

Manuals+

[Q & A](#) | [Deep Search](#) | [Upload](#)

[manuals.plus](#) /

- › [MechLands](#) /
- › [AJAZZ AK820 MAX HE Hall Effect Magnetic Gaming Keyboard User Manual](#)

MechLands AK820 MAX HE

AJAZZ AK820 MAX HE Hall Effect Magnetic Gaming Keyboard User Manual

Model: AK820 MAX HE | Brand: MechLands

INTRODUCTION

Thank you for choosing the AJAZZ AK820 MAX HE Hall Effect Magnetic Gaming Keyboard. This advanced gaming keyboard is designed for precision and speed, featuring magnetic switches with adjustable actuation, multiple connectivity modes, and a customizable TFT display. This manual provides detailed instructions for setting up, operating, maintaining, and troubleshooting your keyboard to ensure optimal performance and longevity.

PRODUCT OVERVIEW

The AJAZZ AK820 MAX HE is a high-performance 75% layout gaming keyboard equipped with cutting-edge features for an enhanced user experience.



Figure 1: Top-down view of the AJAZZ AK820 MAX HE keyboard, showcasing its 75% layout with white, light blue, and purple keycaps, an integrated screen, and a rotary knob.

Key Features:

- **Magnetic Switches:** Features factory-lubed magnetic switches for rapid trigger capabilities and ultra-fast response times.
- **Adjustable Actuation Point:** Customize key activation from 0.2 mm to 2.5 mm with 0.1 mm precision.
- **Multi-Mode Connectivity:** Supports 2.4GHz wireless, Bluetooth, and USB-C wired connections.
- **0.85-inch TFT Screen:** Displays time, battery level, connectivity status, and customizable GIFs.
- **Multifunctional Knob:** Provides convenient volume control and other customizable functions.
- **Gasket-Mounted Design:** Ensures stable and comfortable typing feedback with three layers of sound-enhancing materials.
- **Hot-Swappable PCB:** Allows for easy replacement of magnetic switches (compatible with Kailh and Gateron magnetic switches).
- **RGB Backlighting:** Customizable 16.8 million color RGB backlight effects.
- **75% Compact Layout:** 81-key design that balances functionality with a compact form factor.
- **PBT Keycaps:** Durable keycaps with a Cherry profile for a comfortable and long-lasting typing experience.



Figure 2: Visual overview of the keyboard's main features including layout, connectivity modes, screen, magnetic switches, battery, adjustable actuation, dynamic keystrokes, hot-swappable, gasket-mounted, and PC plate.

Internal Structure and Components:

The AK820 MAX HE is engineered with a robust internal structure for durability and enhanced typing feel.

- **Gasket-Mounted Design:** This design incorporates soft gasket material between the plate and the PCB, isolating them from the case. This provides a flexible, cushioned typing experience and reduces vibrations.
- **Sound-Dampening Layers:** Multiple layers of Poron foam, EVA foam, and a silicone case pad are integrated to absorb sound and improve the acoustic profile of keystrokes, resulting in a "creamy" sound.
- **PC Plate:** A polycarbonate (PC) plate is used for its flexibility, contributing to the soft typing feel and consistent switch performance.
- **PBT Keycaps:** The keyboard comes with durable PBT (Polybutylene Terephthalate) keycaps, known for their resistance to shine and wear over time, ensuring legends remain clear. They feature a Cherry profile for ergonomic comfort.



Figure 3: Exploded view diagram illustrating the multi-layered gasket-mounted structure of the keyboard, highlighting the various internal components and sound-dampening materials.



Figure 4: Illustration of the PBT keycaps, showing their Cherry profile and various heights across different rows for ergonomic typing.

SETUP

1. Connectivity Modes:

The AK820 MAX HE supports three connection modes: Wired (USB-C), 2.4GHz Wireless, and Bluetooth.

1. Wired Mode (USB-C):

Connect the provided USB-C cable from the keyboard to your computer's USB port. The keyboard will automatically be recognized.

