

# User Manual - Potentiometer Replacement QUAD 33

## 1. Preparation – Take Photos First

Before starting any work, **take several photos of the potentiometer wiring**. This will help you easily restore the correct wire positions and colors during reassembly.

## 2. Check the Wiring

Before desoldering:

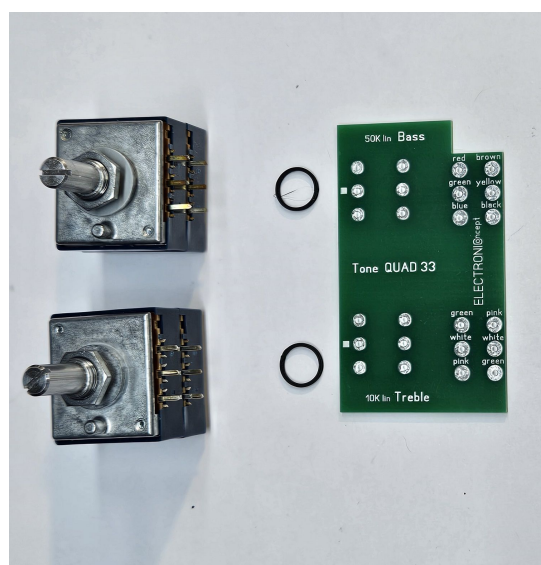
- **Compare the wire colors** with the corresponding circuit diagram.
- Note that wire colors may vary depending on the production series.
- If everything matches, you can **carefully desolder the wires** ( **do not cut them**, as they are quite short).

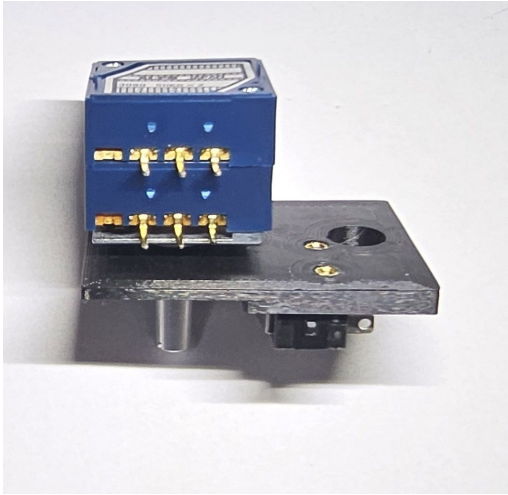
## 3. Remove the Old Potentiometers

- Gently remove the old potentiometers.
- Use a **small round file** to **slightly enlarge** the mounting holes for the **balance** and **filter** potentiometers.
- The hole should be widened by approximately **0.3 mm (3/10 mm)**.

## 4. Fit the New Potentiometers

- Test-fit the new **balance potentiometer**:
  - It should **not be too tight**,
  - But also **not loose**.
- The **connection pins** must be **facing upward**.





## 5. Install the New Components

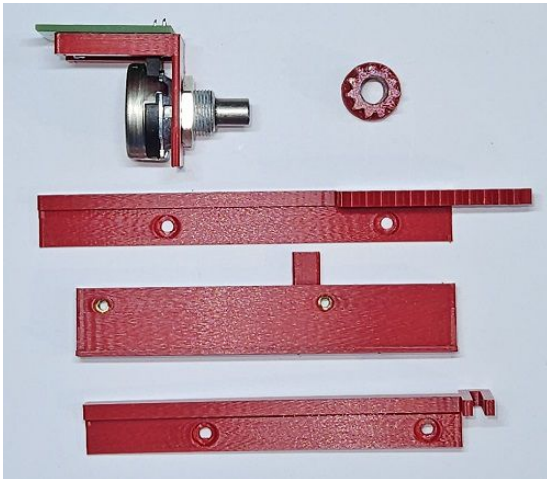
1. Mount the new **volume potentiometer**.
2. Place the **small board with the On/Off switch** on top.
3. Add the **washer** and **nut**, then tighten **gently** (do not overtighten).
4. Secure the **bass** and **treble potentiometers**.
5. Insert the **filter potentiometer** together with its **stabilizing plate**.
6. Repeat the process for the **balance potentiometer**.

