EPOMAKER QK81

EPOMAKER QK81 75% Wireless Mechanical Gaming Keyboard User Manual

Model: QK81

1. INTRODUCTION

Welcome to the user manual for your EPOMAKER QK81 75% Wireless Mechanical Gaming Keyboard. This guide provides detailed instructions to help you set up, operate, and maintain your keyboard, ensuring optimal performance and longevity.

The EPOMAKER QK81 is a highly customizable 75% layout mechanical keyboard featuring QMK/VIA programmability, hot-swappable switches, an 81-key layout with a metal knob, and versatile tri-mode connectivity (2.4Ghz, Bluetooth, USB-C). Its creamy gasket-mount design and RGB backlight enhance both typing comfort and aesthetic appeal.

Figure 1: EPOMAKER QK81 Key Features Overview

Package Contents

Upon opening your EPOMAKER QK81 package, please verify that all the following items are included:

- QK81 Wireless Mechanical Gaming Keyboard
- 1.8m USB A to C Coiled Cable
- 2-in-1 Switch-and-Keycap Puller
- User Manual (this document)
- Dust Cover

Figure 2: Package Contents

2. Setup

Follow these steps to set up your EPOMAKER QK81 keyboard for the first time.

2.1 Charging the Keyboard

Before initial use, it is recommended to fully charge the keyboard. Connect the provided USB-A to USB-C coiled cable to the keyboard's USB-C port and to a power source (e.g., computer USB port or USB wall adapter). The keyboard features a 4000mAh battery.

2.2 Connectivity Modes

The QK81 supports three connection modes: Wired (USB-C), 2.4GHz Wireless, and Bluetooth. A toggle switch located on the back of the keyboard allows you to select your preferred mode.

Figure 3: Connectivity and OS Mode Switches

2.2.1 Wired Mode (USB-C)

1. Set the connectivity switch on the back of the keyboard to the "USB" position.
2. Connect the provided USB-C cable to the keyboard and your computer.
3. The keyboard will be recognized automatically by your operating system.

2.2.2 2.4GHz Wireless Mode

1. Locate the 2.4GHz USB dongle, which is stored in a dedicated slot within the left kickstand on the underside of the keyboard.
2. Set the connectivity switch on the back of the keyboard to the "2.4G" position.
3. Insert the 2.4GHz USB dongle into an available USB port on your computer.
4. The keyboard should connect automatically. If not, press **Fn + R** to initiate pairing.

Figure 4: 2.4GHz Dongle Storage Slot

2.2.3 Bluetooth Mode

The QK81 can connect to up to three Bluetooth devices.

1. Set the connectivity switch on the back of the keyboard to the "BT" position.
2. To enter pairing mode for a specific slot, press and hold **Fn + Q**, **Fn + W**, or **Fn + E** for 3-5 seconds. The corresponding key's backlight will flash rapidly, indicating pairing mode.
3. On your device (PC, laptop, tablet, smartphone), search for Bluetooth devices and select "EPOMAKER QK81" (or similar) to connect.
4. Once connected, the backlight will stop flashing. You can switch between paired Bluetooth devices by pressing **Fn + Q/W/E**.

2.3 Operating System Compatibility

A dedicated toggle switch on the back of the keyboard allows you to select between Windows and Mac operating system layouts.

- Set the switch to "WIN" for Windows compatibility.

- Set the switch to "MAC" for macOS compatibility.

3. OPERATING THE KEYBOARD

This section details the various functions and features of your EPOMAKER QK81 keyboard.

3.1 QMK/VIA Programmability

The QK81 keyboard is fully programmable using QMK firmware and VIA software, allowing for extensive customization of key assignments, macros, and lighting effects. VIA software provides a graphical interface for easy configuration.