2. 2.4GHz Wireless Mode:

Locate the 2.4GHz USB dongle, typically stored in a compartment on the keyboard's underside. Insert the dongle into an available USB port on your computer. Switch the keyboard's mode switch (located on the rear) to the "2.4G" position. Press **FN + R** on the keyboard to activate 2.4GHz pairing mode if needed. The keyboard should connect automatically.



Figure 5: Location of the 2.4GHz wireless dongle storage compartment on the keyboard.

3. Bluetooth Mode:

Switch the keyboard's mode switch to the "BT" position. Press **FN + Q**, **FN + W**, or **FN + E** to select one of the three available Bluetooth channels. The indicator light will flash, indicating pairing mode. On your device (PC, laptop, tablet, smartphone), search for Bluetooth devices and select "AJAZZ AK820 MAX HE" to pair. Once connected, the indicator light will become solid.



Figure 6: Illustration of the keyboard's multi-device and multi-system compatibility via 2.4GHz wireless, Bluetooth, and USB-C wired connections.



Figure 7: Close-up of the physical switches on the keyboard for selecting operating system (Win/Mac) and connectivity mode (BT/USB/2.4G).

2. Software Installation:

To unlock the full customization potential of your AK820 MAX HE, including adjustable actuation points, DKS, MT, TGL, and TFT screen customization, you will need to install the AJAZZ Driver software. This software is compatible with Windows operating systems only.

- Visit the official MechLands or AJAZZ website to download the latest driver software for the AK820 MAX HE.

- Follow the on-screen instructions to complete the installation.
- **Note:** Some users have reported difficulty locating the correct software. Ensure you are downloading the specific driver for the "AK820 MAX HE" model from a verified source.



Figure 8: Screenshot of the AJAZZ Driver software interface, demonstrating customization options for key settings, macros, lighting, and TFT screen content.

OPERATING INSTRUCTIONS

1. Hall Effect Magnetic Switches:

The AK820 MAX HE utilizes Hall Effect magnetic switches, which detect key presses based on magnetic field changes rather than physical contact. This allows for highly precise and customizable actuation.

- **Operating Force:** $50 \pm 5\text{gf}$
- **Total Travel:** $4.0 \pm 0.3\text{mm}$
- **Initial Magnetic Flux:** $60 \pm 20\text{Gs}$
- **Bottom-out Magnetic Flux:** $700 \pm 100\text{Gs}$
- **Action Travel:** Freely Setting (Adjustable Actuation)
- **Life Span:** 100 Million Times



Figure 9: Diagram illustrating the internal mechanism of a Hall Effect magnetic linear switch and its key operational parameters.

2. Adjustable Actuation Point:

The Hall Effect magnetic switches allow you to set the actuation point for each key from 0.2 mm to 2.5 mm. This feature is crucial for competitive gaming, allowing for faster key presses or more deliberate inputs.

- Use the AJAZZ Driver software to precisely adjust the actuation depth for individual keys or groups of keys.
- A lower actuation point (e.g., 0.2 mm) means the key registers with minimal travel, ideal for rapid actions.
- A higher actuation point (e.g., 2.5 mm) requires more travel, reducing accidental presses.



Figure 10: Diagram illustrating the adjustable actuation range (0.2mm to 2.5mm) of the magnetic switches and an overview of Dynamic Keystrokes (DKS), Magnetic Tactile (MT), and Toggle Key (TGL) functionalities.

3. Advanced Key Modes (Software Dependent):

The AK820 MAX HE supports advanced key modes via the AJAZZ Driver software:

- **Dynamic Key Switching (DKS):** Allows different actions based on key travel, tap/hold, or release distance. For example, a light press could be one action, and a full press another.
- **Magnetic Tactile (MT):** Provides a tactile bump sensation through software, enhancing feedback without physical changes to the switch.
- **Trigger-Lock (TGL):** Enables a key to remain activated until a specific condition is met or another key is pressed, useful for continuous actions.
- **SOCD (Simultaneous Opposite Cardinal Directions):** Helps resolve conflicting directional inputs, common in fighting games.