## 6. Final Assembly

All potentiometers are now securely mounted.

You can now proceed with the **mechanical assembly of the balance potentiometer**.

# Assembly of the Balance Potentiometer Mechanism



## 1. Remove the old slider knob

- **Remove the slider knob** from the balance potentiometer.
- **Thoroughly clean** the fixed part attached to the housing.

## 2. Install the new white part

- **Insert the new white piece** into its slot.
- **Move it gently** from left to right:
  - It should move **smoothly without sticking**,
  - And have **no noticeable play**.
- If it feels tight, **lightly sand** the two sliding sides that fit in the groove.
  - Use **600 or 800 grit sandpaper**.



### 3. Lubrication

- Once the movement is smooth, apply a **thin layer of silicone grease** in both grooves.
- This ensures a **smooth, jerk-free sliding motion**.

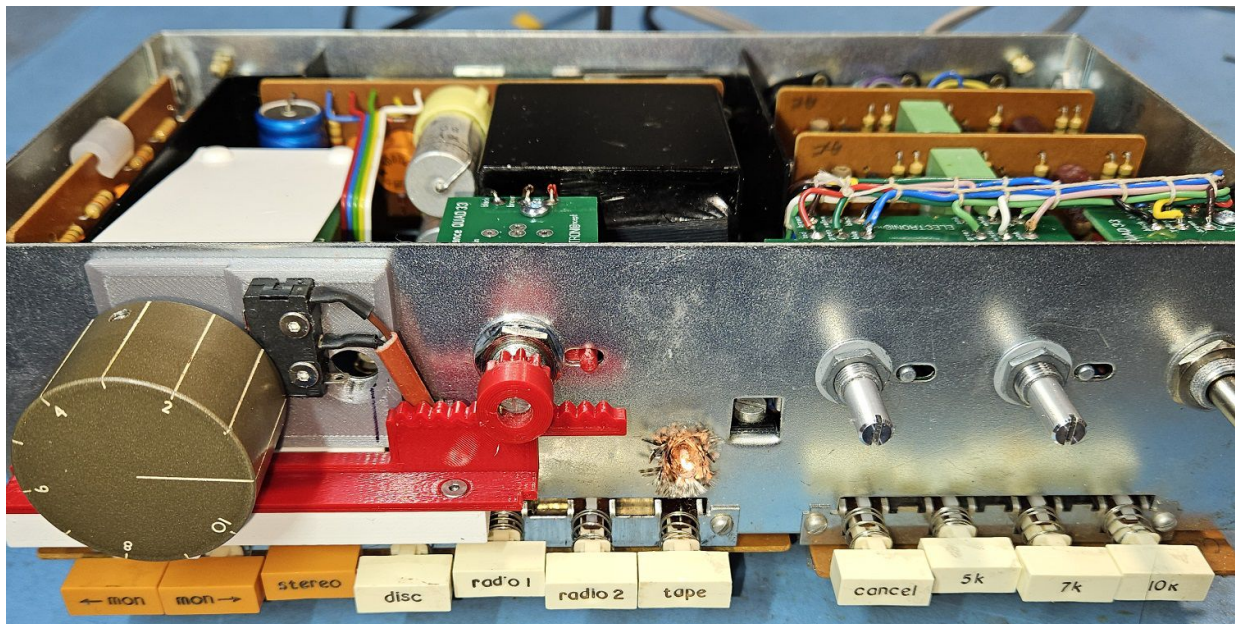
### 4. Install the toothed rail

- **Attach the toothed rail** to the slider knob.
- **Tighten the two screws lightly**, but **do not fully lock them yet**.



