

AKNES NS51-PS5

AKNES GuliKit TMR Electromagnetic Joysticks Replacement for DualSense PS5 / PS5 Edge Controller (NS51-PS5) - Instruction Manual

Brand: AKNES | Model: NS51-PS5

1. INTRODUCTION

This manual provides detailed instructions for installing and calibrating your AKNES GuliKit TMR Electromagnetic Joysticks, designed as a replacement for DualSense PS5 and PS5 Edge controllers. These joysticks utilize TMR (Tunneling Magnetoresistance) technology to offer enhanced performance and durability compared to traditional joysticks.

2. PRODUCT FEATURES

- **TMR (Tunneling Magnetoresistance) Technology:** GuliKit is the first to use TMR technology in controller joysticks, offering lower power consumption (0.1-0.3mA), better temperature stability, and a longer lifespan. This technology also prevents interference from magnetic triggers.
- **No Additional Calibration Module Required:** The joysticks are designed for direct replacement without needing extra hardware for calibration.
- **Includes KK Ring Joystick Caps:** Comes with KK Ring joystick caps for easy replacement of thumbstick caps.
- **Compatibility:** Specifically designed to fit DualSense PS5 and PS5 Edge Controllers.

3. IMPORTANT SAFETY WARNINGS

Warning: This replacement process requires soldering tools and skills. If you do not possess the

necessary tools or experience, it is highly recommended to seek assistance from a professional to avoid damaging your controller.

Improper installation or handling of electronic components can lead to permanent damage to your device or personal injury. Proceed with caution.

4. PACKAGE CONTENTS

The package includes:

- 2 x GuliKit TMR Electromagnetic Joysticks
- 2 x KK Ring Joystick Caps



Image: AKNES GuliKit TMR Electromagnetic Joysticks and KK Ring Joystick Caps.

5. INSTALLATION GUIDE

This section outlines the steps to replace the joysticks in your DualSense PS5 or PS5 Edge controller. Please follow the instructions carefully. For a visual guide, refer to the official installation video below.

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Video: DualSense Joystick Replacement Guide. This video provides a comprehensive visual walkthrough of the installation process.

5.1. Required Tools

- Philips 00 bit screwdriver
- Soldering Iron
- Desoldering Pump/Vacuum or Heat Gun
- Flux
- Tin Wire (Solder)
- Brass Ball (for cleaning soldering iron tip)
- 90%+ Isopropyl Alcohol (IPA)
- Pair of Tweezers
- Pry Tools (plastic opening tools)

5.2. Disassembly

1. **Remove Controller Shell:** Use a pry tool to carefully open the controller shell, starting from the handles. Work your way around until the clips near the headphone jack are open.
2. **Remove Shoulder Buttons:** Pry from below the shoulder buttons to detach them.
3. **Unscrew Internal Components:** Locate and remove the screws securing the internal components.
4. **Disconnect Battery:** Carefully disconnect the battery connector from the motherboard.
5. **Disconnect Ribbon Cables:** Use tweezers to gently unlatch and disconnect all ribbon cables from the motherboard.

5.3. Desoldering Old Joysticks

1. **Apply Flux:** Apply flux to the solder joints of the old joysticks on the motherboard.
2. **Desolder Wires:** Using a soldering iron, carefully desolder the wires connected to the old joysticks.
3. **Remove Joysticks:** Use a desoldering pump/vacuum or heat gun to remove the solder from the joystick pins. Once all pins are loose, gently rock the joystick side by side and pull it out. Repeat for the second joystick.
4. **Clean Residue:** Clean any flux residue from the motherboard using Isopropyl Alcohol (IPA).

5.4. Soldering New Joysticks

1. **Prepare New Joysticks:** Attach the KK Ring joystick caps to the new GuliKit TMR joysticks.
2. **Position Joysticks:** Carefully place the new joysticks onto the motherboard, ensuring the pins align correctly with the holes.
3. **Solder Corners First:** Apply flux to the four corner pins of each joystick. Solder these four pins first to secure the joystick in place. Ensure the joystick is flat against the motherboard by applying gentle pressure from the back while soldering.
4. **Solder Remaining Pins:** Apply flux to the remaining pins and solder them securely. Ensure all connections are solid and free of bridges.
5. **Clean Residue:** Clean any remaining flux residue with IPA.

5.5. Reassembly

1. **Reconnect Ribbon Cables:** Reconnect all ribbon cables to their respective ports on the motherboard.
2. **Reconnect Battery:** Reconnect the battery connector.
3. **Place Motherboard:** Carefully place the motherboard back into the controller housing, ensuring no wires are caught underneath. The speaker pins must align with the pins on the motherboard.
4. **Reattach Shoulder Buttons:** Snap the shoulder buttons back into place.

5. **Reattach Controller Shell:** Align the top shell and press down, working from the shoulder buttons towards the handles, until all clips snap into place.
6. **Secure Screws:** Reinsert and tighten all screws.

6. CALIBRATION

After installation, it is crucial to calibrate the new joysticks for optimal performance. Ensure the controller cases and screws are fully installed before calibration.

- **For PS5 DualSense Controllers:** Use the third-party open-source calibration tool available at dualshock-tools.github.io to calibrate the joysticks.
- **For PS5 Edge Controllers:** Use the calibration tool found at github.com/lewy20041/Dualsense_Edge_Modules_Callibration.

Follow the on-screen instructions provided by the calibration tool to complete the process. This typically involves moving the joysticks through their full range of motion and centering them.

7. SPECIFICATIONS

Attribute	Value
Brand	AKNES
Manufacturer	GuliKit
Item Model Number	PS5 Controller
Hardware Platform	PlayStation 5
Compatible Devices	PS5 Controller, PS5 DualSense Controller, PS5 Edge Controller
Material	Plastic
Item Weight	0.352 ounces
Package Dimensions	2.72 x 2.68 x 1.02 inches

8. TROUBLESHOOTING

- **Joystick Drift/Inaccuracy:** Ensure the joysticks are properly calibrated using the tools mentioned in Section 6. Re-check all solder joints for solid connections and ensure no wires are pinched during reassembly.
- **Controller Not Functioning:** Verify all ribbon cables and the battery are securely connected. Double-

check all soldering points.

- **Physical Damage:** If physical damage occurred during installation, contact customer support for assistance.

9. WARRANTY AND SUPPORT

AKNES is committed to providing top customer support. If you encounter any issues with your GuliKit TMR Electromagnetic Joysticks, please do not hesitate to contact us. Our team will be happy to assist you with troubleshooting or any product-related inquiries.

For more information about AKNES and our products, please visit our official store page.