4. TFT Display Screen and Knob:

The 0.85-inch TFT screen provides useful information and customization options, controlled by the multifunctional knob.

- **Default Display:** Shows time, battery level, and current connectivity mode.
- **Customization:** Use the AJAZZ Driver software to upload custom GIFs or images to the screen.
- **Knob Functionality:**
 - Rotate the knob to adjust system volume.
 - Press the knob to mute/unmute audio.
 - Press **FN + Knob**: Enter the setting page on the screen. Rotate the knob to navigate options, press to confirm.
 - Press **FN + B**: Switch between animation/GIF display and the main information page on the screen.

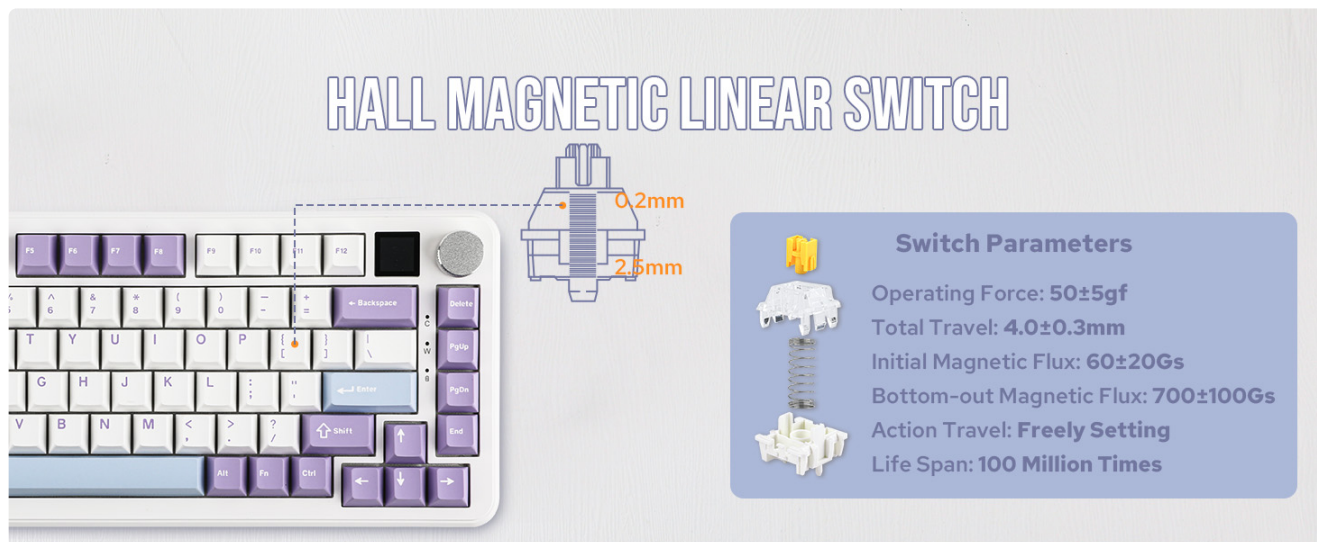


Figure 11: Examples of content displayed on the 0.85-inch TFT screen, including time/date/battery and custom animated GIFs, along with knob control instructions.

5. RGB Backlighting:

The keyboard features 16.8 million color RGB backlighting with various effects.

- Press **FN + **: Toggle between different backlight effects.
- Press **FN + →**: Toggle between different backlight colors.
- Press **FN + X**: Turn the backlights On/Off.
- Further customization of lighting effects and colors is available through the AJAZZ Driver software.



Figure 12: Visual guide to RGB backlight control shortcuts using the FN key combinations.

6. Hot-Swapping Switches:

The AK820 MAX HE features a hot-swappable PCB, allowing you to easily change magnetic switches without soldering. This is only compatible with other magnetic switches (e.g., Kailh, Gateron magnetic switches).

- Use the provided keycap puller to remove the keycap.
- Use the switch puller to gently remove the magnetic switch from the PCB.
- Align the pins of the new magnetic switch with the sockets on the PCB and press firmly until it clicks into place.
- Replace the keycap.



