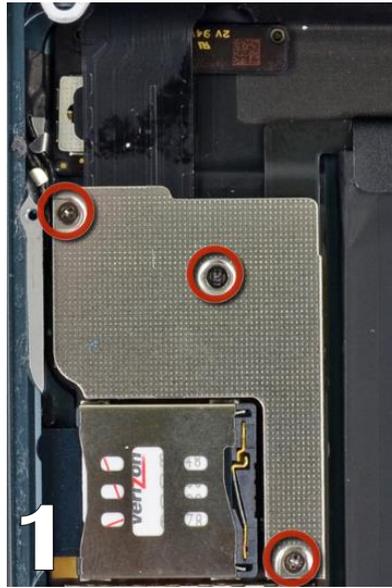


Tools: Philips screwdriver,
spudger

STEP 9

Disassemble the device

- When the heat plate is removed you should now see the battery and other components as well as small heat plate held down by three (3) Philips screws. Remove the three (3) screws and then disconnect the battery followed by the lcd cable then digitizer with plastic spudger.

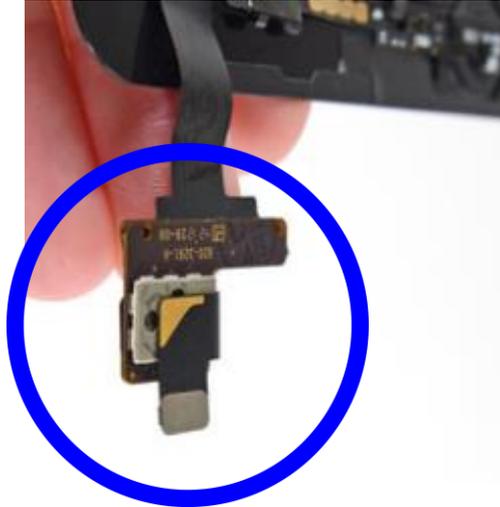


STEP 10

Disassemble the device



open



closed

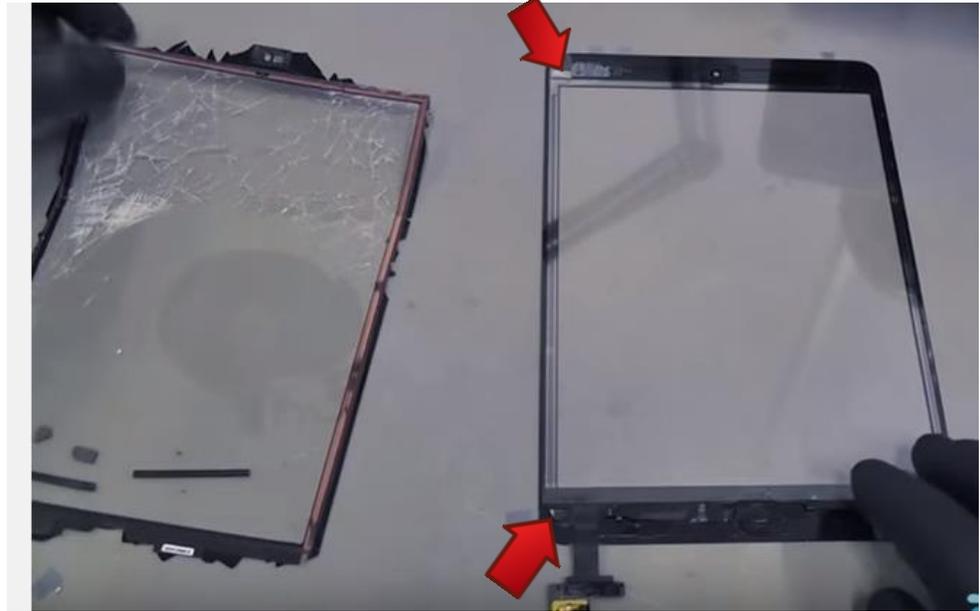
- At this point the original digitizer should be removed from back housing and we will be focusing on the old screen. There is a few things we will do with new digitizer before reassembling to device. The new assembly should have cable closed as shown if not take black adhesive strip off old assembly to hold it down like picture shown below.



STEP 11

Disassemble the device

- Now place the old digitizer next to new digitizer. We will be transferring tape and magnets to new digitizer from the old. Some digitizers come with new adhesive around it if not we will put strips of two sided tape around the screen also notice on old screen there are two magnets that should be on the screen remove those because we will be putting those back on later.



Tips: If your new digitizer comes with adhesive around screen go ahead and place magnets on new screen as demonstrated by arrows.

