



How to Fix iPhone X Face ID Not Available

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The flood illuminator helps the TrueDepth camera system
泛光感模块辅助成像系统

INTRODUCTION

Due to the vulnerability of the Face ID parts, it can be easily damaged when the phone is dropped or during screen replacement. Today let's see a repair case about iPhone X Face ID Not Available caused by broken flex cable of the Face ID parts. This is also a reminder. Please be careful in your daily use of the phone! To fully understand Face ID, you can also check [Face ID Teardown](#) here.

TOOLS:

- [Integrated Mobile Phone Repair Platform](#) (1)
- [Soldering Iron Rework Station](#) (1)
- [Electron Microscope](#) (1)

PARTS:

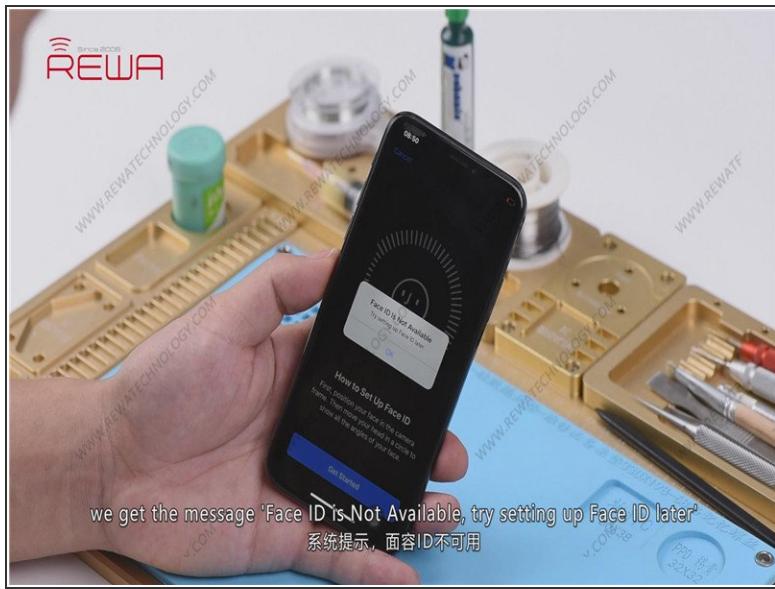
- [iPhone X Ear Speaker With Sensor Flex Cable](#) (1)

Step 1 — How Does Face ID Work



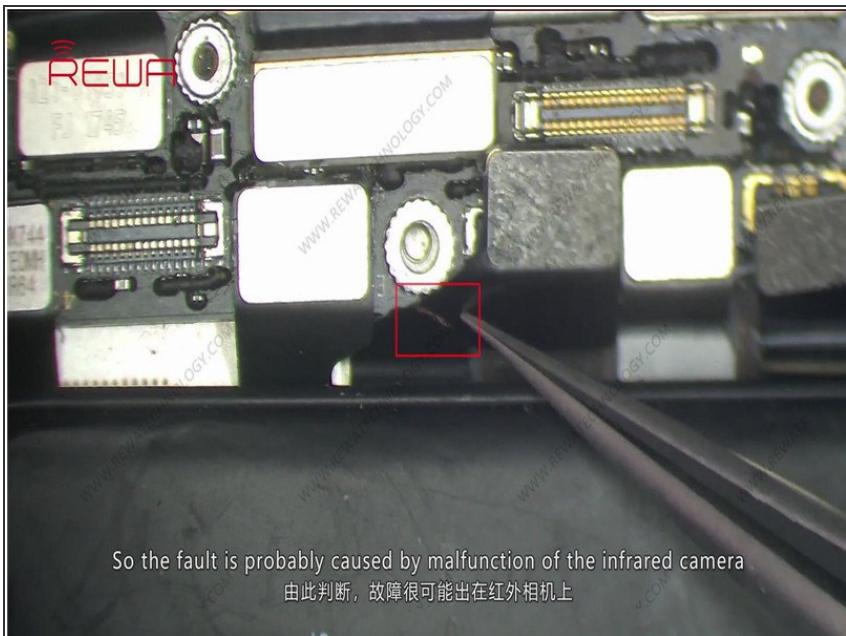
- With user's face closing to the screen, the proximity sensor starts the recognition process. The flood illuminator helps the TrueDepth camera system determine how much illumination will be needed for face recognition.
- The dot projector projects over 30,000 dots in a known pattern onto the user's face. Those dots are then photographed by infrared camera for analysis.
- A 3D map of user's face are then completed. The 3D model is then compared against the stored template. The phone authenticates the identity and unlocks or authorizes a payment.

Step 2 — Test



- The iPhone X shows an alert that says it is 'unable to activate Face ID on this iPhone'.
- When trying to set up Face ID on the iPhone X, we get the message 'Face ID is Not Available, try setting up Face ID later' .
- Judging by this, Face ID relevant circuit has probably malfunctioned. We need to check components on Face ID relevant circuit

