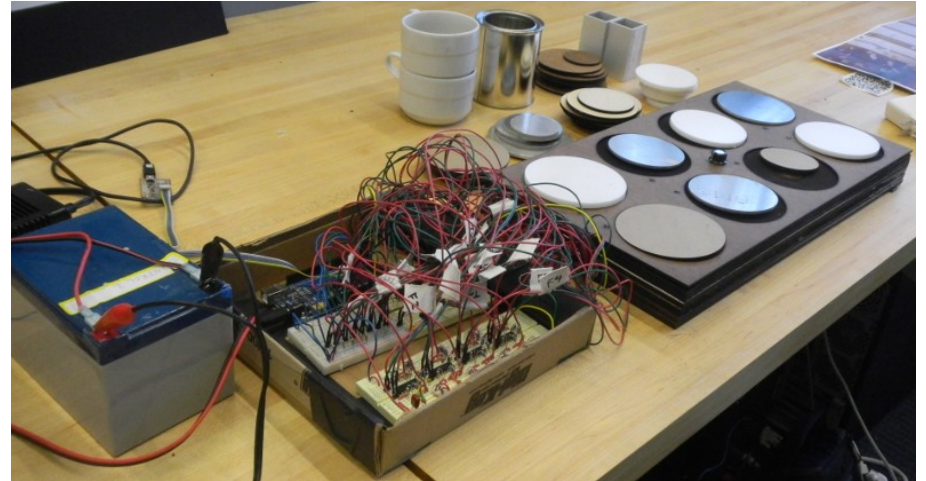
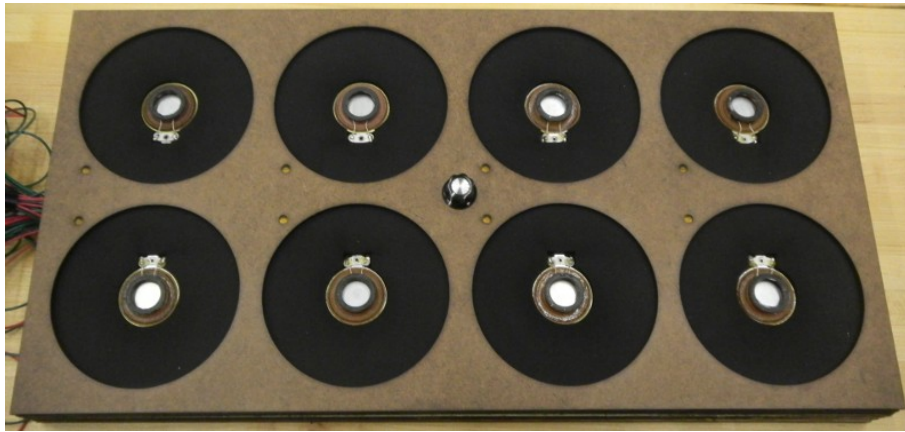