- Download the VIA software from the official EPOMAKER website or the VIA website.
- Connect the keyboard in **Wired Mode (USB-C)** for QMK/VIA programming. Note that QMK only supports operation in wired mode.
- Use VIA to remap keys, create complex macros, adjust RGB lighting, and save/load custom layouts.
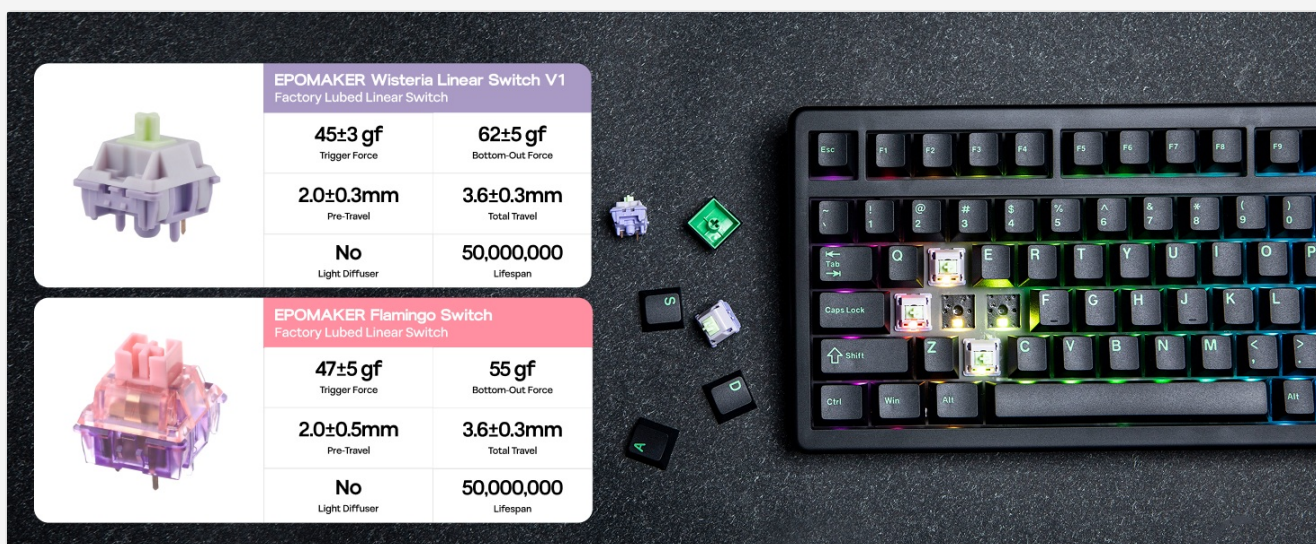

Figure 5: QMK/VIA Customization Interface

3.2 RGB Backlighting

The QK81 features south-facing RGB LEDs, providing vibrant and customizable backlighting. You can adjust lighting effects and colors through the VIA software or using onboard shortcuts (refer to the keyboard's function layer diagram in the VIA software for specific key combinations).

Figure 6: RGB Backlighting in action

3.3 Volume Control Knob

The integrated metal knob located in the top-right corner of the keyboard provides convenient volume control. Rotate the knob clockwise to increase volume, counter-clockwise to decrease volume. Press the knob to mute/unmute audio.

Figure 7: Volume Control Knob

3.4 Battery Life

The QK81 is equipped with a 4000mAh battery, offering extended usage times:

- Up to 260 hours with RGB backlight off.
- Up to 11.5 hours with RGB backlight on.

Figure 8: Battery Life Overview

3.5 Low Latency Performance

The QK81 is engineered for low-latency performance across all connection modes:

- USB-C Wired: 3ms (1000Hz polling rate)
- 2.4GHz Wireless: 5ms (1000Hz polling rate)
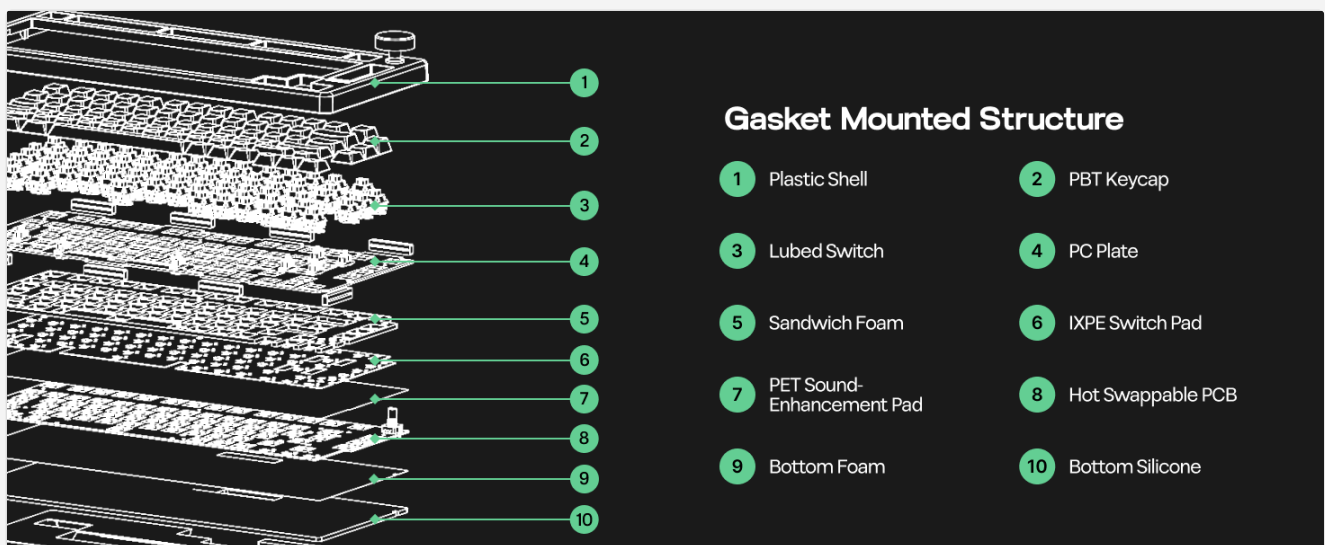- Bluetooth: 15ms (125Hz polling rate)

Gasket Mounted Structure

1	Plastic Shell	2	PBT Keycap
3	Lubed Switch	4	PC Plate
5	Sandwich Foam	6	IXPE Switch Pad
7	PET Sound-Enhancement Pad	8	Hot Swappable PCB
9	Bottom Foam	10	Bottom Silicone

Figure 9: Latency Performance

3.6 N-Key Rollover (NKRO)

The keyboard supports N-Key Rollover, ensuring that every key press is registered accurately, even when multiple keys are pressed simultaneously. This is crucial for fast typing and gaming scenarios.

Figure 10: N-Key Rollover and Cherry Profile

3.7 Adjustable Kickstands

The keyboard features two-stage adjustable kickstands on the underside, allowing you to set your preferred typing angle for ergonomic comfort.

Figure 11: Adjustable Kickstand

4. MAINTENANCE

Proper maintenance ensures the longevity and performance of your EPOMAKER QK81 keyboard.

4.1 Cleaning

- Regularly use the provided dust cover when the keyboard is not in use to prevent dust accumulation.
- For general cleaning, use a soft, lint-free cloth. For deeper cleaning, you may use a can of compressed air to remove debris from between keycaps.
- Avoid using harsh chemicals or abrasive materials, as these can damage the keyboard's finish or keycap legends.

4.2 Hot-Swappable Switches

The QK81 features a hot-swappable PCB, allowing you to change mechanical switches without soldering. This enables customization of typing feel and easy replacement of faulty switches.

