

# KBDFans x MM HE Gaming Keyboard

Latest Firmware Download Link: [MMPanel\\_Setup 4.49](#)

Update log:

Update Instructions: Use the original USB cable to connect to your computer and run the latest driver software. Note: After the update progress bar completes, wait for the keyboard to automatically restart (approximately 30 seconds to 1 minute) before disconnecting the USB connection.

2025-01-28

Added custom simultaneous key press cancellation and override functionality. Access settings by clicking any key on the Key Macro page.

2025-01-08

Optimized the auto-calibration algorithm for improved accuracy.

2024-12-26

Fixed an issue where bottom settings were ineffective in version 4.35.

2024-12-23-2

Enhanced bottom-out precision compared to version 4.33. No other changes were made. Updating is optional.

2024-12-23

Due to negative feedback on driver versions 4.26-4.31, this version is optimized based on driver version 4.25 to improve overall stability.

2024-12-13

This version is for downgrading to a stable firmware version prior to 4.23. A bug has been found in version 4.23 and is being fixed.

2024-12-07

Optimized for issues with double-actuation when using high precision with some specific switches.

2024-11-27

Improved override (key press after release) function.

2024-11-23

Added AD cancellation function, enabled on the Key Macro page. When enabled, pressing both the A and D keys simultaneously will register as both keys releasing.

2024-11-16

Optimized double-actuation issues when using high precision with the "Wan Ci Wang" (likely a switch brand) switches.

2024-11-14

Added various text prompts for clarity.

2024-11-08

Rebuilt the auto-calibration function, optimizing long-term high-precision stability. Enable this in the driver's "Settings" page.

2024-11-06

Added music rhythm lighting function. Enable it within the "Backlight Effects" section.

2024-10-31

Improved issue where the keyboard would auto-trigger after some computer boots/restarts.

2024-10-28

Optimized double-actuation issues with certain switches.

2024-10-19

Added a light press-to-bottom-out tip on the driver's calibration page to address users who tend to use excessive force during calibration (an incorrect method).

Modified the maximum values for RT (Rapid Trigger) top protection and bottom protection to 1.5mm to prevent conflicts between the top and bottom dead zones. (No firmware update this version, no need to update unless desired).

2024-10-18

Optimized key-chattering/multiple actuation issues when using high precision. Issues related to switch wobble due to oversized plate cutouts or improper assembly/calibration are not within the scope of this fix.

2024-10-17

Fixed a bug where bottom protection was not effective on release.

2024-10-16

Optimized the algorithm, increasing stability. Removed the 0.002mm bottom dead zone in "Beast Mode" and "Eagle Eye Mode".

Reduced the probability of double-actuation with magnetic switches when using high precision. Enhanced the usability of 0.01mm precision and below, assuming proper assembly and calibration.

2024-10-14-3

Previous version forgot to disable the 0.002mm dead zone at the bottom in developer mode. This has been fixed in the new version. (No need to update if your keyboard is working correctly).

2024-10-14-2

Fixed a calibration bug with "Deng Shen" (likely a switch brand) switches. "Deng Shen" switches have a larger magnetic flux and are incompatible with the M6Lite+ PCB. These switches will only support basic actuation and precision is not guaranteed.

2024-10-14

Added "Developer Mode" (extreme precision mode) and removed "Balanced Mode". After updating, "Eagle Eye Mode" is changed to a true 0.002mm accuracy within the last 0.2mm of the travel and a true 0.004mm accuracy within the last 1mm of travel.

Improved the calculation speed of calibration.

2024-10-11

Added an auto-off lighting feature after a period of no key presses. Adjust this in the driver's "Settings" page.

Worked to reduce disconnect issues during long-term use with backlighting turned on. However, due to high brightness, accuracy is not guaranteed when backlighting is enabled. Disconnects may still be possible.

2024-10-10

Reduced the default brightness and added a "High Brightness Mode" which matches the previous default brightness.  
(High brightness may slightly affect precision. High precision use is recommended with lights off. Accuracy and disconnects may be possible with backlighting enabled)

Optimized double-actuation issues with some switches when using high precision. (If switch wobble within the key travel range exceeds a certain value, double-actuation is inevitable. Optimizations aim to reduce the likelihood.)