### 5. Install the gear wheel

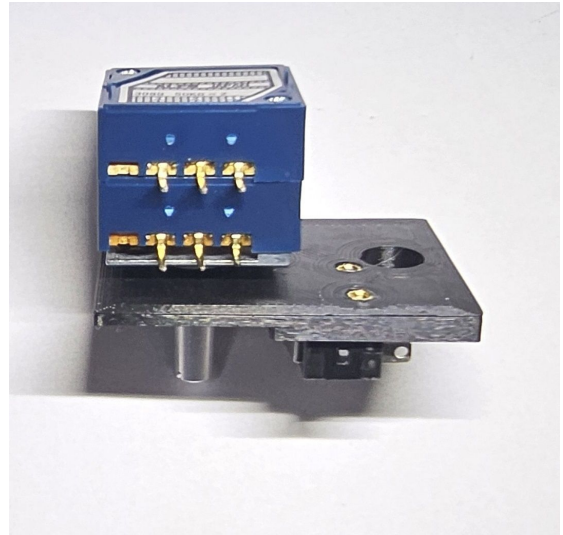
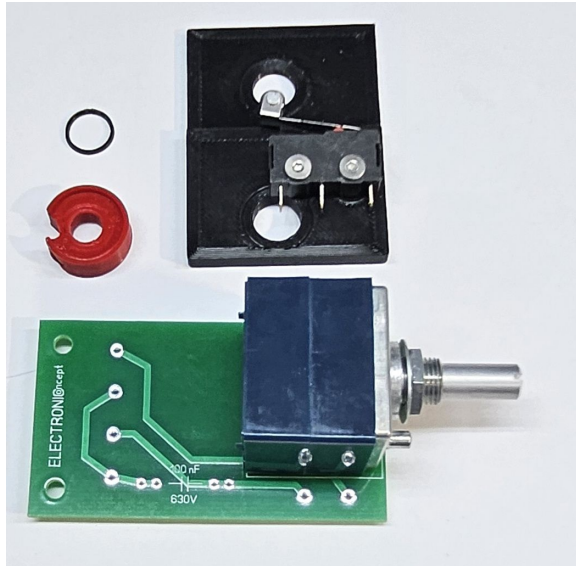
- **Insert the gear wheel**, ensuring the **teeth face the housing**.
- **Do not tighten** it on the shaft yet.



# Mechanical Assembly of the Volume Potentiometer

## 1. Preparation

The volume potentiometer is already mounted on the board.  
You only need to **install the On/Off switch**.

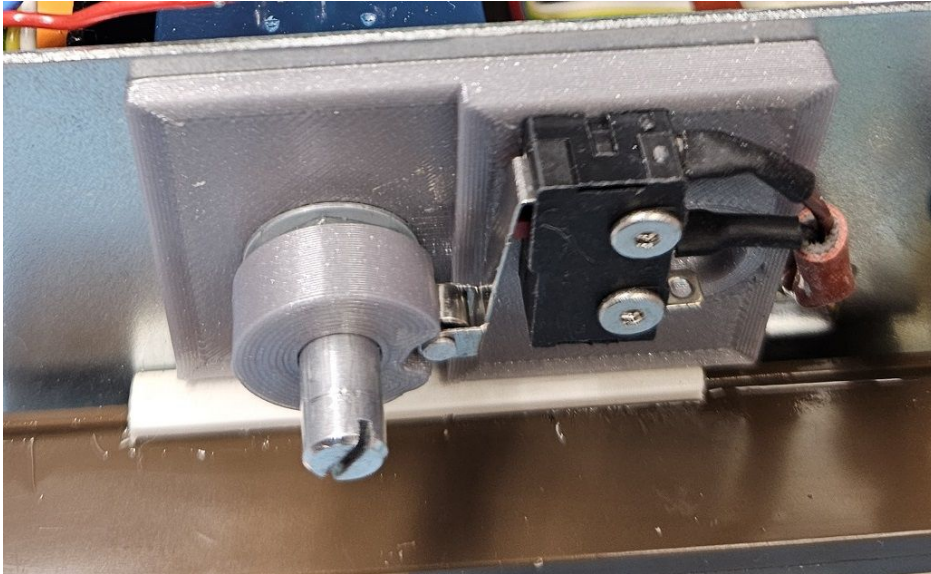


## 2. Installing the switch

- Position the switch in its **designated location**, with the **lever and roller facing downward**.
- **Tighten the screws slightly**, without locking them yet.
- **Pass the wires** through the **square hole** just below.