1. Using the switch puller tool (included), gently grip the switch from the top and bottom, then pull upwards to remove it.
2. Align the pins of the new switch with the holes on the PCB. Ensure the pins are straight to avoid bending.
3. Gently press the new switch into place until it clicks securely. Do not force the switch if it doesn't go in easily;
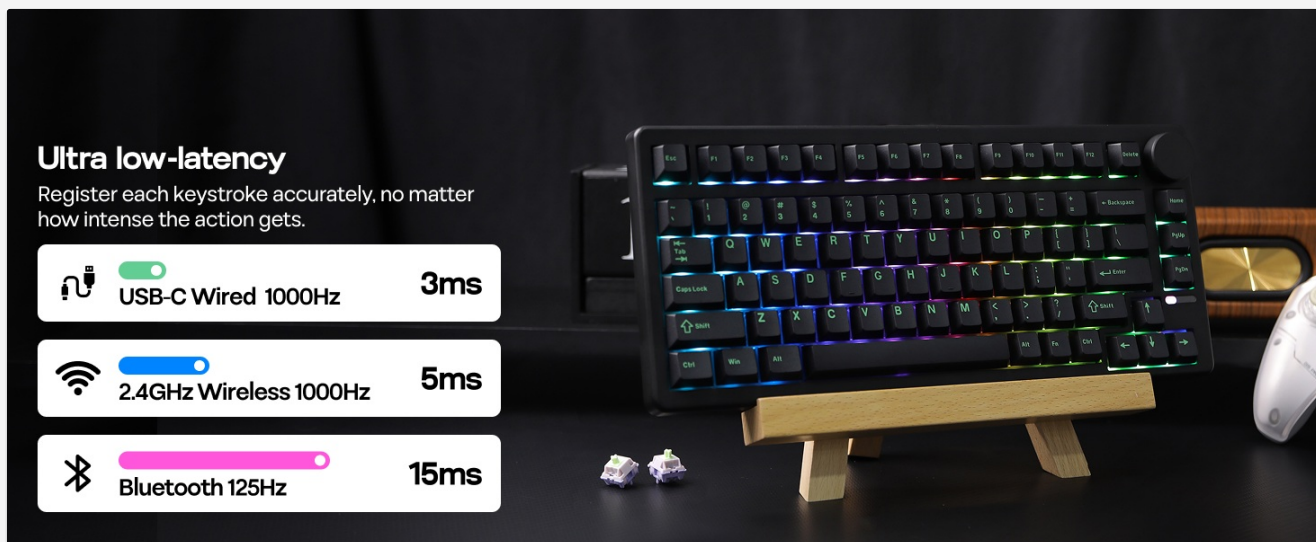
check pin alignment.

Figure 12: Hot-Swappable Switch Replacement

4.3 Keycap Replacement

You can replace keycaps to customize the keyboard's appearance or replace worn-out caps.

1. Use the keycap puller tool (included) to gently hook onto the sides of the keycap.
2. Pull upwards evenly to remove the keycap.
3. Align the new keycap with the switch stem and press down firmly until it is seated.

5. TROUBLESHOOTING

If you encounter issues with your EPOMAKER QK81 keyboard, refer to the following common troubleshooting steps.

5.1 Keyboard Not Responding

- **Check Connectivity Mode:** Ensure the toggle switch on the back of the keyboard is set to the correct mode (USB, 2.4G, or BT) for your connection type.
- **Wired Connection:** Try a different USB port or cable. Ensure the cable is fully inserted.
- **2.4GHz Wireless:** Ensure the USB dongle is securely plugged into your computer. Try re-pairing by pressing **Fn + R**.
- **Bluetooth Connection:** Ensure Bluetooth is enabled on your device. Try re-pairing by holding **Fn + Q/W/E** for 3-5 seconds. Remove and re-add the keyboard from your device's Bluetooth settings.
- **Battery Level:** Connect the keyboard via USB-C to charge it. A low battery can cause connectivity issues.

5.2 QMK/VIA Software Issues

- **Wired Mode Required:** Ensure the keyboard is connected via USB-C cable and the connectivity switch is set to "USB" when attempting to use QMK/VIA software. QMK programming typically requires a wired connection.
- **Software Installation:** Verify that you have downloaded and installed the correct and latest version of the VIA software.
- **Firmware:** Ensure your keyboard's firmware is compatible with the VIA software. Check the EPOMAKER website for any necessary firmware updates or specific VIA JSON files.

