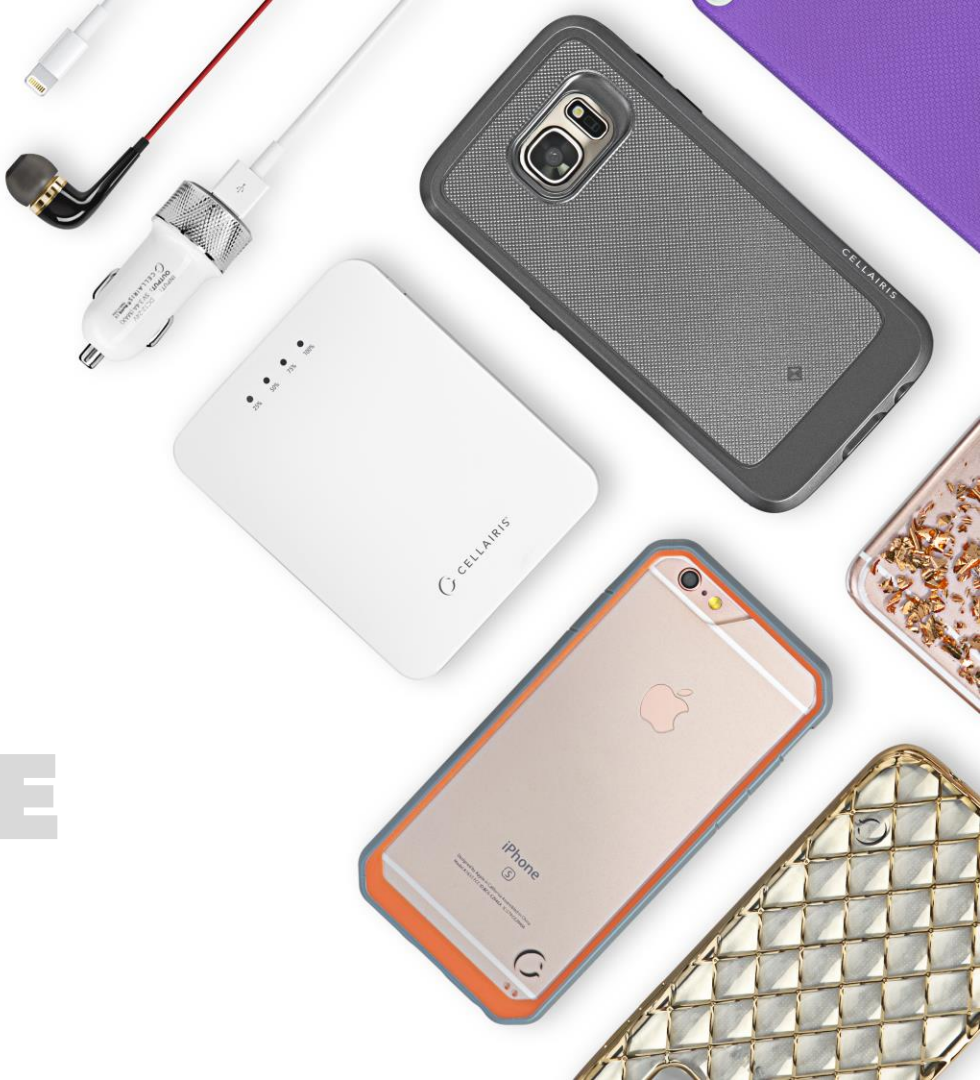
CELLAIRIS®

IPad Air 2 REPAIR GUIDE

Version 1
2016 Edition



IPad Air 2 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:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Jailbroken or Rooted:	☐ Yes	☐ NO	☐ N/A			
Unlocked or Flashed:	☐ Yes	☐ NO	☐ N/A			
Previously Repaired:	☐ Yes	☐ NO	☐ N/A			
Frame Damage:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Digitizer Damage:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
LCD Damage:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Device is unable to be turned on prior to repair for Device Inspection		☐ Yes	☐ NO			
	Yes (Working)	No (Not Working)		Yes (Working)	No (Not Working)	
Volume Button:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Mute Switch:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Vibration :	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Power Button:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Home Button:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
WiFi:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Cell Service/Call:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Proximity Sensor:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Ear Speaker:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Phone Microphone:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
External Speaker:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
External Microphone:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Headphone Jack:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Rear Facing Camera & Flash:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Front Facing Camera:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Charge Port:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ N/A
Fingerprint Scanner:	☐ Yes	☐ NO	☐ N/A	☐ Yes	☐ NO	☐ 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 Air 2 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 devcie 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

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.