Figure 13: Illustration of the hot-swappable PCB, showing how to remove and insert magnetic switches using a switch puller.

7. Operating System Switch:

A physical switch on the rear of the keyboard allows you to toggle between Windows (Win) and Mac operating system layouts, ensuring proper key mapping.

MAINTENANCE

- **General Cleaning:** Regularly wipe the keyboard surface with a soft, dry, lint-free cloth. For deeper cleaning,

use a can of compressed air to remove dust and debris from between keycaps.

- **Keycap Cleaning:** Keycaps can be removed for thorough cleaning. Use mild soap and water, then ensure they are completely dry before reattaching.
- **Switch Care:** While magnetic switches are durable, avoid exposing them to excessive moisture or extreme temperatures. If switches feel sluggish, ensure no debris is lodged around the stem.
- **Battery Care:** To prolong battery life, avoid fully discharging the keyboard frequently. Charge the keyboard using the provided USB-C cable when the battery indicator on the TFT screen shows low power.

TROUBLESHOOTING

Keyboard Not Responding:

- **Wired Mode:** Ensure the USB-C cable is securely connected to both the keyboard and the computer. Try a different USB port or cable.
- **2.4GHz Wireless:** Verify the dongle is properly inserted and the keyboard is switched to 2.4G mode. Press **FN + R** to re-pair. Check battery level.
- **Bluetooth Mode:** Ensure Bluetooth is enabled on your device and the keyboard is in BT mode. Try re-pairing by selecting a Bluetooth channel (**FN + Q/W/E**) and searching on your device. Check battery level.
- **Battery:** Charge the keyboard fully. A low battery can cause connectivity issues.

Keys Not Registering / Double Typing:

- **Actuation Point:** If keys are registering too easily or not at all, adjust the actuation point in the AJAZZ Driver software.
- **Debris:** Check for any debris under the keycap or around the switch stem.
- **Switch Seating:** Ensure the magnetic switch is fully seated in its socket. If unsure, carefully remove and re-insert the switch.

Software Issues / Driver Not Found:

- **Official Website:** Always download the driver from the official MechLands or AJAZZ website. Be cautious of third-party sites.
- **Model Specificity:** Ensure you download the driver specifically for the "AK820 MAX HE" model. Drivers for other models may not work correctly.
- **Operating System:** The software is primarily designed for Windows. Compatibility with other operating systems may be limited or require community-developed solutions.
- **Reinstallation:** If issues persist, try uninstalling and reinstalling the driver software.

TFT Screen Not Displaying Correctly:

- **Connectivity:** Ensure the keyboard is properly connected and powered on.
- **Software Settings:** Check the TFT screen settings within the AJAZZ Driver software.
- **Reset:** Try pressing **FN + B** to toggle the display mode.

SPECIFICATIONS

Feature	Detail
Model	AJAZZ AK820 MAX HE
Layout	75% (81-key)
Switch Type	Hall Effect Magnetic Switches
Actuation Point	Adjustable from 0.2 mm to 2.5 mm (0.1 mm precision)
Connectivity	2.4GHz Wireless, Bluetooth, USB-C Wired
Polling Rate	1K (USB-C & 2.4GHz), 125Hz (Bluetooth)
Display Screen	0.85-inch TFT Screen
Battery Capacity	4000mAh Lithium Ion (included)
Backlighting	RGB (16.8 million colors)
Keycaps	PBT Keycaps (Cherry Profile)
Dimensions	13.11"L x 5.63"W x 0.81"H (333mm x 143mm x 20.5mm)
Weight	2.59 pounds
Compatible OS	Windows, Mac, Android, iOS (via Bluetooth)
What's in the Box	Keyboard, USB Cable, Keycap Puller



Figure 14: Diagram showing the dimensions of the AK820 MAX HE keyboard and its 81-key ANSI layout.

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official MechLands website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

An official User Manual (PDF) is also available for download for additional details and diagrams:[Download User Manual \(PDF\)](#)