DrumTop

v1.0

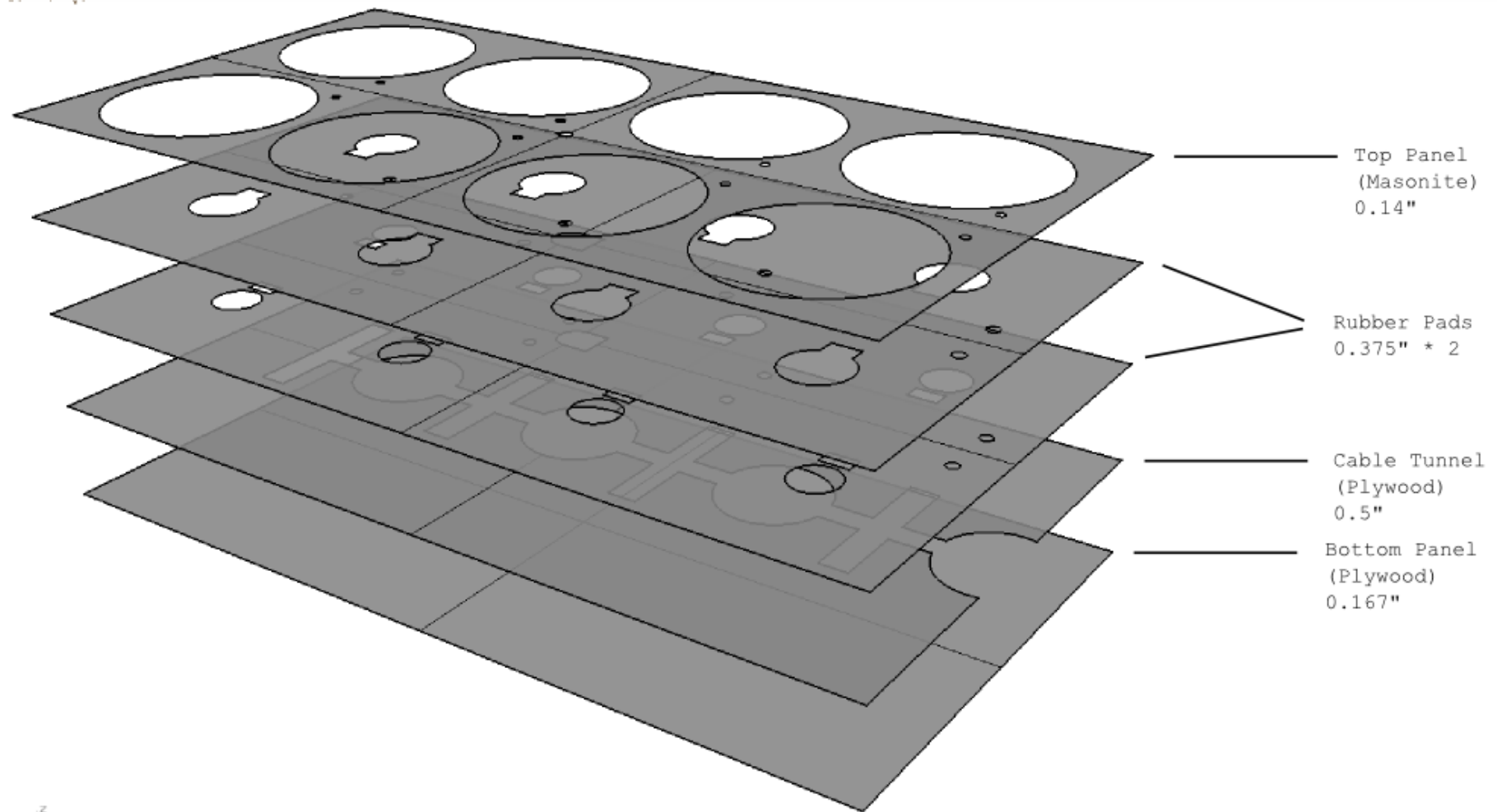
By Akito van Troyer
MIT Media Lab

This project aims to transform everyday objects into percussive musical instruments, encouraging people to rediscover their surroundings through musical interactions with the objects around them. DrumTop is a drum machine made up of eight transducers. Placing objects on top of the transducers triggers a "hit," causing sounds to come out from the objects themselves. In addition, users can program drum patterns by pushing on a transducer, and the weight of an object can be measured to control the strength of a "hit."



