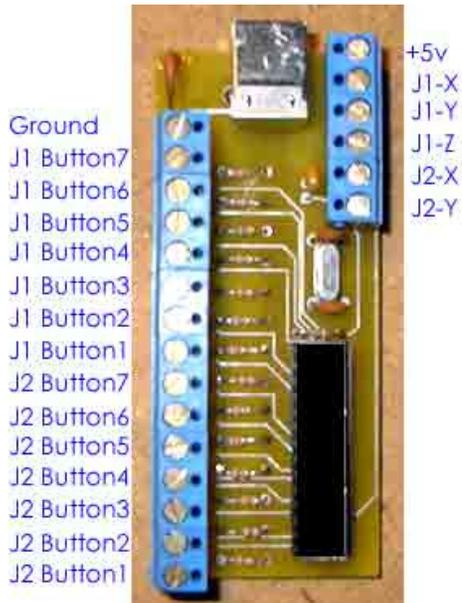


## Instructions

Thank you for buying the AKI 秋 Analog Kontrol Interface. Below, you will find important instructions for properly wiring your controls to the interface board. Please read the instructions carefully before proceeding to wire your controls, as proper wiring is extremely important for the proper function of the board.

The AKI board is supported by Windows 98SE and up, MacOS X, and Linux, with proper USB HID support installed.



## Wiring the Buttons

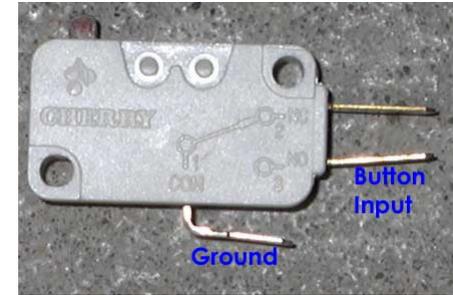
To wire a button input to a microswitch or similar momentary contact switch, simply wire the ‘common’ tab on the switch to the ground terminal of the AKI board, and wire the ‘Normally Open’ tab (i.e. the tab for which there is no connected circuit when the button is not depressed) to your choice of button input on the AKI board. Capacity for up to 14 buttons is provided. The first 7 buttons are reported with joystick 1, the second 7 buttons are reported with joystick 2. Please note that older operating systems, such as Windows

## Terminals

On your AKI board, you will find a number of wire terminals. The diagram below explains the function of each terminal.

Support is included for up to 5 analog axes, which will be labeled by the driver as Joystick 1 X, Y, and Z axes, and Joystick 2 X, and Y. To map an axis to a particular function in software, see that software’s documentation.

98, require that at least one button is wired for each joystick, to progress through the calibration process.



## Wiring the Axes

To wire an analog axis to the AKI board, it is recommended that you use a multimeter. You will need to wire to all three pins on your analog control’s potentiometer. The AKI interface works equally well with 5k and 100k potentiometers.

Use your multimeter to find the two pins which range from 0 ohms resistance to the potentiometer’s maximum value as the axis control is adjusted from its lowest position to its highest position. One of these pins will be an edge pin, and the other is the center pin. Wire the edge pin to the ground terminal of the AKI board, and the center pin to the analog input of the AKI board. Finally, wire the remaining edge pin to the +5v terminal on the AKI board.

If you have multiple controls that return to a center position via a spring (most joysticks, steering wheels), it is recommended that you connect them to the X/Y axes, rather than the Z axis.

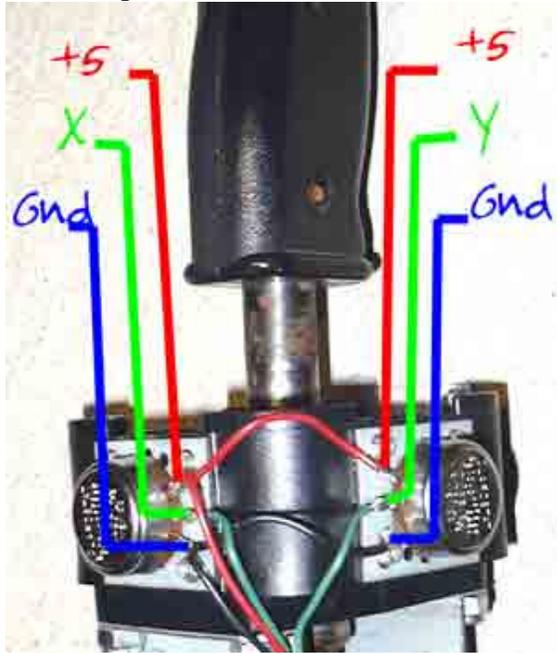
*Important: If you are not using a particular analog axis it is required that you wire that axis’s input to ground on the AKI board. If you fail to do so, unexpected behavior may result.*

## Wiring a Joystick

When wiring a Joystick, the basic procedure is the same as above. Measure the resistance across the center and an edge pin of the x potentiometer when the x-axis is in the leftmost position. If the edge pin reads the potentiometer’s minimum value, wire it to the ground terminal. Wire the center pin to the analog input of the AKI board, and

wire the remaining edge pin to +5v. When wiring the y-axis, the same procedure is followed, with the exception that the joystick should be held in the topmost position when measuring the potentiometer.

