PFU

Bluetooth®

Happy Hacking Keyboard Professional HYBRID (US Layout/Non-Printed) User's Guide

Introduction

Thank you for purchasing Happy Hacking Keyboard Professional HYBRID (US Layout/Non-Printed). Please read this User's Guide and use this product safely and correctly. Be sure to read and understand "Safety Precautions" (a separate manual) before using the keyboard.

Microsoft and Windows are trademarks of the Microsoft group of companies.
Mac, macOS and iPadOS are trademarks of Apple Inc.
Bluetooth is a registered trademark of Bluetooth SIG, Inc.
Android is a trademark or registered trademark of Google LLC.
Other company names and product names are the trademarks or trademarks of the respective companies.

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Checking the Items in the Package

Make sure that all items shown below are included in the package:

- [ ] Keyboard (x1)
- [ ] Size AA alkaline dry battery (for checking operation) (x2)
- [ ] Safety Precautions (x1)
- [ ] User's Guide (this manual) (x1)

If items other than those shown above are included in the package, keep them as well. Treat the items that are included in the package with care. Retain the box and any packaging material as they would be needed to protect the keyboard should it be necessary to return the item in the event of a warranty claim.
If you find that an item is missing or defective, contact the distributor/dealer where you purchased this product.
This product does not include a Bluetooth USB adapter or a USB cable.
If the device that you use does not support Bluetooth, a commercially available Bluetooth USB adapter or USB cable is required.

Specifications

Item	Specification
Key Specifications	Electrostatic capacitive switch/Step sculpture/Key pitch: 19.05 mm
Ambient Temperature	5 to 35° C
Ambient Humidity	20 to 80%RH (non condensing)
Dimension	294 mm (W) x 120 mm (D) x 40 mm (H)
Weight	Approx. 540 g (without the batteries)
Connection Method	Bluetooth wireless connection method USB2.0 (Type-C)
Compatible Standards	Bluetooth Version 4.2 Class 2
Profile	Bluetooth HOGP (HID over GATT profile)
Radio Frequency	2.4 GHz band
Radio Frequency Modulation	GFSK modulation
Radio Wave Outreach	Approx. 10 m (when no magnetic objects are in the vicinity)
Battery Replacement Interval	Interval that is estimated when size AA alkaline dry batteries are used Approx. three months (This is not guaranteed because it is a value that is estimated from the test conducted in our environment.)
Required Batteries	Two size AA dry batteries (Size AA alkaline dry batteries, size AA manganese dry batteries, and size AA nickel hydride secondary batteries)

System Requirements

This product can be used with the following computers or devices.
- Computers with Windows® (Windows® 7/Windows® 8.1 or later) installed (*1)
- Computers with Mac OS (USB connection: macOS 10.12 or later/Bluetooth connection: macOS 10.14 or later) installed
- Mobile devices with iOS (iOS 11.4 or later) or iPadOS (iPadOS 13.0 or later) installed
- Mobile devices with Android™ (Android™ 4.4 or later) installed
*1: Computers with Windows® 7 installed cannot be connected via Bluetooth. Use a USB cable to establish a connection.

For a connection via Bluetooth, the device that you use needs to support Bluetooth 4.0 or later.
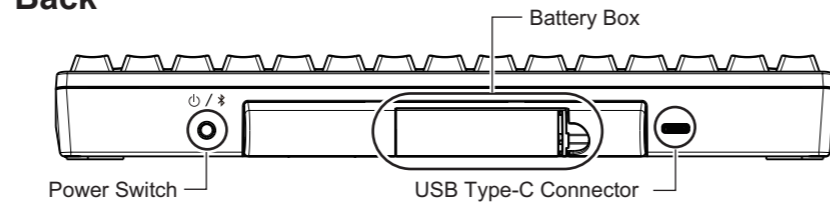
Part Names and Functions