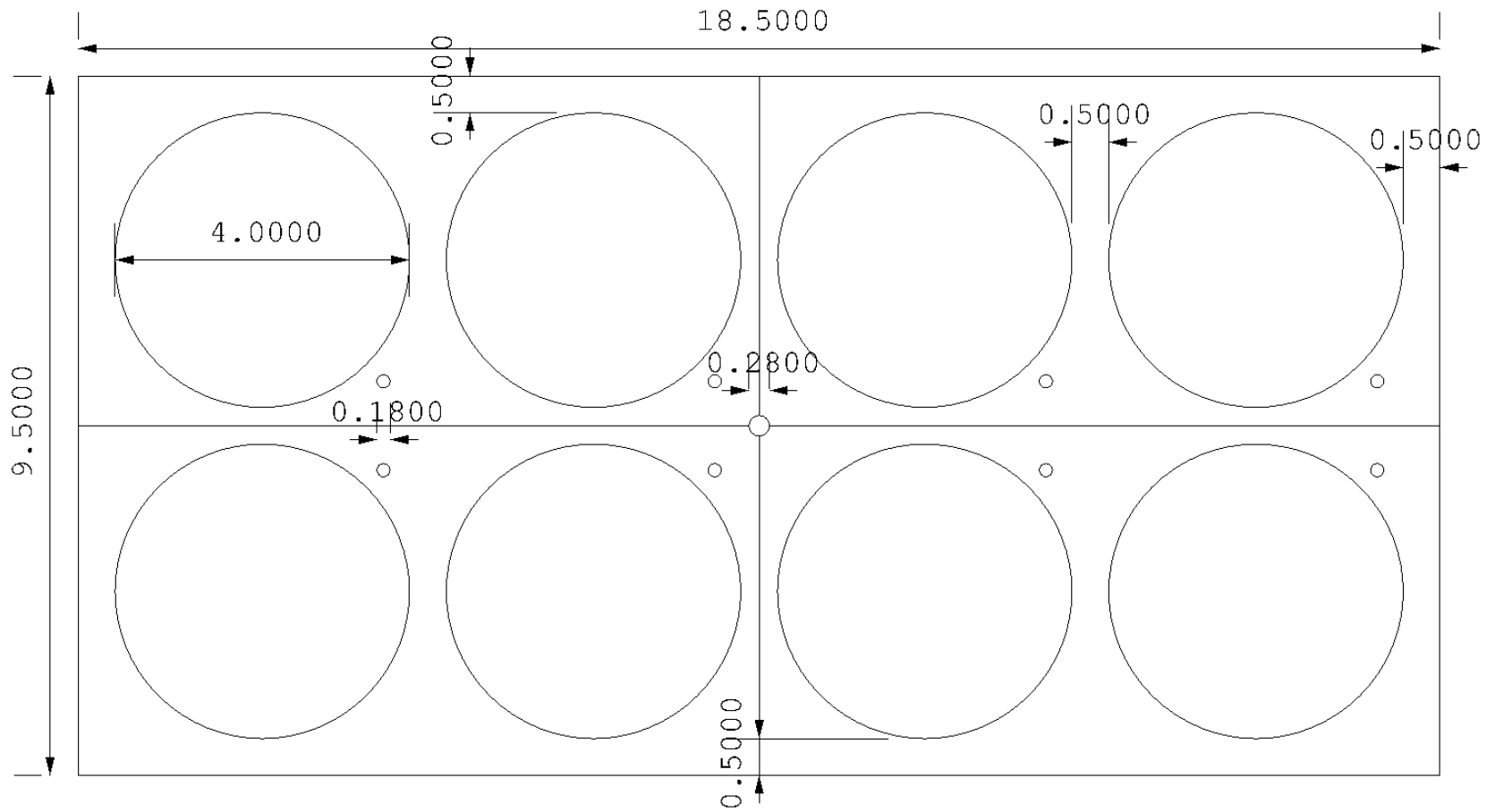
Construction

DrumTop Panels and their thickness



