

ElecGear EL6-ALPS-2.1K

ElecGear Replacement Analog Joystick User Manual

Model: EL6-ALPS-2.1K

Brand: ElecGear

1. INTRODUCTION

This manual provides detailed instructions for the installation and use of the ElecGear EL6 ALPS 2.1K Replacement Analog Joysticks. These joysticks are designed to replace worn or malfunctioning analog thumbsticks in compatible PlayStation 4 DualShock 4 and PlayStation 5 DualSense wireless controllers. The kit includes four replacement joysticks and a screwdriver tool kit to assist with the repair process.

The primary purpose of these replacement parts is to address common controller issues such as joystick drift, creeping, stuttering, dead zones, or unresponsiveness, restoring precise control to your gaming experience.

2. COMPATIBILITY

The EL6 ALPS 2.1K analog joysticks are compatible with PlayStation 5 DualSense controllers and certain PlayStation 4 DualShock 4 wireless controllers. It is crucial to identify the correct joystick model for your controller as different versions exist.

The distinction between ALPS joystick models primarily lies in the resistance value of their potentiometers and the color of their side plastic. The EL6 model features 2.1K Ω trimmer potentiometers and typically has black or green side plastic. In contrast, the EL1 model has 10K Ω potentiometers and gray side plastic. PlayStation 5 controllers may use joysticks from different manufacturers, including ALPS (EL6) and Favor Union (EL7), which are generally interchangeable.

ElecGear Joystick Index

Model Num.	Made by	Picture	Potentiometer	Features	Interchangeable	Used in Controllers
EL1	ALPS		10Kohm	Blue Bottom Gray side plastic	EL2	PS4 DualShock Razer Raiju Ultimate Scuf
EL2	FU		10Kohm	Labeled 103 FU Orange Sensor	EL1	PS4 DualShock Some PS3
EL3	ALPS		10Kohm	Dark Gray Bottom Two sticks into PCB Locks in 3 directions		Nintendo Switch Pro 8Bitdo SNES Some PS3
EL4	ALPS		10Kohm	Light Gray Bottom		Xbox One, One S X Xbox Series S X Elite Series 1
EL5	ALPS		10Kohm	Fixing Thread Tactile Button Pole		Xbox Elite 2
 EL6	ALPS		2.1Kohm	Green or Black side plastic	EL7	PS5 DualSense Some PS4 DualShock
EL7	FU		2.3Kohm	Labeled 2K3 FU Orange Sensor	EL6	PS5 DualSense

Figure 2.1: ElecGear Joystick Index. This table provides a visual guide to different joystick models, their manufacturers, potentiometer values, and compatible controllers. The EL6 model, highlighted in the table, is manufactured by ALPS with a 2.1K Ω potentiometer and green or black side plastic, compatible with PS5 DualSense and some PS4 DualShock controllers.

Before proceeding with replacement, verify the model of the joystick currently installed in your controller to ensure proper compatibility with the EL6 ALPS 2.1K replacement parts.

3. INSTALLATION GUIDE

Replacing analog joysticks requires technical proficiency and appropriate tools. The process involves disassembling the controller and performing soldering or desoldering operations. If you are not experienced with electronics repair, it is recommended to seek assistance from a professional technician.

3.1 General Preparation

- Ensure your workspace is clean, well-lit, and static-free.
- Gather necessary tools: the included screwdriver kit, a soldering iron, solder, desoldering wick or pump, flux, and

potentially a heat gun.

- Carefully disassemble your PlayStation controller according to its specific model's disassembly guide (not provided in this manual).
- Disconnect the battery and any ribbon cables before proceeding with component removal.

3.2 Identifying the Joystick Module

The analog joystick module is typically a square component with a central shaft and multiple pins connecting it to the controller's circuit board (PCB). The EL6 ALPS 2.1K module has a distinct appearance with green or black side plastic and a blue base.