Front
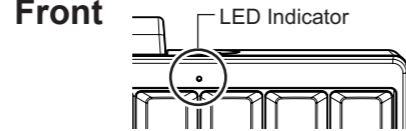
LED Indicator

Status of the LED Indicator

Status	Description
Turned Off	The keyboard is in connected mode/OFF mode
Blinking in Blue (twice per second)	The keyboard is in pairing standby mode.
Blinking in Blue (four times per second)	The keyboard is in pairing mode.
Lit in Blue	The keyboard is in connect standby mode
Blinking in Orange	When the LED indicator blinks in orange once every 30 seconds, the remaining battery power is low. When the LED indicator blinks in orange twice every 15 seconds, replace the batteries.

This product has the following operation modes.
- Connected mode
  The keyboard is connected to a device. You can use the keyboard for the connected device. When you hold down Fn and then press Q, the keyboard enters pairing standby mode.

- OFF mode (power off)
  This mode indicates the following statuses:
  – When the power switch was held down (for 2 seconds or longer) in any mode
  – When no keys are pressed for 30 minutes in connected mode (when the SW6 is set to ON or when power is supplied via a USB Type-C cable, refer to the note for SW6 in "Switching the Setting Mode")
  – When no keys are pressed for 10 minutes in pairing mode
  – When the keyboard is disconnected from the device in use
  To resume from OFF mode, hold down the power switch (for 1 second or longer) to connect it to the device again.
- Pairing standby mode
  This mode indicates the status before the keyboard enters paring mode.
  When you hold down Fn and Control in this order and then press one of the number keys (1 to 4), the keyboard enters pairing mode. For details, refer to "Switching the Setting Mode of the Keyboard to the Pairing Mode".
- Pairing mode
  The keyboard is ready to be connected to a device.
- Connect standby mode
  This mode indicates that the keyboard is waiting for the device to be connected again. When you hold down Fn and then press Q, the keyboard enters pairing standby mode.

Back

Battery Box

Power Switch   USB Type-C Connector

Part Name	Description
Power Switch	To turn on the power, hold down the power switch for 1 second or longer. To turn off the power, hold down the power switch for 2 seconds or longer. Note that when the power does turn off, the LED indicator lights in orange and then turns off.
Battery Box	Insert batteries. For details, refer to "When Using Batteries".
USB Type-C Connector	Use a USB Type-C cable to connect the keyboard to the device that you use or to supply power to the keyboard instead of using the batteries. For details, refer to "Connecting the Keyboard (via a USB Connection)" and "When Supplying Power via a USB Type-C Cable". This product does not have a charging function for rechargeable batteries. Use an optional USB Type-C cable that is sold separately or a commercially available USB Type-C cable. For details about how to purchase optional items, contact the distributor/dealer where you purchased this product.

Bottom

DIP Switches
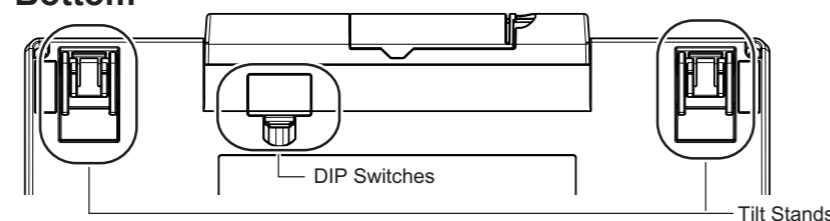
Tilt Stands

| Part Name	Description
DIP Switches	Used to switch the setting mode. For details, refer to "Switching the Setting Mode".
Tilt Stands	Used to adjust the height of the keyboard. For details, refer to "Adjusting the Height of the Keyboard".

Switching the Setting Mode

Switch the setting mode according to the device that you use. By using the DIP switches on the bottom of the keyboard, you can change the keyboard setting mode. The HHK mode is set as the factory default.
You can also change some key codes. To change the settings for the DIP switches, use a tool such as a flathead screw driver.