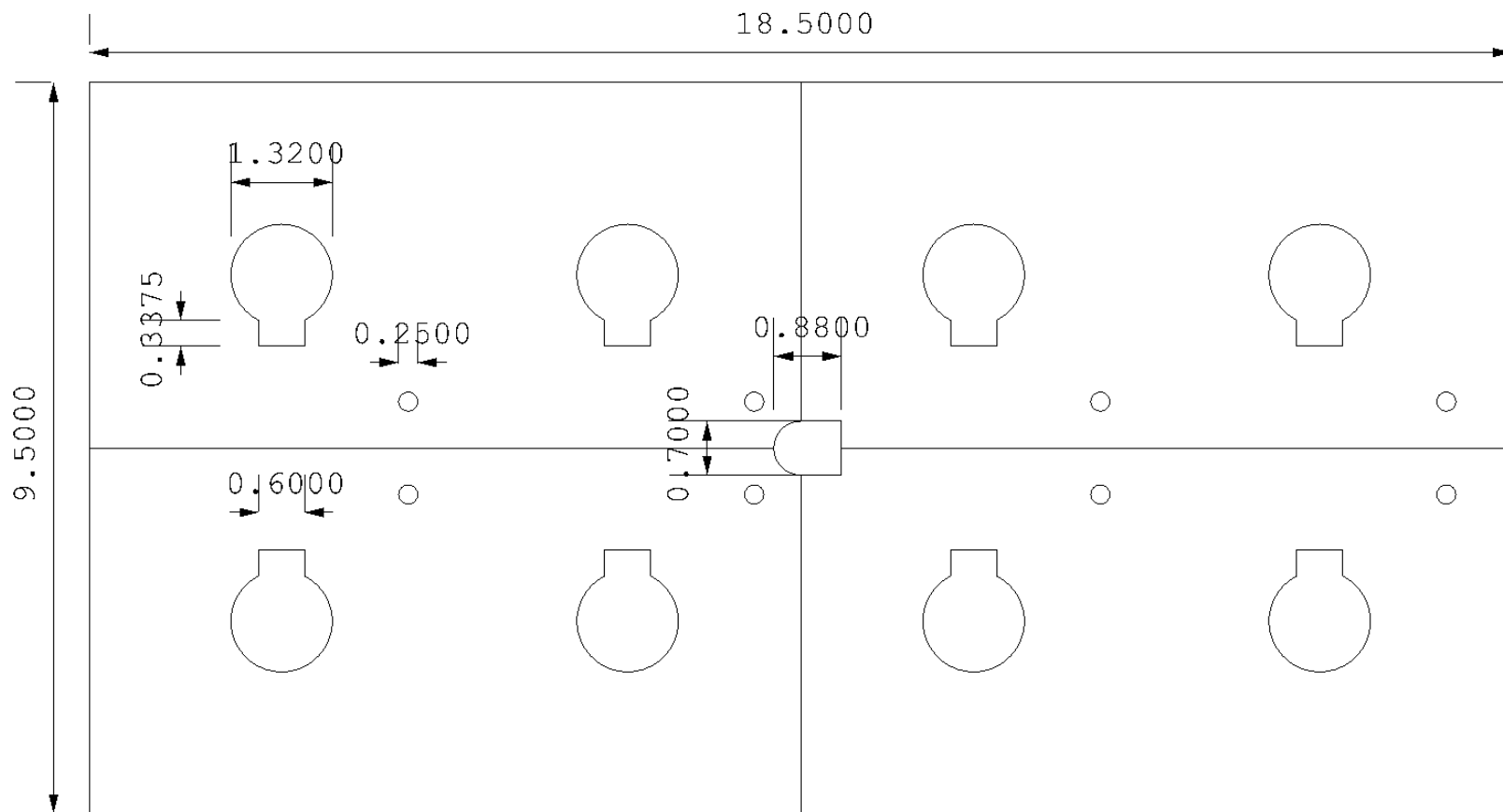
Construction

Top Panel



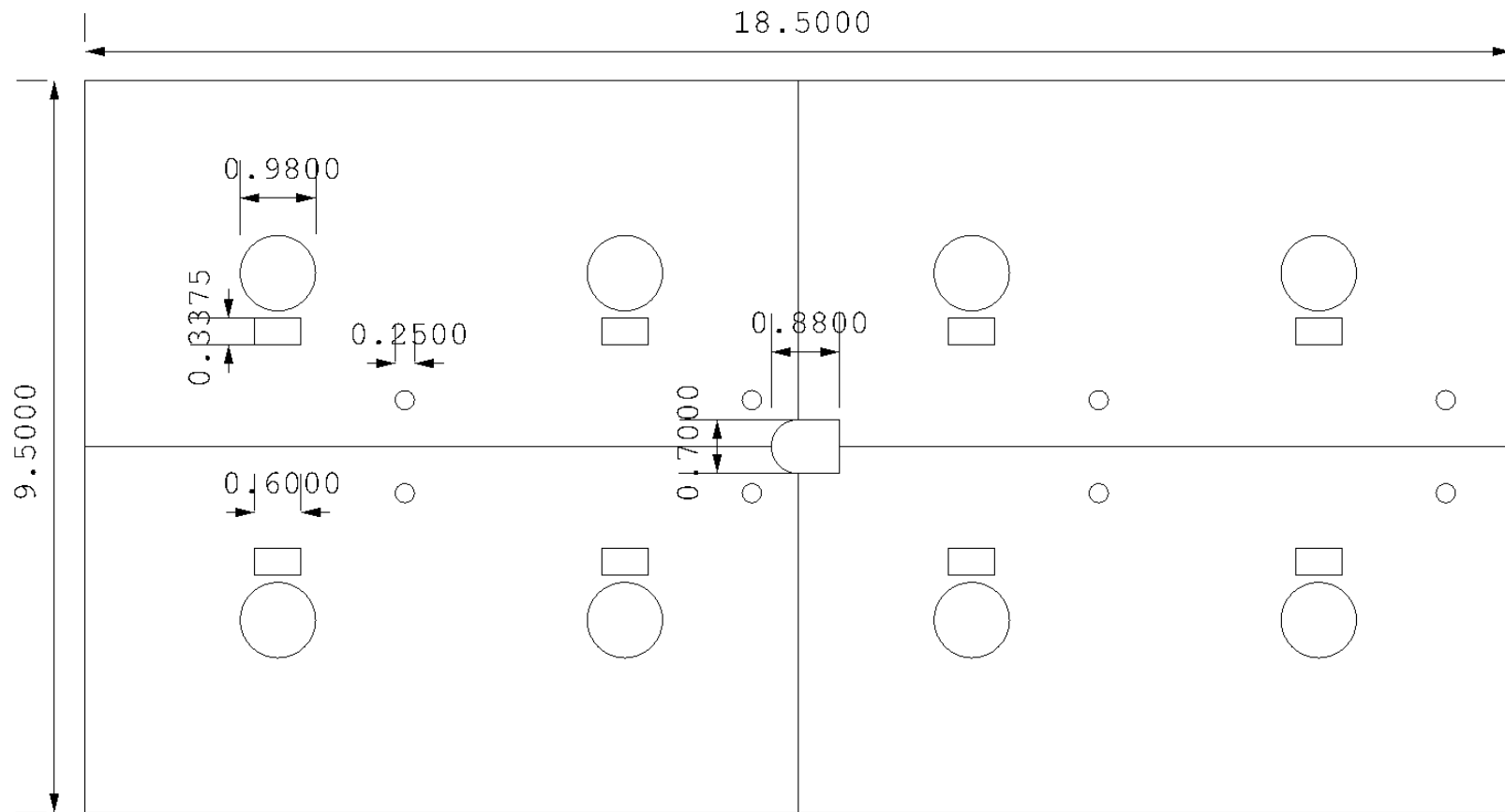
