USBKeyboard for S1 [S]

Designed by Sasaji 2023 Rev. 0.1

This is a converter to connect a USB Keyboard to HITACHI MB-S1 and LimeLight.
You can use a USB Keyboard with a HUB and a simple one.

Example of the connection

Light the LED

How To Use

1. Turn off the computer MB-S1.
2. Connect this device to the keyboard connector of MB-S1.
3. Connect a USB keyboard to this device.
4. Turn on the MB-S1.
   When the USB keyboard is recognized, the green LED blinks about 3 times.
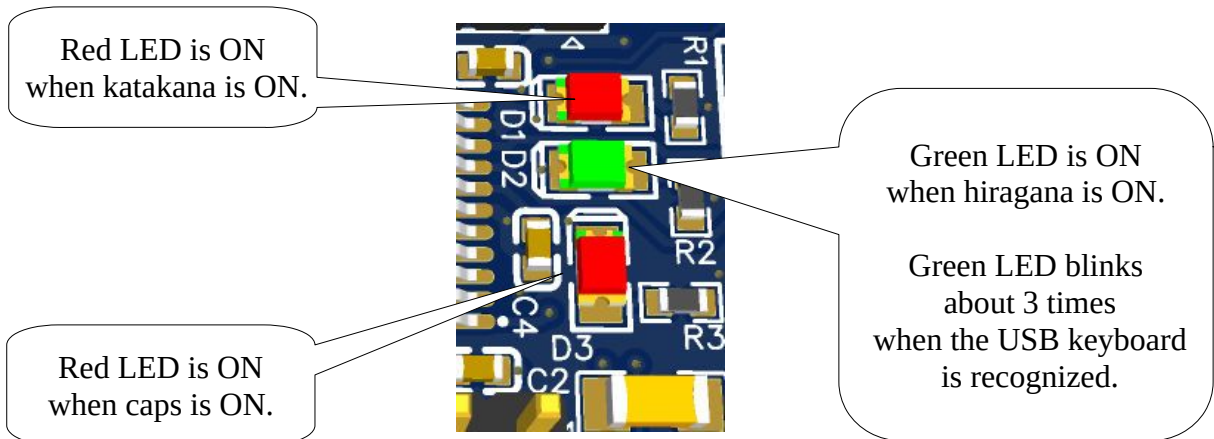
Key Assign

Key assignment assumes a Japanese keyboard. We also recommend using a full keyboard.

These keys on the MB-S1 that are not on a USB keyboard are assigned as follows:

Table 1: Special key assignments

Key of MB-S1	Key on USB Keyboard
[BREAK]	[F9]
[COPY]	[F12] / [PrintScreen]
[GRAPH]	[無変換] / [F7] / [Left Command]
[INS]	[Insert] / [F13]
[カタ/ひら]	[カタカナひらがな] / [F8] / [Right Command]
[変換]	[変換] / [F6]
[＿ロ]	[＿ろ] / [F11] / [Right ALT] / [Right Option]
[num ?]	[End]
[num ,]	[Page Down]

LED on This Converter

Red LED is ON
when katakana is ON.

Green LED is ON
when hiragana is ON.

Green LED blinks
about 3 times
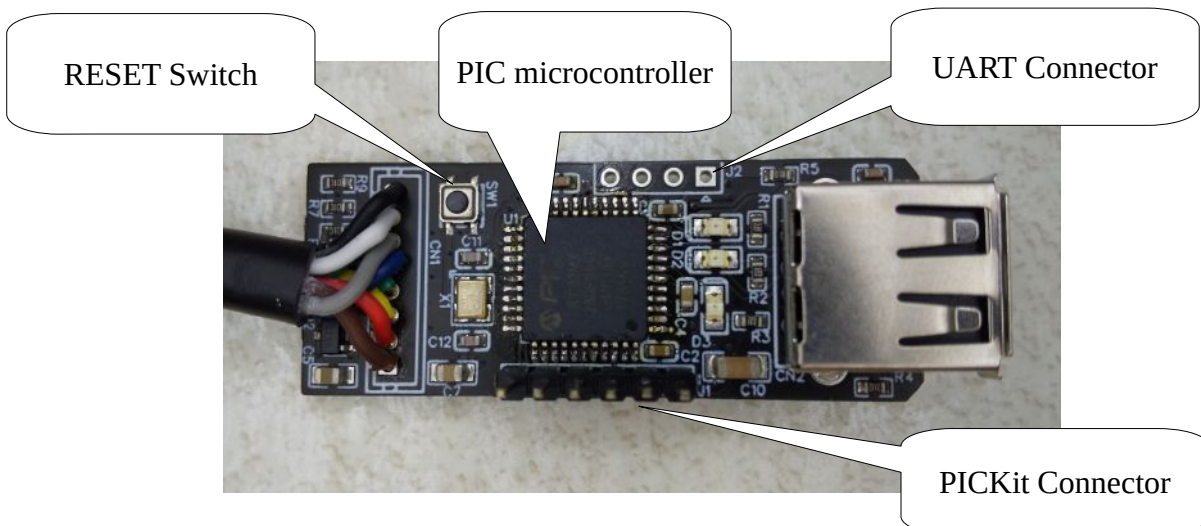when the USB keyboard
is recognized.

Red LED is ON
when caps is ON.

LED on a USB Keyboard

Num Lock   → Turn on when katakana is ON.

Caps Lock   → Turn on when caps is ON.

Scroll Lock   → Turn on when hiragana is ON.

The Board Information

RESET Switch

PIC microcontroller

UART Connector

PICKit Connector

PIC microcontroller:

PIC32MX230F064D-I/PT

RESET Switch:

Initialize the PIC when you press this switch.

PICKit Connector:

Use for programming to the PIC.

Devices that can be connected are PICKit3, PICKit4 and compatibles.

These terminals are N/C, PGEC, PGED, GND, +3.3V, /MCLR from the left in the photo.

UART Connector:

Use for serial communication with the PIC. Nothing is outputted by default.

These terminals are GND, U1RX, U1TX, +5V from the left in the photo.

Attention

- You can use only a wired keyboard and one with a HUB.
- Use a keyboard that supports USB1.1.
- This does not support a wireless keyboard or Bluetooth.
- Do not connect anything to ports on a HUB.
- Behavior is undefined when you connect a device other than a keyboard. In the worst case, the device may fail.
- Avoid connecting and disconnecting USB devices while the power is on.
- Do not disconnect this from the computer while the power is on.

No Warranty

- This device is a prototype. Please note that we do not consider the noise generated during use or deterioration over time.
- We are not responsible for any damage caused by this device.
  USE OF THIS EQUIPMENT IS AT YOUR OWN RISK.

Web

This document and CAD data are available here:

http://s-sasaji.ddo.jp/bml3mk5/s1usbkb.htm#smd
or
https://github.com/bml3mk5/USBKeyboard4S1

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