> **ATTENTION**
> Be sure to turn off the power before setting any of the DIP switches. If the power is on, the settings you changed are not applied.

1 Remove the DIP switch cover on the bottom of the keyboard in the direction of the arrow.
The figure below shows ON/OFF for each DIP switch.

ON
OFF (Factory Default)

DIP Switch Cover
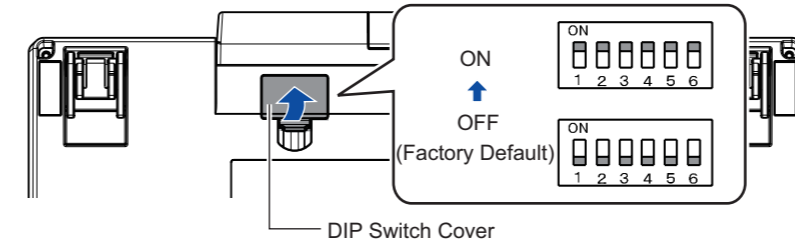
2 Switch the setting mode by referring to the tables below.

DIP Switch		Setting Mode	
SW1	SW2		
OFF	OFF	HHK mode	Windows®/Android™
ON	OFF	Win mode	
OFF	ON	Mac mode	Mac OS/iOS/iPadOS
ON	ON		

DIP Switch	Status	Key	Function
SW3 (*1)	OFF	Delete	Delete
	ON	Delete	BS (Back Space)
SW4	OFF	Left ◇	Left ◇
	ON	Left ◇	Fn

DIP Switch	Status	Key	Function
SW5	OFF	Alt	Alt
		◇	◇ (*2)
	ON	Alt	◇ (*2)
		◇	Alt
SW6	OFF	Power Saving Enabled (*3)	
	ON	Power Saving Disabled (*4)	

*1: In Mac mode, SW3 is disabled.

*2: In Win mode, ◇ functions as the [Windows] key.
In Mac mode, ◇ functions as the [Command] key.

*3: If the keyboard is left unused for 30 minutes, it automatically enters OFF mode. However, if the keyboard is connected to the device via a USB cable, it does not enter OFF mode. In addition, when Power Saving Enabled is set, the device in use cannot be resumed from the suspended status by pressing a key.

*4: Even if the keyboard is left unused for a long time, it does not automatically enter OFF mode. Because of this, Power Saving Disabled consumes battery power faster than Power Saving Enabled. If the keyboard is disconnected from the device in use, press any key or the power switch to reconnect the keyboard to the disconnected device.

3 Attach the DIP switch cover back.
When attaching the cover, make sure you push it until it locks in place.

Adjusting the Height of the Keyboard

The tilt mechanism is equipped on the bottom of the keyboard, allowing you to adjust the height at two levels. Raise one of the tilt stands that suits you until it locks in place. Use the same tilt stands on the right and left sides.

Low

Middle

High
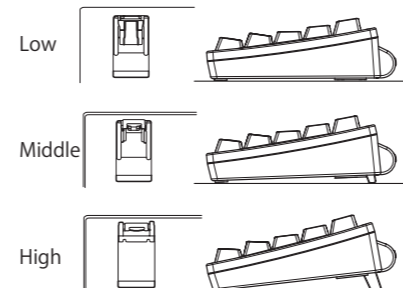
Daily Care

If this product gets dirty, wipe it with a dry cloth.

> **ATTENTION**
> To avoid deterioration and discoloration, never use alcohol or any other volatile solutions.

Troubleshooting

For troubleshooting tips for this product, refer to the following website:
https://happyhackingkb.com/

Supplying Power

> **ATTENTION**
> When batteries are inserted into the keyboard (or power is supplied via a USB Type-C cable), it turns on and enters connect standby mode in order to connect to the device that it was connected to last. However, if the device is not ready to be connected to the keyboard when batteries are used for the power supply, the keyboard turns off.