2024-10-09

Fixed an issue where the FN shortcut key was not properly switching RT layers.

Fixed an issue where the FN shortcut key for locking the Windows key sometimes did not work.

Calibration now turns off the backlight to increase calibration accuracy.

2024-10-08

Optimized double-actuation issues for certain switches.

2024-10-06

Added an automatic calibration function at power-on based on user feedback, which improves long-term stability. (Auto-calibration is an auxiliary function and should still be preceded by manual calibration) Since auto-calibration has minor inherent inaccuracies, manual calibration is more accurate. Users can enable/disable this feature on the "Settings" page of the driver.

2024-10-05

To address issues of disconnects reported by some users after updating to 0.002mm precision within the last 0.5mm of the key travel, added a 0.002mm dead zone at the bottom. With a 0.002mm setting, bottom-out lift-off will be around 0.004mm and non-bottom-out lift-off will be about 0.002-0.003mm.

Increased overall stability.

Note 1: Updates reflect PCB performance and measured values under testing tools. Due to switch wobble and different user actuation forces, consistent actuation is not guaranteed. It is advised to use bottom protection.

2024-10-04-2

Updated 0.002mm precision adjustment. True 0.002mm precision is now only applied to the final 0.5mm of the key travel in "Eagle Eye Mode".

Note 1: 0.002mm is very sensitive. For players who require extremely high precision, it is recommended to remove the case foam to ensure absolute accuracy.

Note 2: 0.002mm exceeds the inherent assembly precision of most magnetic switches. It is not guaranteed that all switches will function perfectly at this level.

Note 3: After this update, calibration and key travel settings will reset to factory defaults. Recalibration and key travel settings are required.

2024-10-04

Fixed an issue where ambient lighting brightness could not be adjusted independently.

Fixed an issue where the maximum value for adjusting the key travel was too small after updating to 0.003mm RT in the beta version.

2024-10-01 (Beta Version)

Updated to 0.003mm precision. True 0.003mm accuracy is now only applied to the last 1mm of key travel in "Eagle Eye Mode."

Note 1: 0.003mm is very sensitive. For players who require extremely high precision, it is recommended to remove the case foam to ensure absolute accuracy.

Note 2: 0.003mm exceeds the inherent assembly precision of most magnetic switches. It is not guaranteed that all switches will function perfectly at this level.

Note 3: After this update, calibration and key travel settings will reset to factory defaults. Recalibration and key travel settings are required.

2024-09-22

Fixed an issue where the override function sometimes failed to register lift-off.

2024-09-21

Fixed an issue where custom RGB settings were not being applied to "Streamer" and "Gradient" lighting effects.

Optimized the magnetic switch calibration function.

2024-09-14

Improved the override (key press after release) function.

2024-09-11-2 (Beta Version)

Fixed known key issues. (Requires recalibration and setting of key travel after updating)

Fixed an issue where ambient light in streamer mode was not moving.

2024-09-11 (Beta Version)

Updated 0.005mm precision adjustment. True 0.005mm accuracy is now applied to the second half of the key travel in "Eagle Eye Mode". (0.005mm is very sensitive. For players requiring extremely high precision, it is recommended to remove the case foam to ensure absolute accuracy).

2024-09-09

Fixed an issue where switching RT layers was ineffective.

Fixed an issue with importing custom lighting profiles.

2024-09-08-2

Optimized the calibration function.

2024-09-08

Modified the calibration function to allow calibration of some switches with small magnetic fluxes (mainly mass-produced, salvaged switches).

2024-09-04

Added a detection function: If the USB port continues to supply power after the computer is shut down, the keyboard will automatically turn off its lights.

2024-09-03

Optimized the "Snap" function.

2024-09-02-2

Fixed a conflict issue where using DKS on WS and "Snap" on AD simultaneously would not function correctly.

2024-09-02

Added function to assign any custom key to switch between layers.

Fixed known issues and made small performance optimizations.

2024-08-31

Added an FN function indicator backlight effect: When the FN key is pressed, the corresponding shortcut keys will be highlighted. After the key is released, the keyboard will return to the regular light effect.

2024-08-20

Opened up the second half of "Beast Mode" key travel to 0.01mm accuracy (less precise than "Eagle Eye Mode"). Enabling FPS enhancement reduces latency to under 0.1ms.