Step 3 — Diagnose



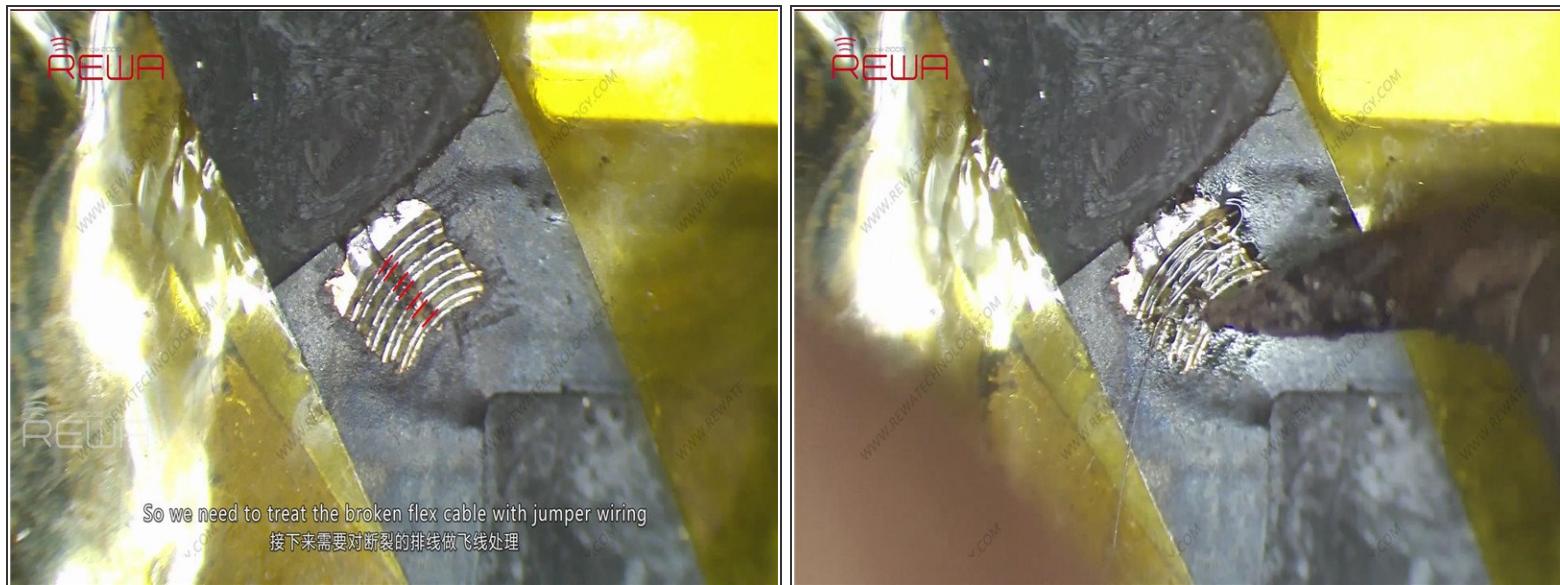
- We can see that the infrared camera module flex cable is broken.
- So the fault is probably caused by malfunction of the infrared camera.
- Remove the Face ID parts. We can see clearly that the infrared camera module flex cable is broken.

Step 4 — Troubleshoot



- Scrap off insulating varnish on the cable.
- **Notes:** control the force applied when scrapping, the flex cable might be further damaged during the operation.
- As we all know, the Face ID parts cannot be replaced. So we need to treat the broken flex cable with jumper wiring.

Step 5 — Jumper-wiring



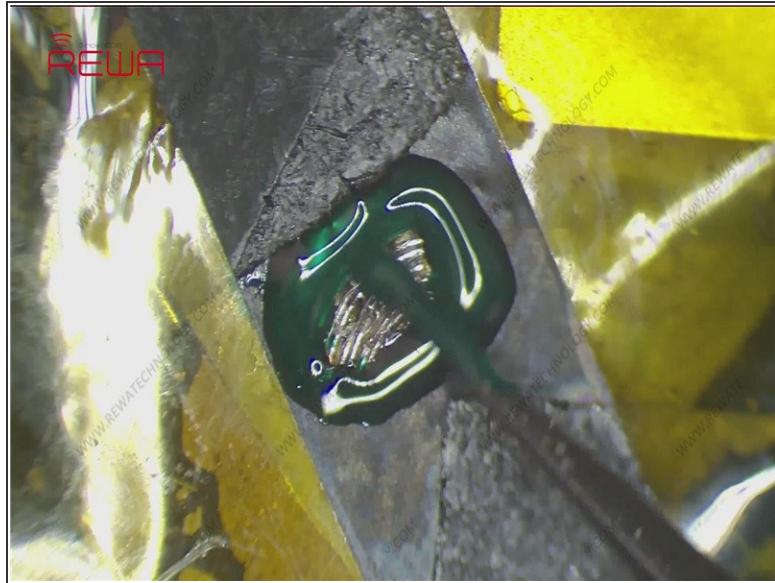
- Tin the broken flex cable with solder paste. Once done, clean with PCB Cleaner.
- Again, apply Paste Flux to the broken flex cable. Solder the two ends of the wire to the two pins of the broken cable.

Step 6 — Jumper-wiring



- Notes: keep the soldering iron tip away from pins of undamaged cables to prevent these pins from getting shorted.
- Once completed, check again to make sure that there is no shorted pin or pseudo soldering condition. Clean thoroughly with PCB Cleaner afterwards.

Step 7 — Solidify



- Once done, apply some UV Curable Solder Mask to the jumper wiring area for insulation protection. Continue to solidify the flex cable under the UV Dryer Lamp.
- Stick High-temperature Tape/Solder Joint Sticker on the jumper wiring area to reinforce.

Step 8 — Test



- Face ID can be set up successfully. The screen can be unlocked automatically. Fault cleared.

Step 9 — Video Reference



- For detailed operation, you can check out the video in this step.
- Credit: [REWA technology](#).