When Using Batteries

> **ATTENTION**
> - Use size AA batteries for this product.
> - Be sure to turn off the power before replacing the batteries.

1 Remove the battery box cover on the bottom of the keyboard by pulling it towards you while pushing it to the left.
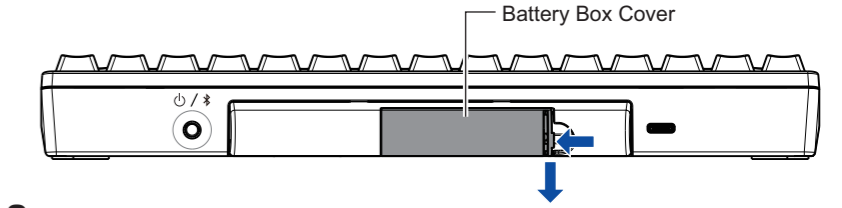
Battery Box Cover

2 Insert the batteries in the direction shown in the figure.
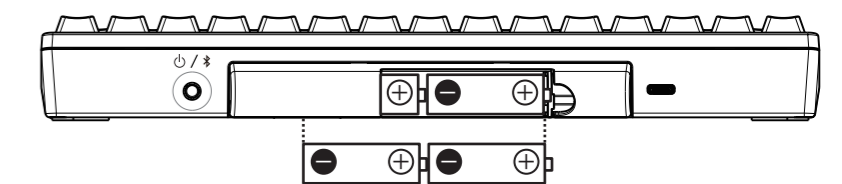
> **ATTENTION**
> Check the positive ⊕ and negative ⊖ direction of the 2 batteries, and insert them correctly.

3 Attach the battery box cover back.
When attaching the cover, make sure you push it until it locks in place.

When Supplying Power via a USB Type-C Cable

Connect a USB Type-C cable to the USB Type-C connector
Use an optional USB Type-C cable that is sold separately or a commercially available USB Type-C cable.
For details about how to purchase optional items, contact the distributor/dealer where you purchased this product.

USB Type-C Connector
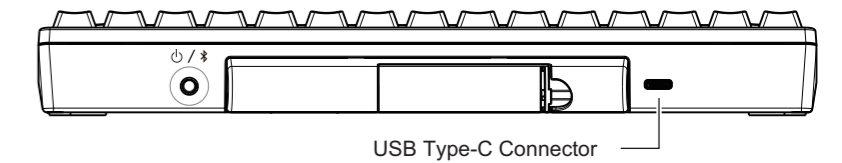
> **ATTENTION**
> The battery power is not consumed (except for natural discharge).
> Remove the batteries if you do not use them for a long time.

Connecting the Keyboard (via a Bluetooth Connection)

Connect this product to the device that you use via a Bluetooth connection.
To use a Bluetooth USB adapter, make the Bluetooth function available by referring to the manual of the Bluetooth USB adapter.
After connecting this product to a device, installing the driver software starts. It may take several minutes for this product to be ready for use. Wait for a while.

ATTENTION
- Depending on the device that you use, you need to switch the setting mode of this product in advance. For details, refer to "Switching the Setting Mode".
- Depending on the device that you use, this product may not be recognized when the device resumes from a suspended status. In such a case, turn this product off then back on.

1 Switching the Setting Mode of the Keyboard to the Pairing Mode

Making this product and your device able to communicate with each other by registering information on the product with the device and information on the device with the product is called "pairing".
You can register the pairing information for up to four devices with this product by assigning the information of each device to a number key from 1 to 4.
If you register the pairing information for multiple devices, you can switch to the device that you want to use easily.
For details about how to switch devices, refer to "Switching to a Device That You Want to Use".

Establishing a Connection for the First Time

Hold down the power switch of this product (for 1 second or longer).
⇒ The power turns on, and it automatically enters pairing mode.
At this time, the LED indicator blinks in blue fast.
The pairing information for a device that you want to use is assigned to 1.