STEP 1

Disassemble the device

- The IPad air requires finesse, a steady hand and knowledge of the device. You will need to be able to determine if it has Wi-Fi only or cellular service. You do Not want to tear the cellular cables along the top because of not knowing. There will be white or black tape running along the top of the iPad if it has cellular service. If it does this just means be extra careful sliding your isesamo, painters knife etc. underneath the glass.
- Once that is determined power off device and lay iPad on a flat service.
- Face the iPad horizontal towards you like below it opens from left to right.

iPad Air 2

- Year: Late 2014
- Capacity: 16, 32, 64, 128 GB
- Model number (on the back cover):
  A1566 on the iPad Air 2
  A1567 on the iPad Air 2 Wi-Fi + Cellular
- White or black front bezel
- 9.7-inch Retina display
- Silver, space gray, or gold aluminum housing
- Lightning connector
- The nano-SIM tray is on the right side on iPad Air 2 Wi-Fi + Cellular
- FaceTime HD and iSight cameras
- Touch ID

Tools: heat gun, plastic cards, Painters knife or isesamo

STEP 2

Disassemble the device

- The first step will require you to heat the top glass. Take the heat gun and go around the frame In a constant motion never allowing the heat gun to rest in one spot to long. Hold the heat gun at a 45 degree angle while doing this process.
- Take painters knife and slide it in between the glass and frame of iPad to start. As you heat you will need to slide your isesamo or painters knife along heated area simultaneously. If you notice it's getting harder to separate the screen from adhesive more heat is need as it is cooling down. Do not start at the bottom! It's important to know where your Digitizer/lcd cables are located.

Tips: Taking your time throughout this process is essential and do not slide tool to far into the screen or you might scratch the lcd. If you can see the tool near lcd then you have gone to far into the glass with isesamo.

STEP 3
Disassemble the device

- As you heat the frame of the glass use the painters knife or isesamo and flex the tool left to right slightly to help lift the glass. You can use plastic cards or picks to keep the glass from sticking back down.
- The bottom has only the Digitizer/Lcd cables so as you lift the screen from the top near the front camera look down into the glass to see those cables.
- Let the heat do most of the work near the bottom as you lift up the screen use the heat gun to help loosen the adhesive. The screen should come up at that point.

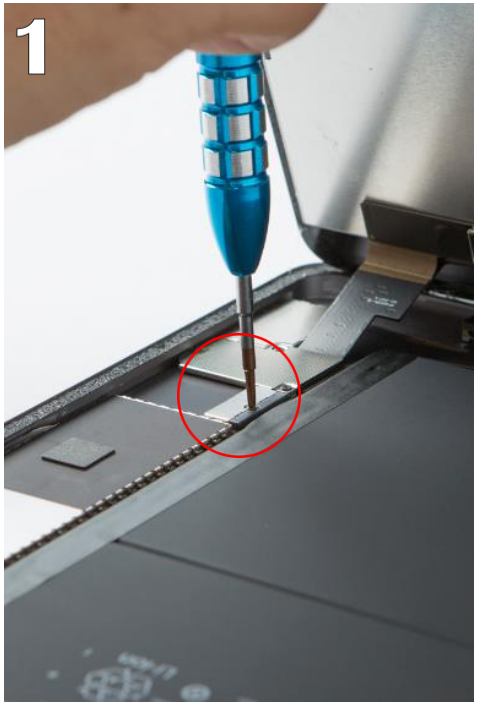
Tools: Heat gun, plastic spudger, Isesamo

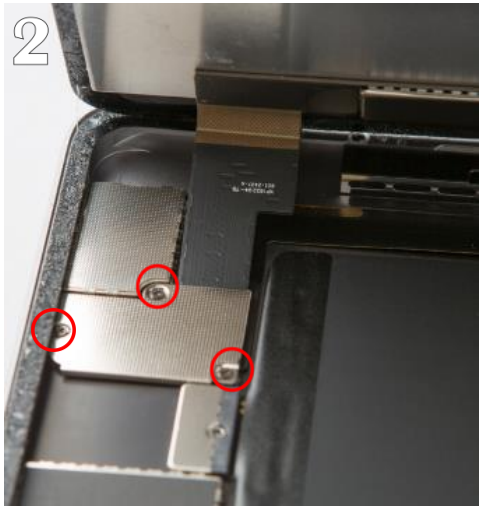
STEP 3

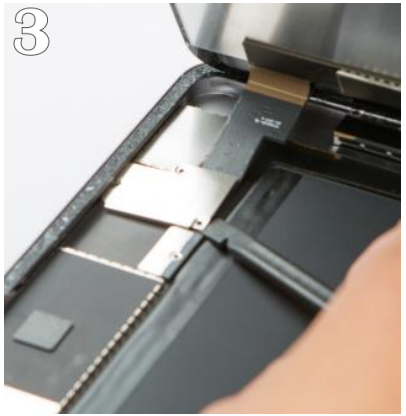
Tools: Philips screwdriver, plastic spudger