Construction

Top Rubber Pad



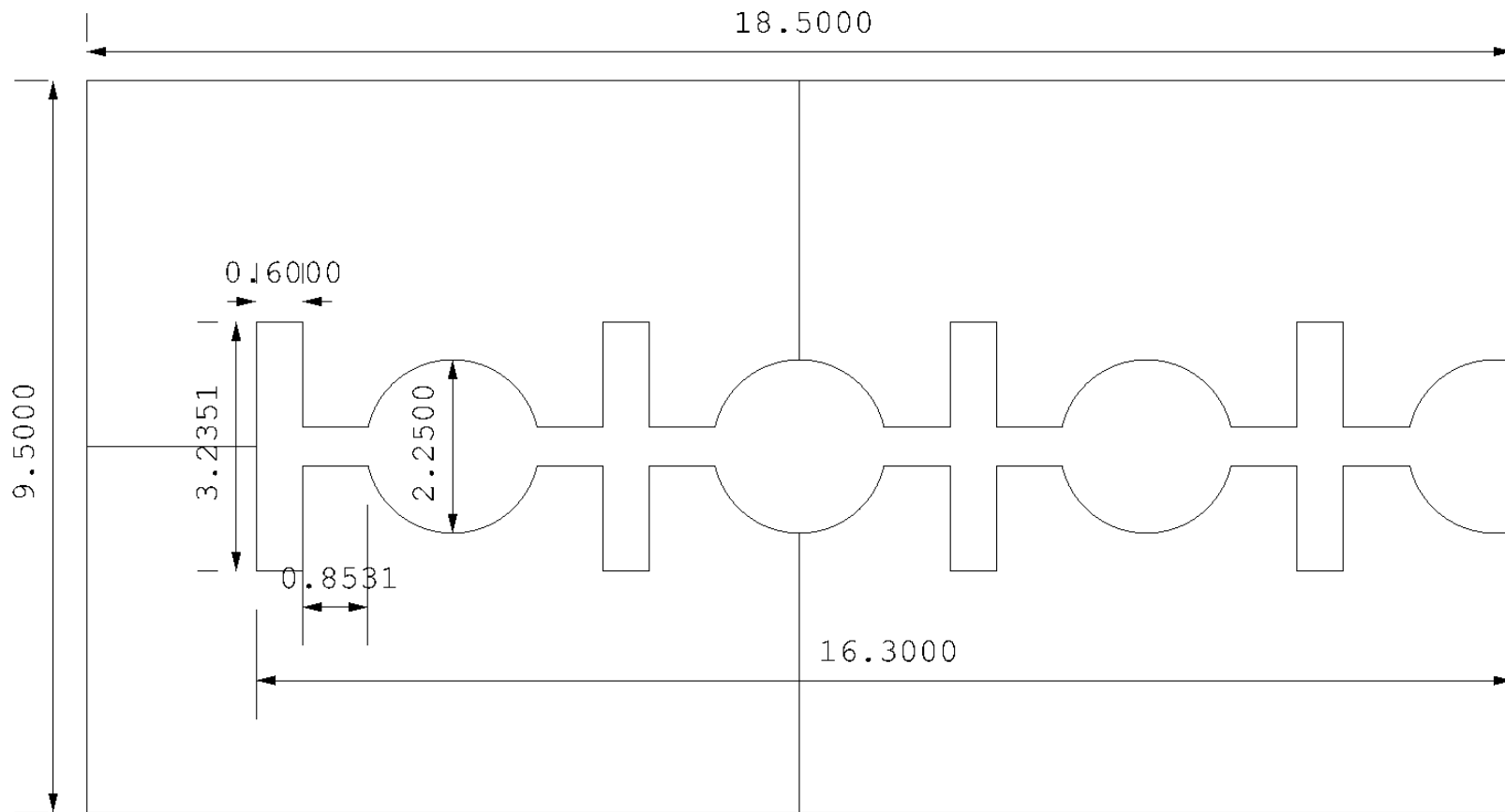
Construction