HINT
If you connect a USB cable to supply power when no pairing information is registered, the keyboard is automatically connected to the device via a USB connection. If you want to switch to a Bluetooth connection, refer to "Adding a Device That You Want to Use" and perform step 2 onwards.

Adding a Device That You Want to Use

1 Hold down the power switch of this product (for 1 second or longer).
⇒ The power turns on, and the LED indicator lights in blue then turns off.

2 Hold down Fn and then press Q.
⇒ The keyboard enters pairing standby mode, and the LED indicator blinks in blue.

3 Hold down Fn and Control in this order, and then press the number key (1 to 4) that is used to register pairing information.
⇒ The keyboard enters pairing mode, and the LED indicator blinks in blue fast.
The pairing information for a device that you want to use is assigned to the number key that you specified.

If you specify the same number key as a number key which has already been used to register pairing information for another device, the device with the pairing information that is registered more recently will be the one that can be used.

2 Connecting the Keyboard (with the Pairing Operation)

Connect this product to the device that you want to use by registering information on the product with the device and information on the device with the product.

Windows® 10 or later

1 Right-click the [Start] menu, and then click [Settings].
⇒ The [Windows Settings] window is displayed.

2 Click [Devices].
⇒ The [Bluetooth & other devices] window appears.

3 Click [Add Bluetooth or other device].
⇒ The [Add a device] window appears.

4 Click [Bluetooth].

5 Click [HHKB-Hybrid_n (*1)], and then click the [Next] button.
*1: n indicates a number key from 1 to 4, which is used to register pairing information.
⇒ A several digit number for pairing is displayed.

6 On this product, enter the displayed number for pairing, and then press Return .
⇒ A connection is established.
At this time, the LED indicator turns off.

Windows® 8.1

1 Click [⚙] on the lower left side of the Start screen and select [Control Panel] under [Windows System].
To display [⚙], move the mouse cursor.
⇒ The [Control Panel] window appears.

2 Click [Add devices].
⇒ The [Add a device] window appears.

3 Click [HHKB-Hybrid_n (*1)], and then click the [Next] button.
*1: n indicates a number key from 1 to 4, which is used to register pairing information.
⇒ A several digit number for pairing is displayed.

4 On this product, enter the displayed number for pairing, and then press Return .
⇒ A connection is established.
At this time, the LED indicator turns off.

Mac OS

The menu names and window names vary depending on the operating system version.

1 Click items in one of the following ways.
 – [Apple] menu and select [System Preferences] → [Bluetooth]
 – [Apple] menu and select [System Preferences] → [Keyboard] → [Set Up Bluetooth Keyboard]

2 Click [HHKB-Hybrid_n (*1)], and then click the [Connect] button.
*1: n indicates a number key from 1 to 4, which is used to register pairing information.
⇒ A several digit number for pairing is displayed.

3 On this product, enter the displayed number for pairing, and then press Return . (*1)
⇒ When "Connected" is displayed, the connection is established.
At this time, the LED indicator turns off.
*1: If there is the [Connect] button, click it.

4 When the [Keyboard Setup Assistant] window appears, click the [Continue] button.

5 Follow the instructions on the window that appears.

6 When [Select the Keyboard Type] is displayed, select [ANSI (United States and others)] and click the [Done] button.

4 On this product, enter the displayed number for pairing, and then press Return .
⇒ When "HHKB-Hybrid_n" is displayed in [Available devices], the connection is established.
At this time, the LED indicator turns off.

Connecting the Keyboard (via a USB Connection)

1 Connect a USB cable to the USB Type-C connector on this product and a USB port on the device that you use.

2 When this product is recognized on the device, follow the instructions displayed in the window to install the driver software.
⇒ A connection is established. At this time, the LED indicator turns off.