Disassemble the device

- Once opened you will need to remove the single screw holding down the battery. This is how you disconnect the battery because it has no flex cable.
- Next, remove the three (3) Philips screws holding down the EMI shield. Then remove the shield using your plastic spudger. Use the flat end of the spudger and slide it underneath the corner of the EMI shield then flex your spudger to the left or, right to pop the shield up.





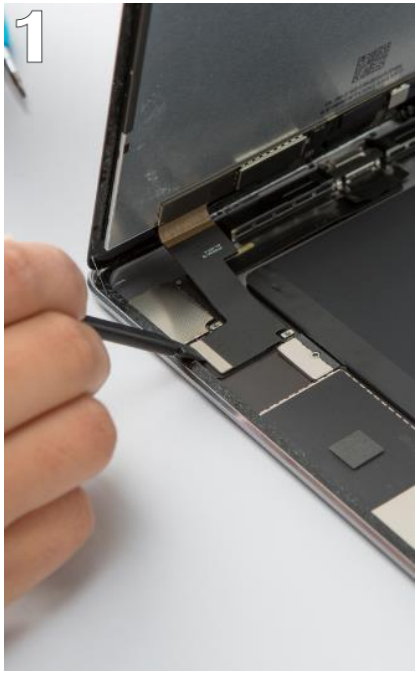


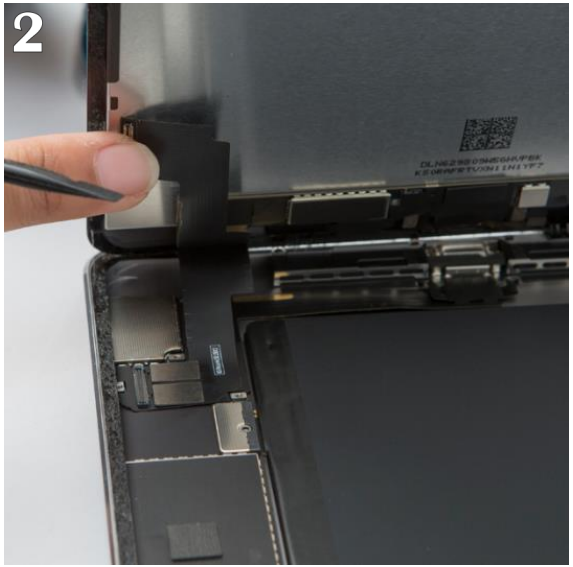
gasket

Tools: Plastic Spudger, Hands

STEP 4

Disassemble the device





- After the EMI shield is removed we can now disconnect the Digitizer/Lcd cables using the flat end of the spudger. Be gentle when disconnecting these cables. They are very sensitive so it's important not to break the pins. Take your spudger slide it underneath the cable flex the tool from left to right to disconnect such cables.

Tools: Plastic Spudger, tweezers, isesamo or metal pry tool, heat gun

STEP 5
Disassemble the device

- The only component that needs to be transferred over to the new screen assembly is the home button flex.
- Before you can reassemble the frame must be cleaned and all old adhesive needs to be taken off the metal frame.

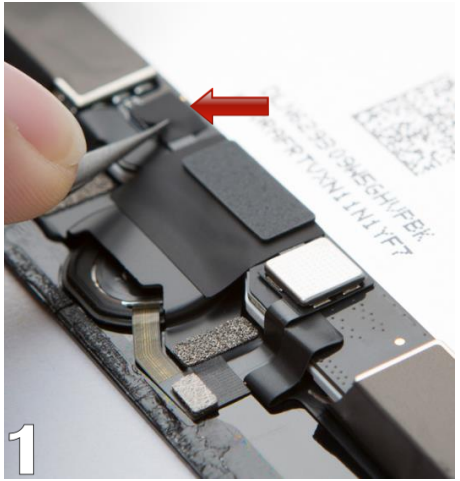
Tools: plastic Spudger, tweezers, Heat gun

