



# Infrared Remote Control Cleaning

"A remote control is like a sponge" that...

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## INTRODUCTION

"A remote control is like a sponge" that absorbs moisture and dirt because it is often used with dirty or sweaty hands and suffers from drops and knocks that can damage the seal.

Over time the most used buttons fail or stop working, To repair the buttons, it is typically best to disassemble the remote and do a simple and proper cleaning that anyone can do by following this guide.

This method may also apply to some wireless phones that have similar keypads.

## Step 1 — Functionality test



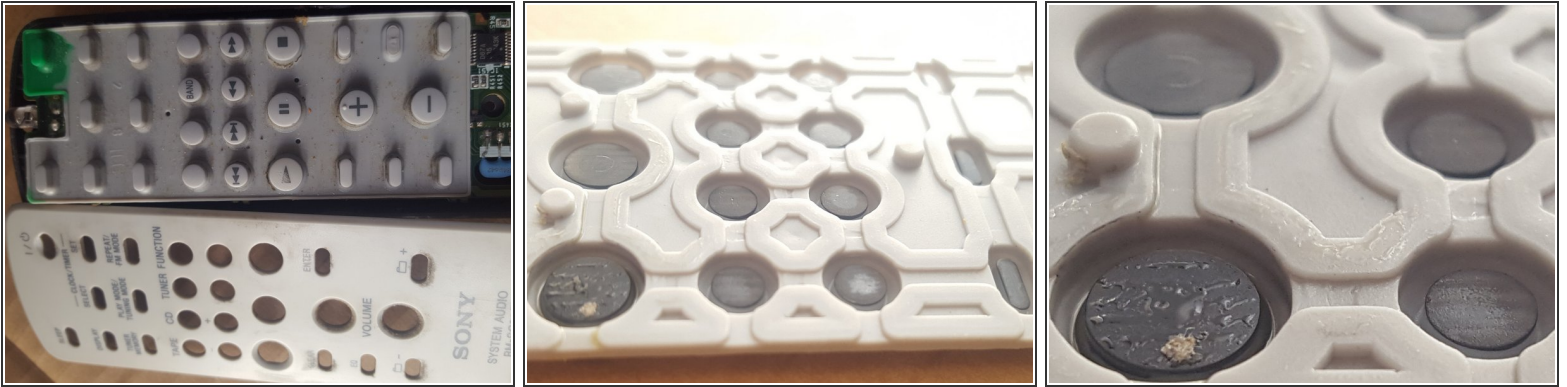
- i Remote controls** use an infrared LED in the front. Sometimes it can be seen behind some kind of "window", which is why users point the remote at a device for it to work. It can be tested using the corresponding device, but it is always convenient to know additional forms of testing:
- **Using a digital camera:** the infrared can be visible using almost any digital camera. There is no need to be fancy--simply use your phone's camera for this. Point the remote at your camera and press some buttons. They should make the LED produce a bluish-purplish light only visible in the camera screen. Here are some examples.
  - **Using an AM radio:** put the remote near an AM radio between 520 and 1600 kHz. You should hear some kind of click, or interference noise with different intensities based on the frequency.

## Step 2 — Disassembling the Remote



- To disassemble the remote, look for the screw to remove the cover in the battery compartment, as shown in the image.
- Even after the screws are removed, the front and back covers containing the circuitry might not be easily separated. To separate them, use a **plastic card** such as a bank card, by inserting a corner in the central part of the case. It is best not to use anything metallic to avoid damaging the case.
- Move through the joint with the card until one of the covers is decoupled. Then the joint can be opened until the covers are completely separated.

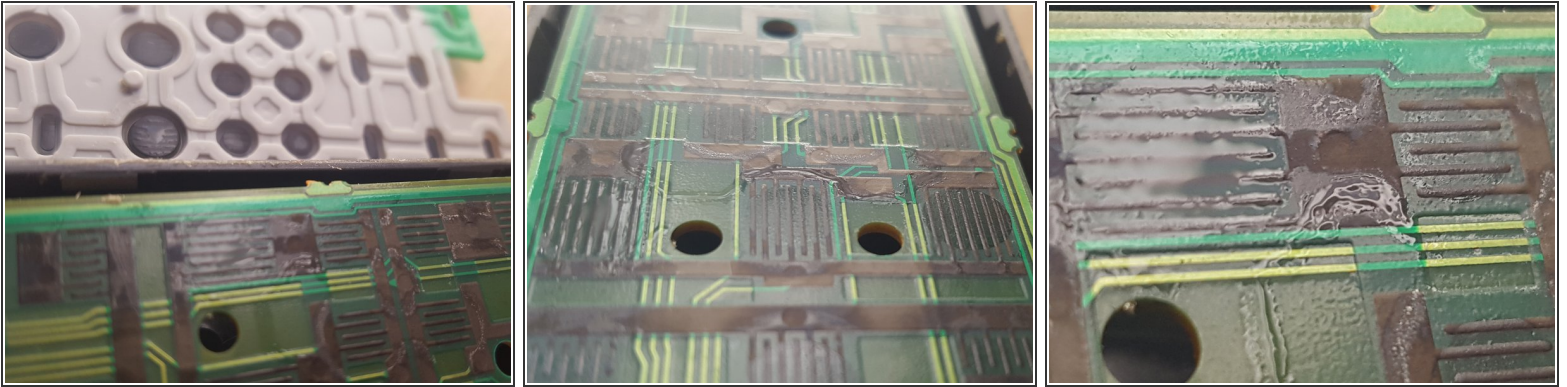
### Step 3 — Lid and Rubber Keypad Cleaning



- The first photo shows how much dirt and debris accumulated under the cover and on top of the flexible, grey keypad.
- Pull the flexible rubber from the circuit, and on the back check that the keys end in a black piece that might be graphite or something similar. Normally the most used keys are more stained, as can be seen in the photos.

**⚠ Gently wash the outer casings and the rubber flexible keypad with neutral soap and a discarded toothbrush. DO NOT wash the circuit board! Dry them thoroughly.**

## Step 4 — Cleaning the Printed Circuit



- The black tracks of the circuitboard will accumulate grease and dirt, specifically on the black screen-printed tracks that form the opposing combs that come into contact with the black part of the keys when pressed.
- ⚠ The tracks of the circuit can be cleaned with a **cotton swab dipped in alcohol** (common in a medicine cabinet) or, if possible, with isopropyl alcohol. Be careful not to erase the letters that the manufacturer sometimes prints on the board. **Never wash the circuit board with water.**
- Let it completely dry. Appreciate the result of the cleaning.

## Step 5 — Assembly and testing



- In the picture you can see how clean now is both the PCB and the switches.
- To assembly you often have to put the PCB into the bottom half, carefully threading the battery contacts into the case rails (if any), then aligning the buttons over the PCB and finish with the top half, be mindful of the LED or window in front, buttons should align themselves.
- ☞ Is time to test again (like we first did) and if any button fails repeat the cleaning both in the PCB and the button itself with a cotton and alcohol. To ease this process you can test without the top half, just aligning the buttons, or putting the top half but not pushing all the way until it makes a "click" (more easily said than done)
- ℹ If it continues not working after you clearly see it's clean you should pay attention to the graphite, there are some products to paint over them if they were worn out. Now clean and easy to see check for any lift or broken tracks.
- ⚠ If all goes well put the screw back, put some new batteries and pat yourself on the back, congratulations you made it! If all didn't go well still pat yourself on the back, you tried, next time you will not need a guide.

Anyone can complete this cleaning task.