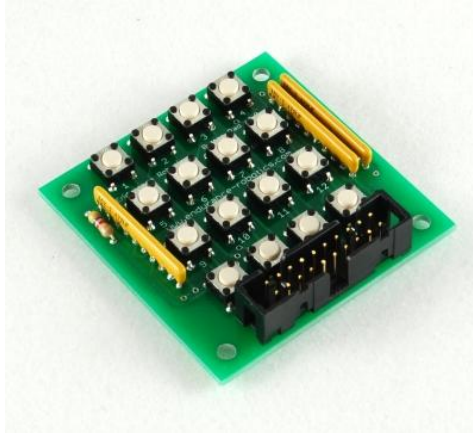


Endurance Robotics 16 Button Pad Kit

www.endurance-robotics.com



This kit will allow you to construct a 16 button pad for use with breadboard, prototyping, or the Analog Reader 2. This kit includes all the parts needed to construct the 16 Button Pad board. Please refer to Figure 1 throughout the assembly process.

Warning: Please be sure to take all necessary precautions when soldering. Wear proper eye protection, have proper ventilation and be sure to take static prevention precautions before starting assembly. If you are unsure how to solder or do not feel comfortable please contact Endurance Robotics to obtain an assembled 16 Button Pad.

Package Contents:

- 1x 16 Button Pad PCB
- 3x 4.7k Ohm resistor arrays
- 1x 4.7k Ohm resistor
- 1x 20 pin header
- 16x micro push buttons

Tools required for assembly are listed here:

- Solder, 80/20 is recommended
- Soldering iron or gun (Please see the warning above)
- Optional: “3rd hand” holding device

Assembly

1. Orient the PCB (printed circuit board) so that the text faces up.
2. Insert the 16 buttons into the holes marked S1 - S16. Orient the buttons so that the legs on the buttons match up with the holes. Do not force the buttons in place. Each button should fit snugly into the holes if oriented correctly.
3. Once the 16 buttons are inserted solder them in place. Be sure to solder the bottom side of the PCB. You may find it easier to insert each button one at a time soldering them in as you go.
4. Next insert the 3 resistor arrays into the PCB holes marked RN1 - RN3. Solder the array pins in place from the bottom side of the PCB.
5. Bend the legs of the final 4.7k Ohm resistor 90°. Insert the legs into the holes marked R16. Solder the pins in place from the bottom side of the PCB.
6. The final step is to insert the header socket into the board. If using the ribbon cable from Endurance Robotics the alignment of the header will not matter. If using a keyed ribbon cable align to header so that pin 1 on the ribbon cable will match pin 1 marked on the PCB. Once aligned solder the header in place from the bottom side of the PCB.
7. Assembly is complete. You may now use your 16 Button Pad with your project. Please refer to Figure 2 for header pin connections.

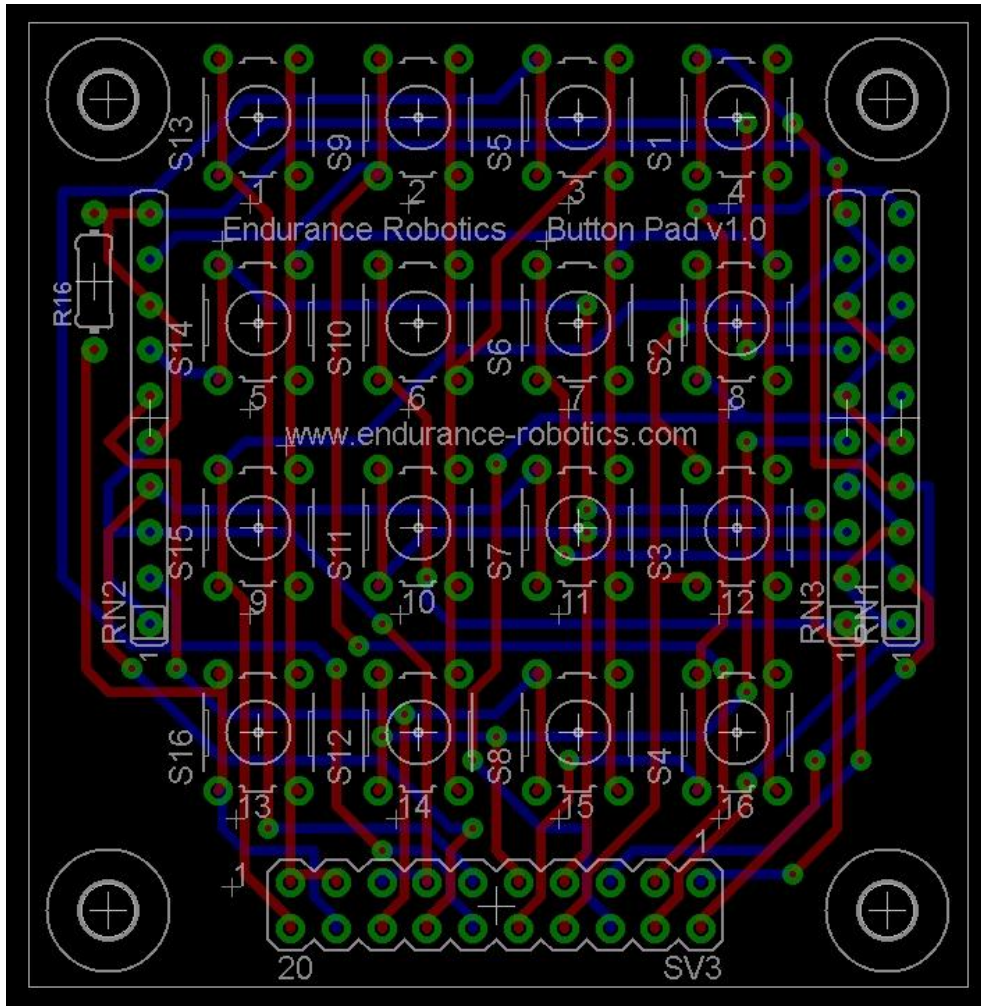


Figure 1. 16 Button Pad Layout Diagram

Note: Pins are marked in order from top to bottom. Looking at the header from the top pin 1 would be row 1, column 10. Pin 2 would be row 2, column 10.

Pin 1	Button 5
Pin 2	Button 7
Pin 3	Button 2
Pin 4	Button 4
Pin 5	Button 6
Pin 6	Button 8
Pin 7	Button 10
Pin 8	Button 12
Pin 9	Button 14
Pin 10	Button 16
Pin 11	Button 1
Pin 12	Button 3
Pin 13	+5V
Pin 14	Button 11
Pin 15	+5V
Pin 16	Button 15
Pin 17	GND
Pin 18	Button 13
Pin 19	GND
Pin 20	Button 9

Figure 2. 16 Button Pad Header Pin Connections