A typical example is shown below:



### Wiring Pedals: Dual Axis configuration

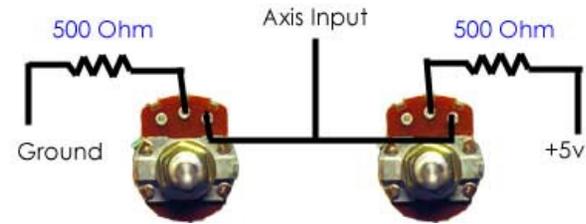
To wire dual axis pedals to the AKI board, simply wire each potentiometer to its own axis input according to the general instructions above.



### Wiring Pedals: Single Axis configuration

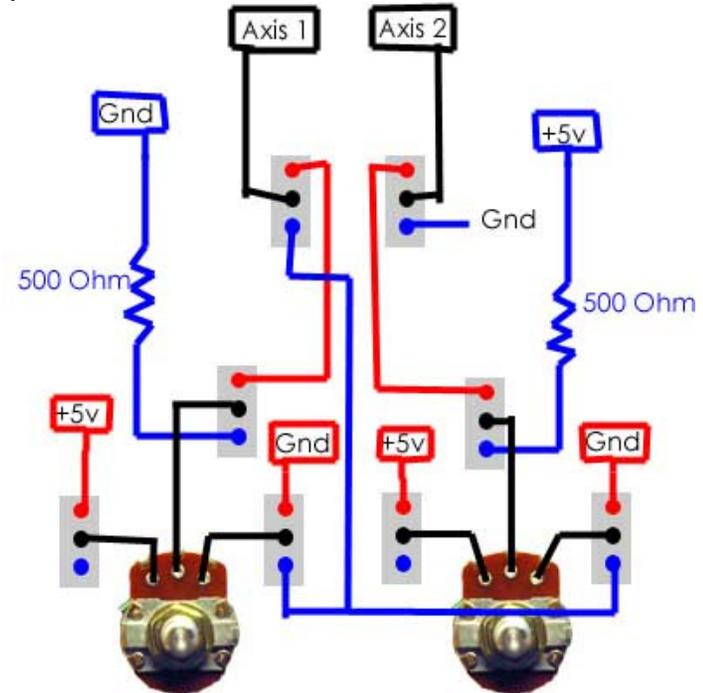
Wiring single axis pedals to a single analog input will require the use of two 500 ohm resistors. Larger resistors may deteriorate performance. Wire your potentiometers according to the following

diagram. If behavior is not as expected, reverse +5v and Ground connections.



### Single/Dual Axis Pedal switching

It is possible to wire a single/dual axis pedal switch, with either one 8PDT (8-Pole Dual Throw) switch, two 4PDT switches, 4 DPDT switches or 8 SPDT switches. The use of a single 8PDT switch is highly recommended.



Each gray box represents a pole of a switch. When wires of different colors cross, they are NOT connected. When the switch is in the Dual Axis setting, the black pins and red pins are connected.

When the switch is in Single Axis mode, the black pins and blue pins are connected.

## **Appendix A: MAME Button Codes**

For those of you who specify their own MAME controller .ini files, it is helpful to note that AKI buttons are reported as follows:

Joystick 1 Button 1: J1\_BUTTON0, or JOYCODE\_1\_BUTTON1  
Joystick 1 Button 2: J1\_BUTTON1, or JOYCODE\_1\_BUTTON2  
Joystick 1 Button 3: J1\_BUTTON2, or JOYCODE\_1\_BUTTON3  
Joystick 1 Button 4: J1\_BUTTON3, or JOYCODE\_1\_BUTTON4  
Joystick 1 Button 5: J1\_BUTTON4, or JOYCODE\_1\_BUTTON5  
Joystick 1 Button 6: J1\_BUTTON5, or JOYCODE\_1\_BUTTON6  
Joystick 1 Button 7: J1\_BUTTON6

Joystick 2 Button 1: J2\_BUTTON0, or JOYCODE\_2\_BUTTON1  
Joystick 2 Button 2: J2\_BUTTON1, or JOYCODE\_2\_BUTTON2  
Joystick 2 Button 3: J2\_BUTTON2, or JOYCODE\_2\_BUTTON3  
Joystick 2 Button 4: J2\_BUTTON3, or JOYCODE\_2\_BUTTON4  
Joystick 2 Button 5: J2\_BUTTON4, or JOYCODE\_2\_BUTTON5  
Joystick 2 Button 6: J2\_BUTTON5, or JOYCODE\_2\_BUTTON6  
Joystick 2 Button 7: J2\_BUTTON6