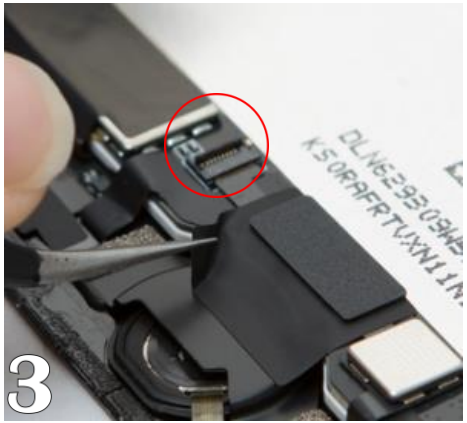
STEP 5

Disassemble the device

- The first step to removing the home button is removing the black tape covering the black door of the home button flex cable. Use the flat end of your spudger to lift the door.
- Next, lift the black tape up over the rest of the flex cable. Once it's lifted you should be able to slide the flex cable out of the connector use tweezers to pull the cable out of the connector. Tweezers help a lot when removing or lifting the black tape.

Tips: It's very important to be gentle with the home button flex cable. If you damage this button then the touch-id will not work!



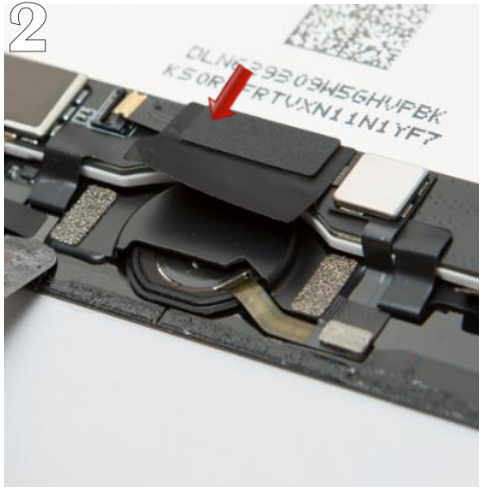


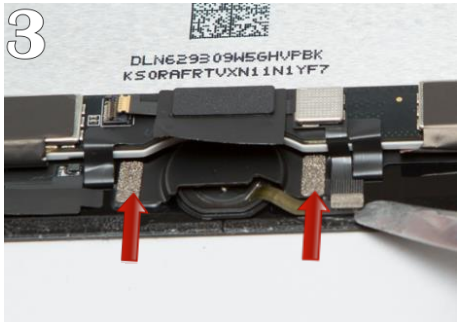
Tools: Plastic Spudger, Heat gun , tweezers

STEP 6

Disassemble of the device

- The best way to remove the bracket covering the home button and the rest of the cable is to heat the tip of your pry tool to slide it underneath the bracket. Opposed to heating up the screen it's less risk to heat up the tool.
- Slide the tip of your tool underneath the designated areas shown by red arrows with your pry tool and flex slightly up to remove from the adhesive.





Tools: Plastic Spudger, isesamo, tweezers

STEP 6

Disassemble the device

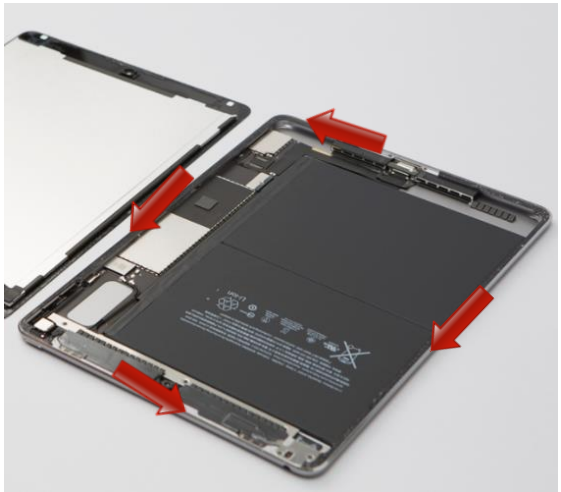
- As you continue to remove the home button use your heated pry tool then alternate using your plastic spudger to lift up the flex cable. Once it's lifted use your tweezers to pull it away from the old glass. Make sure to keep up with the black adhesive you removed and bracket because you will need to transfer all of it to replacement screen.