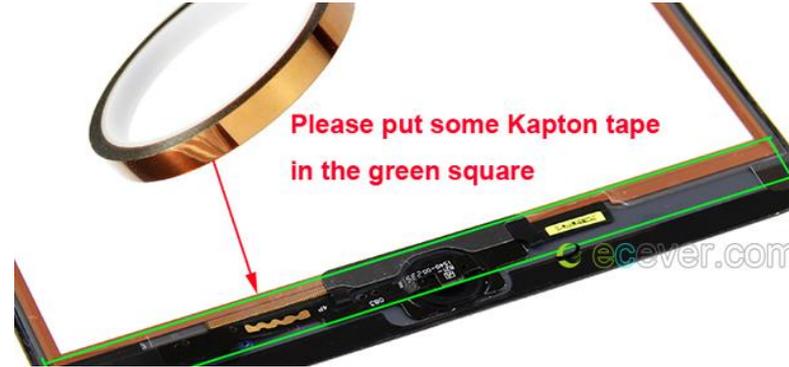


STEP 12

Disassemble the device

- Another important piece that needs to be transferred is a long strip of black tape along the bottom of the screen above the home button. Some replacement digitizers come with the tape on it however some won't and you will need to transfer.

Tips: To prevent ghosting put two pieces of scotch tape if you don't have kapton tape on the actual frame of new digitizer. You will lift the plastic screen protector up slightly to lay it on metal or copper border.



STEP 13

Tools: PDI pads,
exacto knife, Pliers

Disassemble the device



- Now that the new digitizer is situated we will clean the frame of the back housing before we can lay the new digitizer down because glass and adhesive can be stuck along the frame. We will use pdi pads and some type of isesamo or scraping tool to clean. Wipe along area were arrows are located with pdi pad. (this will loosen up the adhesive) Don't worry about it dripping it will evaporate. You can use the flat end of the spudger or exacto blade and scrape along the frame were you wiped with the pdi pad. Make sure to look along the frame when done to make sure no glass debris is gone along the frame.



STEP 1

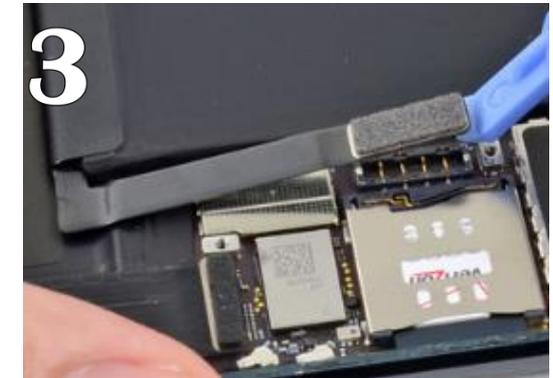
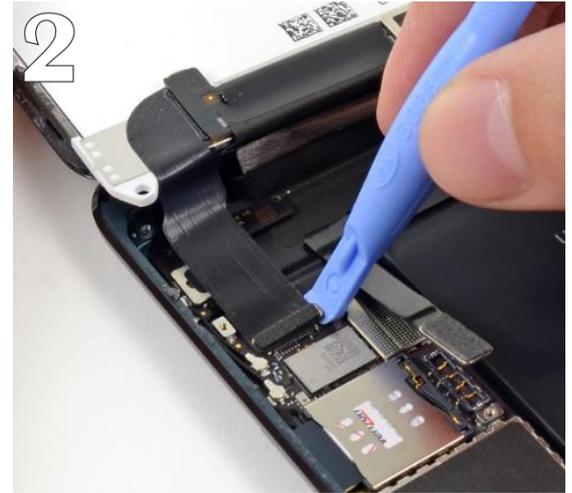
Tools: Fingers

Reassembly

- The frame of the housing is now clean and our new digitizer has all necessary pieces attached so it's now time to reassemble. Take the new digitizer and connect the cable to the logic board, Do not force it be gentle because you can bend the pin connectors. Then take the lcd and connect to logic board and after that reconnect battery.



Tips: My suggestion is to lay down the screen and power on. Do a post test before assembling fully to make sure the screen is functioning properly.

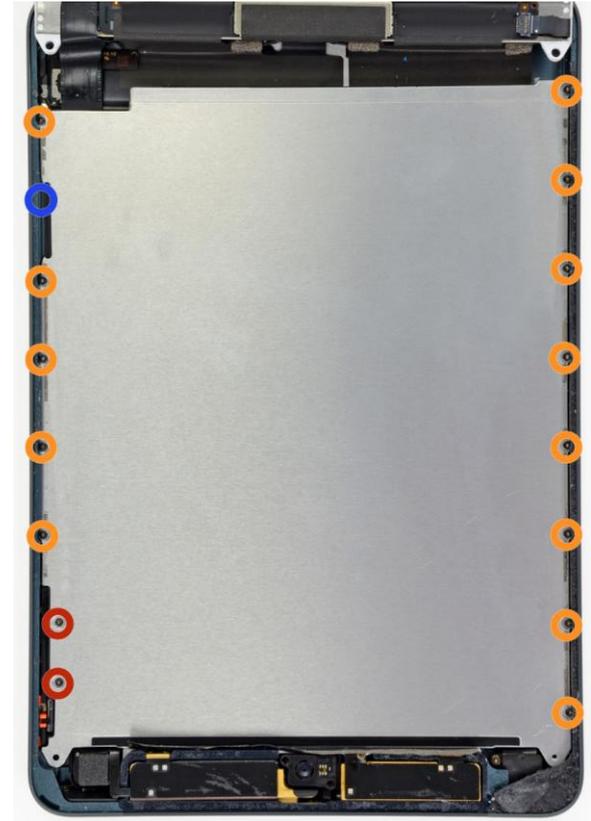
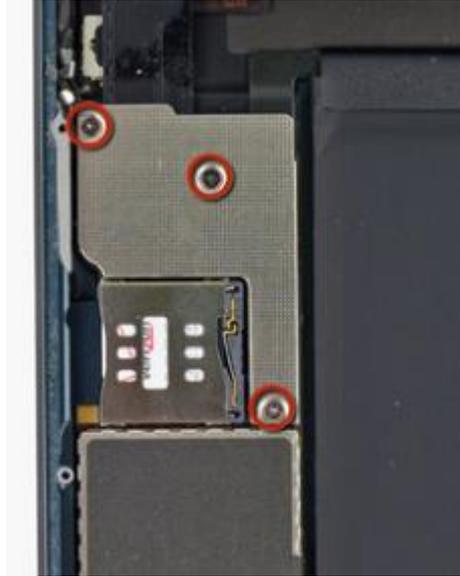