Bottom Rubber Pad



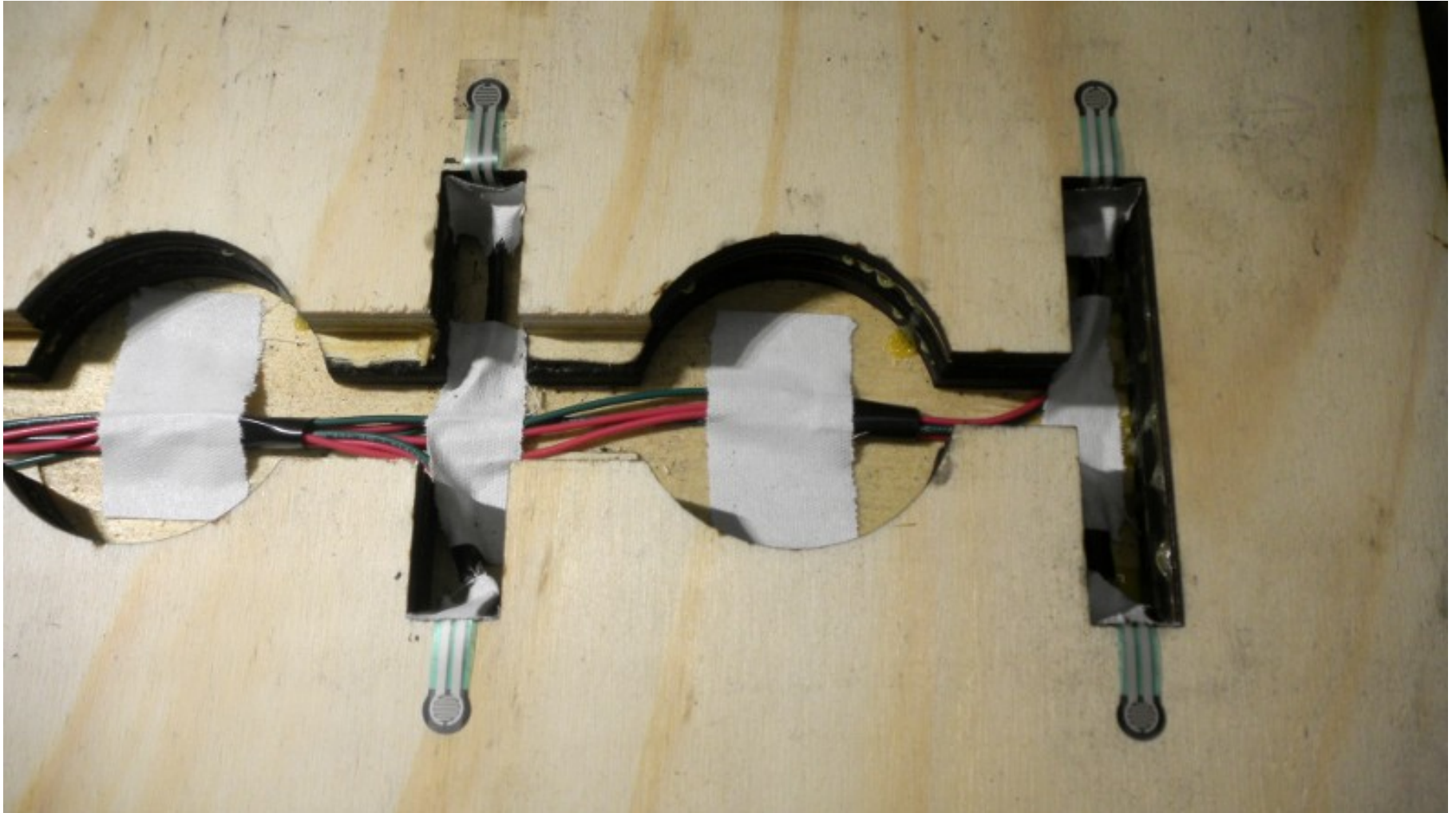
Construction

Cable Tunnel Panel