5.3 RGB Backlight Not Working or Incorrect

- **Check Settings:** Use the VIA software to verify RGB lighting settings.
- **Onboard Controls:** Refer to your keyboard's function layer diagram (available in VIA) for key combinations to adjust brightness or change lighting modes.
- **Power Saving:** The backlight may turn off automatically after a period of inactivity to conserve battery. Press any key to reactivate.

5.4 Keys Not Registering or Double-Typing

- **Check Switches:** The QK81 is hot-swappable. A switch might be loose or faulty. Use the switch puller to remove and re-seat the switch, or replace it with a spare if available.
- **Debris:** Check for any debris under the keycap or around the switch stem that might be obstructing its movement.

6. SPECIFICATIONS

Below are the technical specifications for the EPOMAKER QK81 Wireless Mechanical Gaming Keyboard:

Feature	Detail
Model	QK81
Layout	75% (81 Keys)
Connectivity	2.4GHz Wireless, Bluetooth, USB-C Wired
Battery Capacity	4000mAh Lithium Ion
Backlight	RGB, South-Facing LEDs
Programmability	QMK/VIA
Switches	Hot-Swappable (5-pin compatible)
Mounting Style	Gasket-Mount
Compatible Devices	PC, Mac, Laptop, Smartphone, Tablet, Gaming Console
Product Dimensions	12.99"L x 5.75"W x 0.79"H (330mm x 146mm x 20mm)
Item Weight	2.55 pounds (1.16 kg)
Manufacturer	EPOMAKER

Figure 13: Gasket Mounted Structure Diagram

7. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the warranty card included with your product or visit the official EPOMAKER website. Warranty terms and conditions may vary by region and retailer.
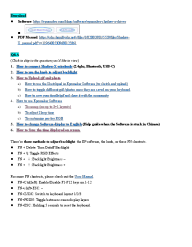
For technical support, product inquiries, or further assistance, please visit the official EPOMAKER store or contact their customer service directly.
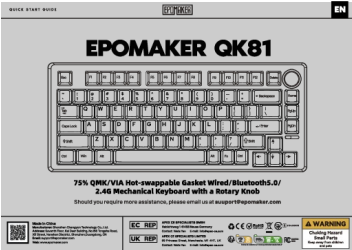
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Related Documents - QK81

	EPOMAKER F108 PRO Mechanical Keyboard Quick Start Guide This guide provides instructions for setting up and using the EPOMAKER F108 PRO mechanical keyboard, including connection methods, function key combinations, and troubleshooting.
	EPOMAKER X AULA F65 PRO Mechanical Keyboard Quick Start Guide This guide provides instructions for setting up and using the EPOMAKER X AULA F65 PRO mechanical keyboard, covering wired, Bluetooth, and 2.4G wireless connections, lighting effects, and troubleshooting.
	Epomaker Alice Mechanical Keyboard Quick Start Guide Quick start guide for the Epomaker Alice mechanical keyboard, covering setup, shortcuts, light effects, VIA software customization, switch replacement, factory reset, specifications, support, and warranty information.

	EPOMAKER TH108 Full-Size Mechanical Keyboard Quick Start Guide A quick start guide for the EPOMAKER TH108 Full-Size Mechanical Keyboard, covering wired, Bluetooth, and 2.4G connections, function key combinations, lighting control, battery check, sleep mode, and technical specifications.
	EPOMAKER X AULA EA75 Mechanical Keyboard: Quick Start Guide & Features Comprehensive guide for the EPOMAKER X AULA EA75 75% hot-swappable mechanical keyboard, covering setup, functions, connectivity, specifications, and support.
	Epomaker Shadow-X Keyboard: User Manual and Guide Comprehensive guide for the Epomaker Shadow-X mechanical keyboard, covering wireless and wired connections, software features like backlight customization and GIF uploads, key remapping, and troubleshooting.

Documents - EPOMAKER – QK81

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