## 3. Installing the cam wheel

- Set the **volume control to zero**.
- **Place the cam wheel** on the potentiometer shaft:
  - The **roller** must fit **into the central hole**,
  - Make sure it is **well centered**.
- Using a **flat screwdriver**, turn the **shaft** until the **locking screw** faces **upward**.
- **Tighten the screw gently**.

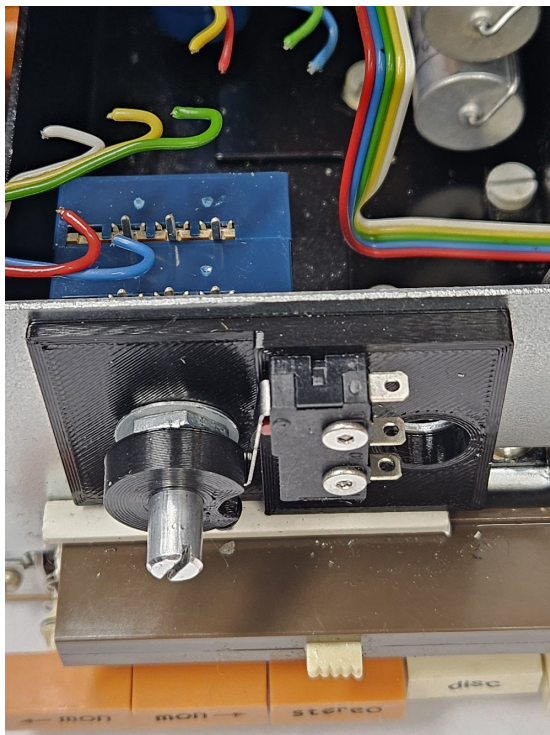


#### 4. Function test

- Test the **On/Off switch**:
  - The **click** should occur at **mid-travel** of the lever, both in **On** and **Off** modes.
- **Rotate the shaft several times** to make sure the switch **engages properly** each time.

#### 5. Final tightening

- If everything works correctly, **tighten the pulley screw gently** — **do not overtighten**.



# Mechanical Adjustment of the Balance Potentiometer

## 1. Preparation

- Turn the potentiometer fully **to the left**.
- **Place the front panel** of the device.
- Set the **knob fully to the right**.
- **Do not touch anything** and remove the front panel.

## 2. Installing the gear wheel

- Insert the **gear wheel**, with the **screw facing upward**.
- Replace the **front panel**, set the **knob to the right** and the **potentiometer to the left end**.
- **Tighten the screw on the shaft lightly**, not too much.

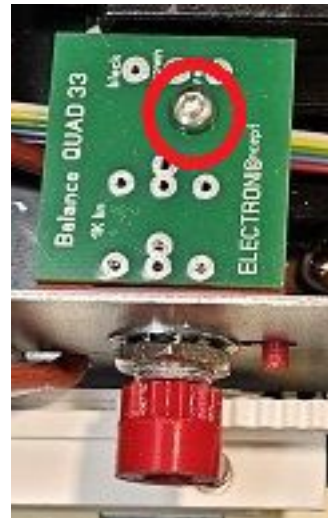
## 3. Potentiometer check

- Move the **balance knob fully to the left**.
- Remove the front panel and **check that the potentiometer is at the right end**.
- If **more than 1 mm of travel remains**, loosen the **gear wheel** and **adjust** so that the margin is **equal on both sides**.
  - This is a very **precise adjustment**.

## 4. Final check

- Once adjusted, the **mechanics are installed and properly set**.
- **Move the potentiometers several times** to ensure no issues require disassembly.
- Next step: **solder the wires and boards onto the potentiometers**.

# Installation of the PCBs on the Potentiometers



## 1. Special instructions for balance and filter potentiometers

- First, tighten the **PCB retention screw** before soldering.
- Press lightly on the PCB to ensure it is correctly seated.
- The potentiometer pins should **protrude 2–3 mm from the PCB**.