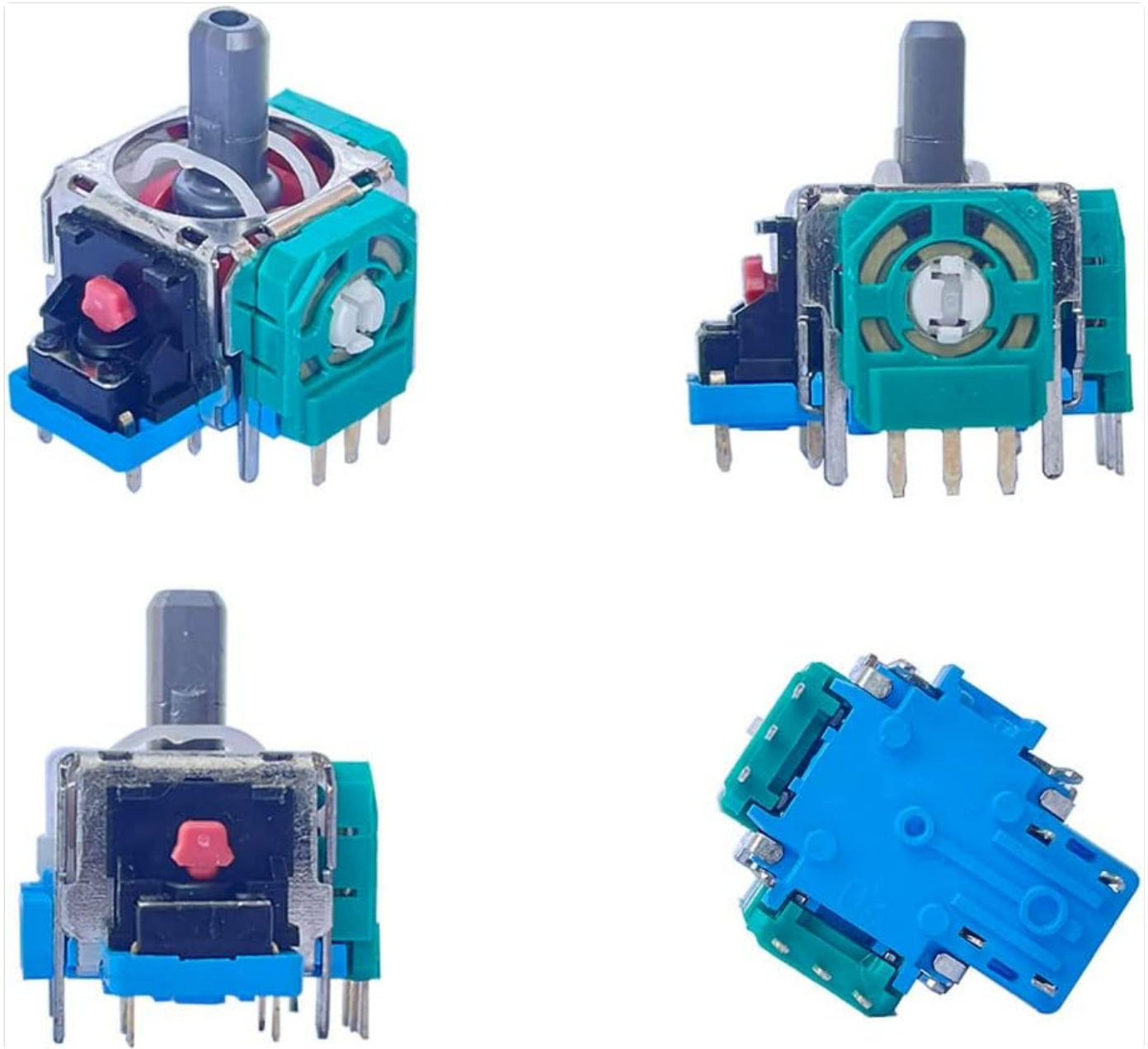


Figure 3.1: Various angles of the EL6 ALPS 2.1K replacement analog joystick module. This image displays the module from different perspectives, showing its physical dimensions, pin configuration, and the distinct green/black side plastic and blue base.