Note that, when a connection is established via Bluetooth or a connection was established via Bluetooth last time, you can switch the connection to a connection via a USB cable by holding down Fn and Control in this order, and then pressing 0 .

Switching to a Device That You Want to Use

When you turn on this product, it is automatically connected to the device that it was connected to last.

To switch to another device connected via Bluetooth, hold down Fn and Control in this order, and then press the number key (1 to 4) that the pairing information for the desired device is assigned to.
At this time, the LED indicator lights in blue then turns off.

For details about how to register pairing information, refer to "Connecting the Keyboard (via a Bluetooth Connection)".

When a device is connected via a USB cable, you can switch the connection to a connection via a USB cable by holding down Fn and Control in this order, and then pressing 0 .

To check which number key the pairing information has been assigned to for the currently connected device, press the power switch lightly.
This leads the LED indicator to blink. The number of blinking times indicates the number key that is assigned.
Blinks once: 1 key   Blinks twice: 2 key
Blinks three times: 3 key   Blinks four times: 4 key
When a connection is established via a USB cable, the LED indicator lights up for one second.
In this case, this product turns off when the computer is turned off or the USB cable is disconnected, even if this product is equipped with batteries.

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iOS/iPadOS

Menu names and screen names vary depending on the iOS or iPadOS version.

1 Tap [Settings] → [Bluetooth].

2 Turn on [Bluetooth].

3 Tap [HHKB-Hybrid_n (*1)].
*1: n indicates a number key from 1 to 4, which is used to register pairing information.
⇒ A several digit number for pairing is displayed.

4 On this product, enter the displayed number for pairing, and then press Return .
⇒ When "Connected" is displayed for [HHKB-Hybrid_n], a connection is established.
At this time, the LED indicator turns off.

Android™

Menu names and screen names vary depending on the device that you use.

1 Tap [Settings] → [Connected devices].

2 Tap [Pair new device].

3 Tap [HHKB-Hybrid_n (*1)].
*1: n indicates a number key from 1 to 4, which is used to register pairing information.
⇒ A several digit number for pairing is displayed.

How to Use the [Fn] Key

To use the codes that are shown on the front facing side of the keys such as F1 to F12, Pg Up (Page Up), Caps, and arrows (cursor), hold down Fn and press the relevant key. Make sure that available codes vary depending on the keyboard mode. For details, refer to the following table.

Key	Symbol on the Side Facing the Front	Meaning	Setting Mode		
			HHK mode	Win mode	Mac mode
1 to =	F1 to F12	F1 to F12	○	○	○
\	Ins	Insert	○	○	○
`	Del	Delete	○	○	○
Delete	BS *Clear*	Back Space	○	○	—
		Clear (keypad)	—	—	○
I	PSc/SRq	Print Screen/System Request	○	○	○
O	ScrLk	Scroll Lock	○	○	○
P	Pus/Brk	Pause/Break	○	○	○
K	Home	Home	○	○	○
L	PgUp	Page Up	○	○	○
,	End	End	○	○	○
.	PgDn	Page Down	○	○	○
Tab	Caps	Caps Lock	—	○ (*1)	○
Return	*Enter*	Enter (keypad)	—	○	○
N	+	+ (keypad)	—	○	○
M	−	− (keypad)	—	○	○
H	*	* (keypad)	—	○	○
J	/	/ (keypad)	—	○	○
[	↑	↑	○	○	○
/	↓	↓	○	○	○
;	←	←	○	○	○
'	→	→	○	○	○
A	*Vol_Dn*	Volume Down	—	—	○
S	*Vol_Up*	Volume Up	—	—	○
D	*Mute*	Mute	—	—	○

Key	Symbol on the Side Facing the Front	Meaning	Setting Mode		
			HHK mode	Win mode	Mac mode
F	*Eject*	Eject	—	—	○
Esc	*Power*	Power	—	—	○ (*2)
Right ◇	*Stop*	Stop	○	—	—

○ : Supported — : Not supported

*1: You need to press Shift at the same time depending on the driver and the operating system.
*2: It is not possible to turn the power on.
Codes in italics are only for Mac OS.