## 1. Orientation of the PCBs

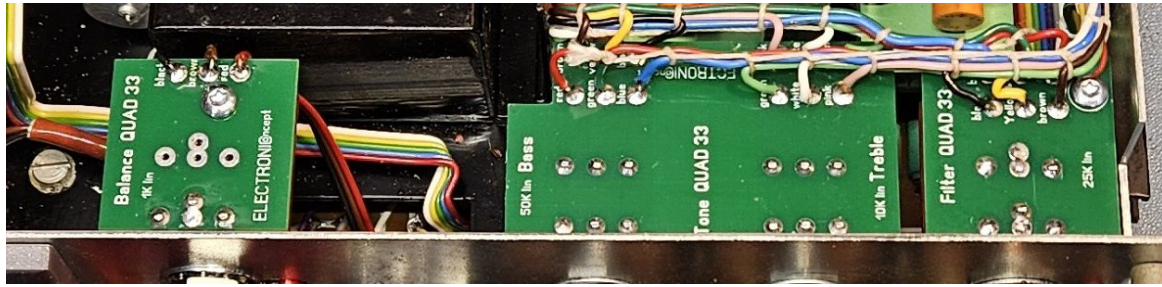
- The printed circuit boards must be placed **with the wire color markings facing upward**.
- Place them on the potentiometers **without soldering**.

## 2. Wire preparation and soldering

- Start by soldering the wires to their respective positions.
- The colors are **marked in abbreviated English on the PCB**.
- Be careful **not to strip too much insulation**: maximum 5 mm.
- Copper should extend **2 mm above the PCB surface** to solder without melting the plastic insulation.

## 3. Checking placement

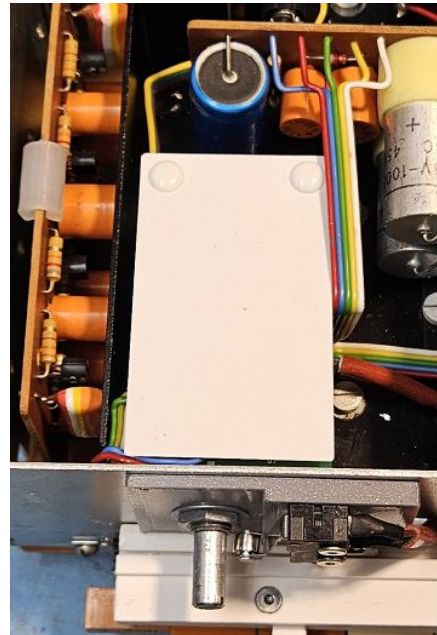
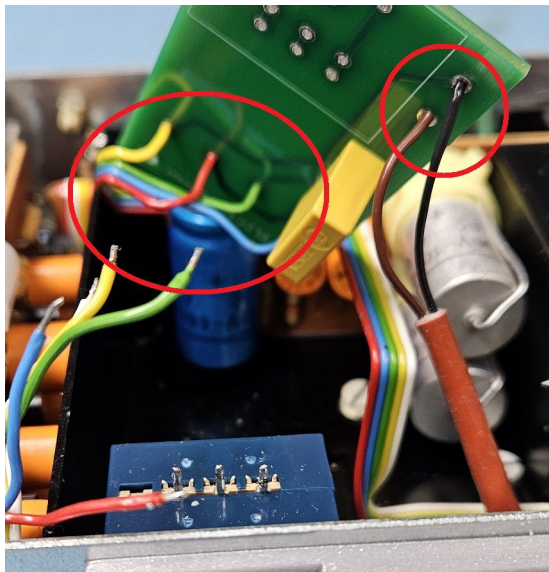
- Make sure each wire is correctly positioned as indicated on the PCB.
- If a color does not match, refer to the **photos taken before installation**.
- The wires remain in the **same order as on the original potentiometer**.



## Connecting the Mains Switch Wires

### 1. Soldering the mains switch wires

- The mains switch wires still need to be soldered, **as indicated on the PCB**.
- If you are unsure about the wire placement, **send me an email** with a description and photos of the issue.
- **Do not power on the device** until you are certain the wiring is correct.



### 2. Final test

- Once everything is correct, you can **turn on the Quad** and fully test all functions.
- If everything works perfectly, you can now **place the insulation on the volume PCB** using the supplied clips.

### 3. Enjoy your Quad 33

- **Enjoy the fresh, pristine sound of your Quad 33.**