STEP 7

Tools: Spudger, Hands

Disassemble of the device

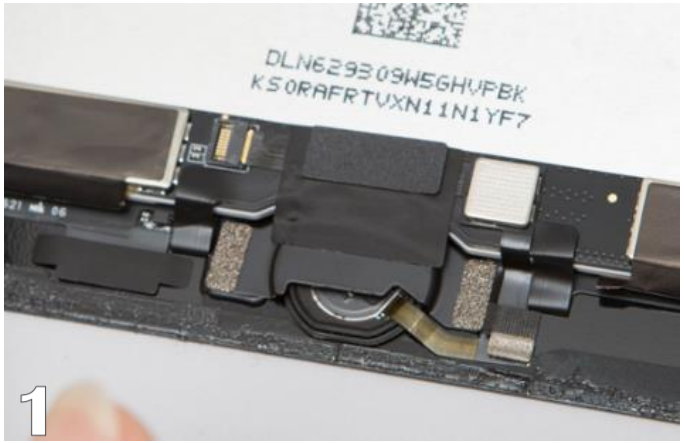
- Once the screen is disassembled next step will require you to clean the frame of the iPad. Use PDI pads (adhesive remover) to scrape off any old adhesive or glass shards. If the frame is not properly cleaned then trying to close the screen can result in it breaking due to glass stuck to it or, it won't adhere properly. Wipe frame first with pad then use flat head screwdriver or scraping tool around the frame.



STEP 1

Reassemble of the Device

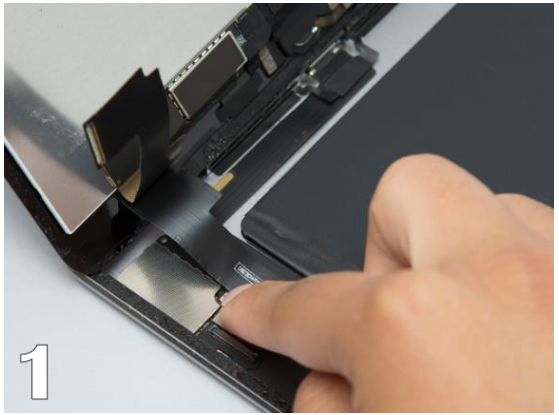
- The replacement screen may or may not come with adhesive already attached if it does not add double sided adhesive around the glass so it will adhere. Line thin pieces of tape around the screen frame.
- Next, transfer over the home button and home button bracket that covers the home button. Make sure to slide the flex cable into the connector and close the door. Place the pieces of the black tape

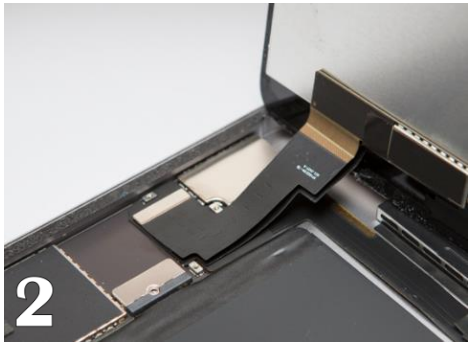


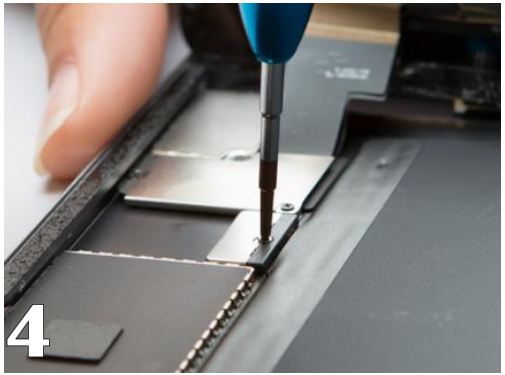
Tools: Philips screwdriver, Hands

STEP 2

Reassemble of the device







- Next, it's time to reassemble the digitizer/Lcd cables to the frame. Once those are connected place the EMI shield back on top of those cables. Screw in the three (3) Philips screws to hold down the Emi shield using your Philips screwdriver.
- Now we can screw in the single Philips screw so the battery will work.

Tools: heat gun, Hands, plastic spudger

STEP 3
Disassemble the device

- Now, laying the screen down make sure to peel off plastic around the inside frame. Luckily, with the iPad air 2 it doesn’t matter if you start to lay the top or bottom first to close the screen.
- Slide your hands down the sides to adhere the adhesive to the frame all the way to the bottom of the iPad. At this point the screen should be laying flush in the frame of the iPad.

Tools: Weights, binder clips

STEP 4

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 you notice the screen is ghosting most likely that is because no tape was added to the new replacement screen.
- If there is dead spots on screen and weren't there during the pre-test most likely it's a defective screen try a new one.
- Now, if those efforts don't work possibly could mean that the iPad has severe frame damage. These devices are sensitive items therefore the issues are internal and couldn't be diagnosed before repair. Let the customer know the situation and, let the manager go over some options with customer and go from there.

CONTACT

BECOME A MASTER FRANCHISE

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THANK YOU!