Key Combinations for Switching Pairing Modes and Operation Modes

Operation	Key Combination (Press the keys in the order shown below, starting with the key on the far left.)	LED
Registering pairing information	Fn + Q	Blinks in blue (twice per second) ↓
	Fn + Control + 1 to 4	Blinks in blue fast (four times per second)
Deleting all of the pairing information	Fn + Q	Blinks in blue (twice per second) ↓
	Fn + Z + Delete	Blinks in orange ➡ Turned off (Power off)
Deleting pairing information individually	Fn + Q	Blinks in blue (twice per second) ↓
	Fn + Control + Delete + 1 to 4	Blinks in orange ➡ Turned off (Power off)
Switching the connected device (Bluetooth)	Fn + Control + 1 to 4	Lit in blue ➡ Turned off
Switching the connection to a USB connection	Fn + Control + 0	Lit in blue ➡ Turned off
Canceling the pairing mode	Fn + X	Lit in blue ➡ Turned off
Switching to the Win mode (*1)	Fn + Control + W	Turned Off
Switching to the Mac mode	Fn + Control + M	Turned Off

*1: When the DIP switches are set for the HHK mode, the setting mode is switched to the HHK mode.

Deleting the Pairing Information

Deleting Pairing Information Individually

1 Hold down Fn and press Q to switch to the pairing standby mode.

2 Hold down Fn , Control , and Delete in this order, and then press the number key (1 to 4) that the pairing information that you want to delete is assigned to.

The LED indicator lights in orange while the pairing information is being deleted and enters OFF mode when the deletion is complete.

Deleting Pairing Information All at Once

1 Hold down Fn and press Q to switch to the pairing standby mode.

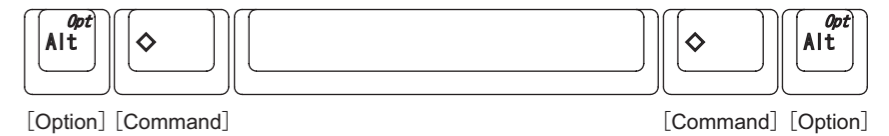**2** Hold down Fn and Z in this order, and then press Delete . (*1)

The LED indicator lights in orange while the pairing information is being deleted and enters OFF mode when the deletion is complete.

*1: If one of the DIP switches is set in one of the following cases, press ['/~] located just above [Delete] instead of pressing [Delete].
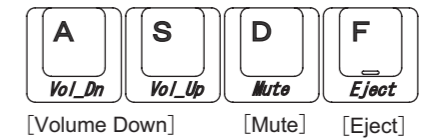 – SW2 is set to ON (which changes to Mac mode)
 – SW3 is set to ON ([Delete] works as [BS])

Assigning the Mac OS Keys

The Mac OS keys such as the [Command] key are assigned to keys on the keyboard as shown below. These assignments are enabled only when the setting mode is Mac mode.

[Opt Alt] [◇] [ ] [◇] [Opt Alt]

[Option] [Command]   [Command] [Option]

The multimedia keys are assigned as shown below. These keys must be pressed together with Fn .
[Volume Up]

[A Vol_Dn] [S Vol_Up] [D Mute] [F Eject]

[Volume Down]   [Mute]   [Eject]

Editing a Keymap

An editing tool for a keymap is available at the following website:
Note that the editing tool for a keymap can be used on a computer with Windows® (Windows®7/Windows®8.1 or later) or Mac OS (macOS 10.14 or later) installed.

https://happyhackingkb.com/download/

PFU Limited declares that the radio equipment type HHKB is in compliance with FCC.
The full text of the FCC of conformity is available at the following internet address:
https://happyhackingkb.com/r/cert

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Regulatory Model PD-KB800