EL6 ALPS 2.1K for PS5/PS4

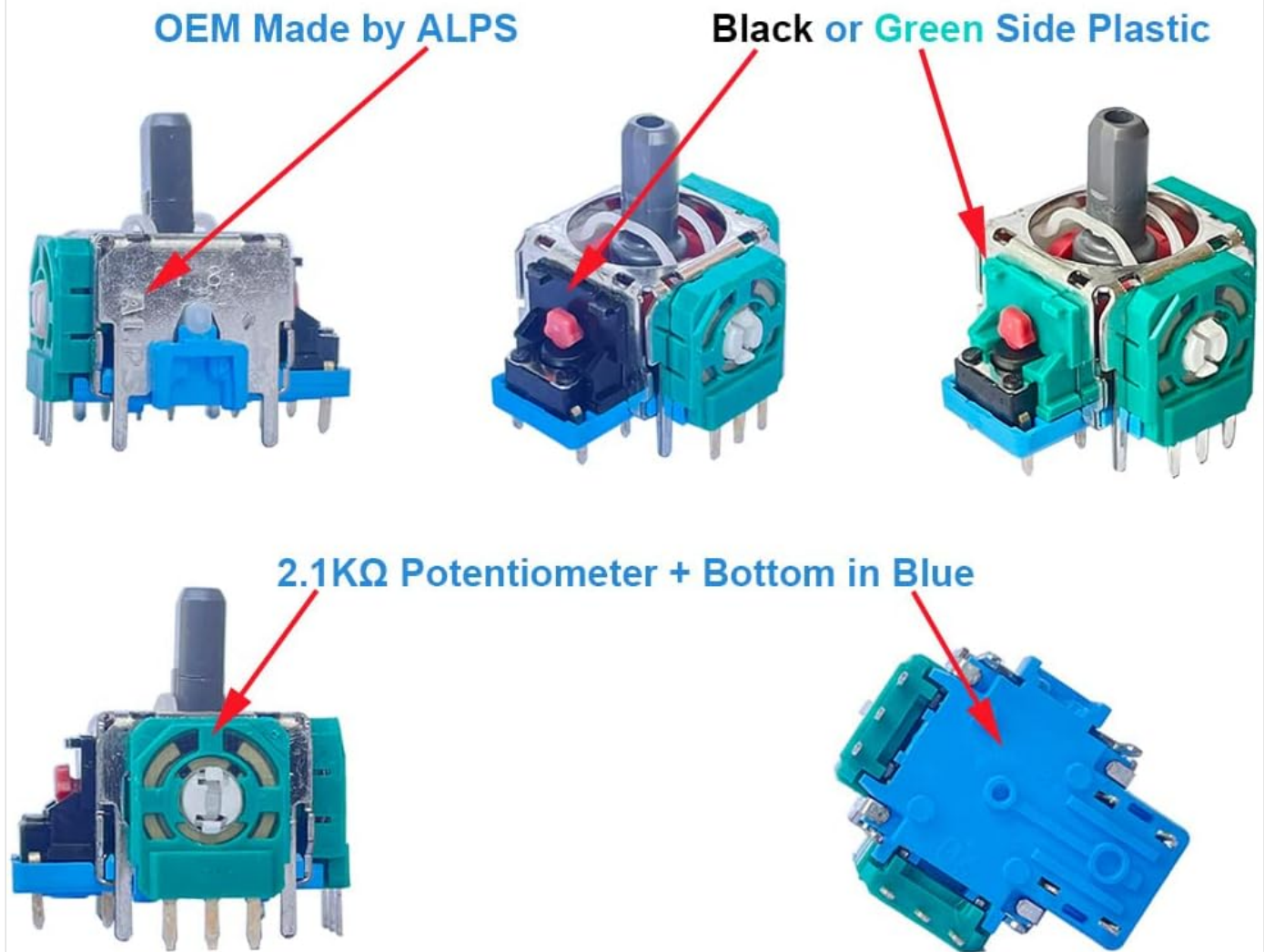


Figure 3.2: Labeled diagram of the EL6 ALPS 2.1K joystick, highlighting key features such as the OEM manufacturer (ALPS), the 2.1K Ω potentiometer, and the black or green side plastic with a blue bottom. This diagram helps in identifying the specific components of the joystick module.