STEP 3

Tips: Philips screwdriver

Reassembly

- Once the screen is tested go ahead and power it back off and screw down the heat plate that covers the battery, digitizer/lcd cables. Take your Philips screwdriver and screw three (3) screws down. Next put the lcd heat plate back in by starting on the left slide down and in let the other side drop into place. Now screw all 16 screws in the lcd heat plate like you took them out using the Philips screwdriver.



Tools: Philips
Screwdriver, Tweezers

STEP 3

Reassembly

- Next, we will lay down the lcd the cable however, this is thick so you might have to start from the top to slide lcd into place. Once it is positioned correctly screw in the four (4) lcd screws and place foam over the two (2) lcd screws like they originally were when you first opened the iPad mini (were arrows are located foam goes over screws). Place last foam piece near home button on the frame.



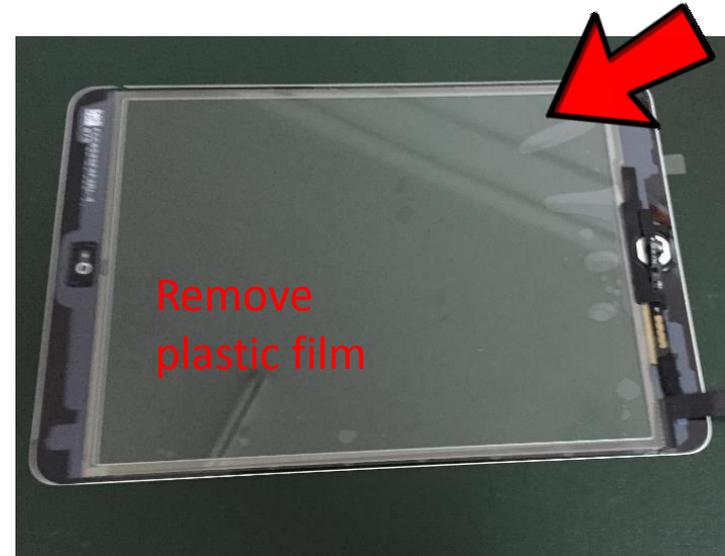
STEP 4

Tools: Spudger,
Tweezers, Fingers

Tips: use spudger to bend the lcd cable in as you lay the screen down otherwise it won't lay flush.

Disassemble the device

- After that lay down the black adhesive strips located on the bottom of the lcd on either side of home button. Then place the two black foam strips over the two pieces of black tape on lcd. After that the magnets should be attached to new digitizer. Next we will make sure the lcd is clean and has no finger prints wipe with cleaning cloth do not use liquids on lcd. Remove all plastic covering the adhesive around frame of screen. Last piece of plastic you want to remove before actually laying the new screen down is the plastic film that is on the inside of the new screen make sure to check that side of glass that no fingerprints or debris is left. Once you lay the screen down it will be hard to clean.



Tools: Weights, binder clips

STEP 6

Disassemble the device

- Now that the new digitizer is laying down on the on iPad you want to test it one more time make sure the functionality is proper and to ensure that it is sealed lay it down on a flat surface and put some weight on it so it has time to seal for about 2 hrs.
- A good method for this is heat the frame of screen exactly how you removed it but not as long. Heat around the frame about 2 times consecutively then flip screen facing down put a towel over the back and place a weight on top. If you don't have physical weights use some type of book or you can use medium sized binder clips and place one on each corner of the iPad to clamp and leave it for about 2 hours.



Tips: Clamp the four corners with these medium sized. Make sure to clean the glass with cleaning cloth leave no fingerprints!



Troubleshooting

- If the iPad appears to be ghosting after the repair it could be the screen, or the way it is laying on the frame.
- First make sure you added the tape to the new digitizer as described in step 12 of the disassembly.
- If it is still having touch or ghosting issues try a new digitizer and ask the customer for more time. Now, if you notice no touch is working look at the digitizer (gold)pin connectors if any are broken or missing the iPad will be considered unrepairable and you will need to reach out to your manager to get a replacement device.



CONTACT

**BECOME A
MASTER
FRANCHISE**

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**THANK
YOU!**