3.3 Replacement Methods

There are several approaches to replacing the joystick components, depending on the nature of the fault and your soldering skill level:

Method A: Replacing the Wiper Alone (No Soldering Required)

In some cases, issues like stuttering, dead zones, creeping, or reduced responsiveness can be resolved by replacing only the internal wiper mechanism within the potentiometer. This method typically does not require soldering, as the wiper can be carefully removed and replaced.

Method B: Replacing the Potentiometer Alone (Soldering Required)

Approximately 80% of joystick problems are attributed to the sensor (potentiometer) rather than the rotary mechanism or tactile switches. Replacing only the potentiometer is often easier than replacing the entire module, as it involves desoldering only three pins. This approach is recommended if you have basic soldering skills.

Method C: Replacing the Entire Module (Advanced Soldering Skills Required)

Replacing the entire joystick module is the most comprehensive repair but also the most challenging, as it involves desoldering and soldering up to 14 pins. This method requires advanced soldering skills and specialized tools.

- **Using a Heat Gun:** For experienced soldering experts, a heat gun can be used to heat all 14 pins simultaneously for quicker removal of the old module. Exercise caution to avoid overheating the PCB or surrounding components.
- **Using a Standard Soldering Iron:** If a heat gun is not available, you can desolder each of the 14 pins individually. To simplify removal, you may carefully crush the old joystick module into smaller pieces with pliers, allowing easier access to each pin for desoldering.
- **Recommended Tools:** For efficient desoldering of the entire module, consider using a desoldering kit (e.g., product ID: [B0BK7169M8](#)) or a solder sucker pump and wick.

After replacing the faulty component, carefully re-solder the new part, ensuring all connections are secure and clean. Reassemble the controller by reversing the disassembly steps, ensuring all cables and components are correctly reconnected.

4. TROUBLESHOOTING COMMON ISSUES

The most common issue addressed by these replacement joysticks is analog stick drift. Drift occurs when the controller registers input even when the joystick is not being touched, causing unintended movement in games.

4.1 Joystick Drift

Joystick drift can be caused by several factors, including:

- **Potentiometer Wear:** Over time, the carbon film inside the potentiometer can wear down, leading to inaccurate readings.
- **Spring Fatigue:** The springs that center the joystick can lose their tension, preventing the stick from returning to a true center position.
- **Dust and Debris:** Accumulation of dust, dirt, or moisture inside the joystick mechanism can interfere with its operation.
- **Manufacturing Imperfections:** Even new joysticks can exhibit slight imprecision.

This product includes four additional Drift Fix PCBs. These PCBs are designed to help eliminate drift in one direction by allowing you to fine-tune the variable resistor, effectively re-calibrating the joystick's center point. If drift persists after replacement, consider utilizing these PCBs.

If your controller exhibits symptoms such as drifting, creeping, stuttering, a blind spot, a dead spot, a dead zone, no reaction when clicking, or failure to center after prolonged use, replacing the analog joystick module is typically the recommended solution.

5. SPECIFICATIONS

Brand	ElecGear
Model Number	EL6-ALPS-2.1K
Hardware Platform	PlayStation 5, PlayStation 4
Item Weight	1.06 ounces
Package Dimensions	3.58 x 1.3 x 1.26 inches
Color	EL6 ALPS 2.1K for PS5 / PS4 (Black or Green Side Plastic)
Manufacturer	ElecGear

ASIN	B07R6NWF9B
Connectivity Technology	USB (Controller connection, not joystick itself)
Controller Type	Joystick (Replacement Part)

6. WARRANTY AND SUPPORT

For information regarding product warranty, returns, or technical support, please refer to the official ElecGear website or contact their customer service directly. Keep your purchase receipt as proof of purchase.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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