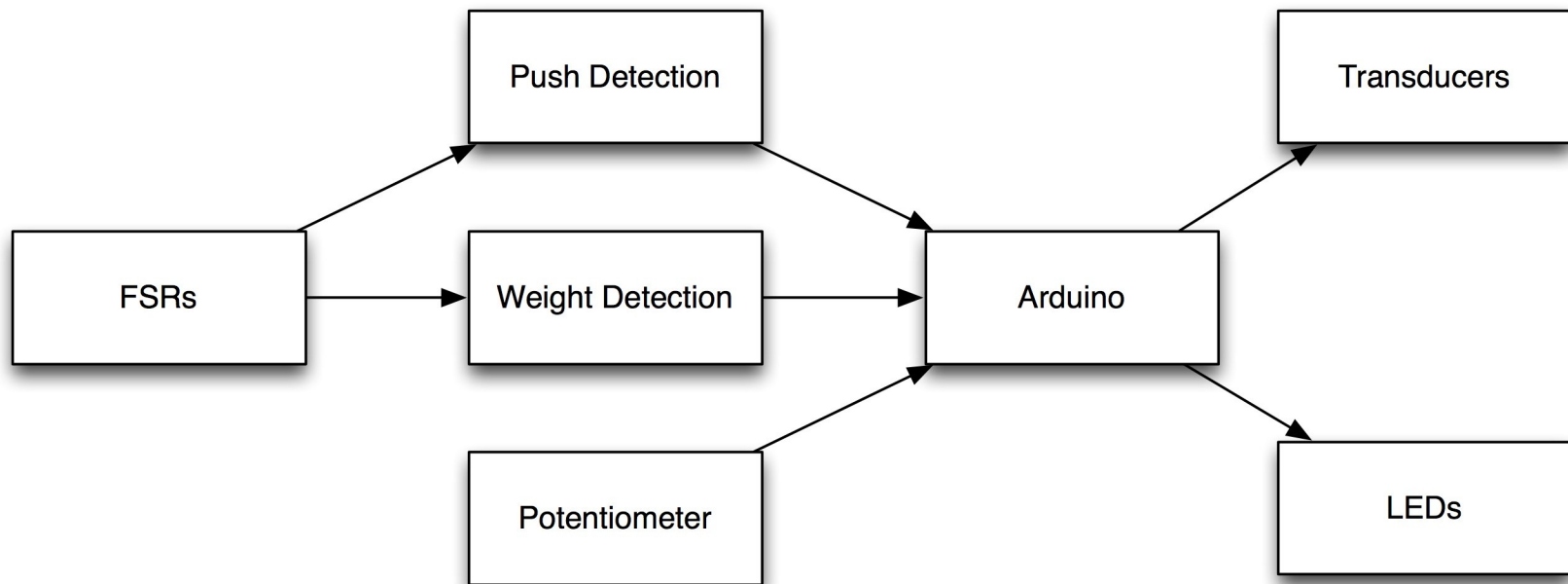
Construction

FSR Mounting on Cable Tunnel Panel



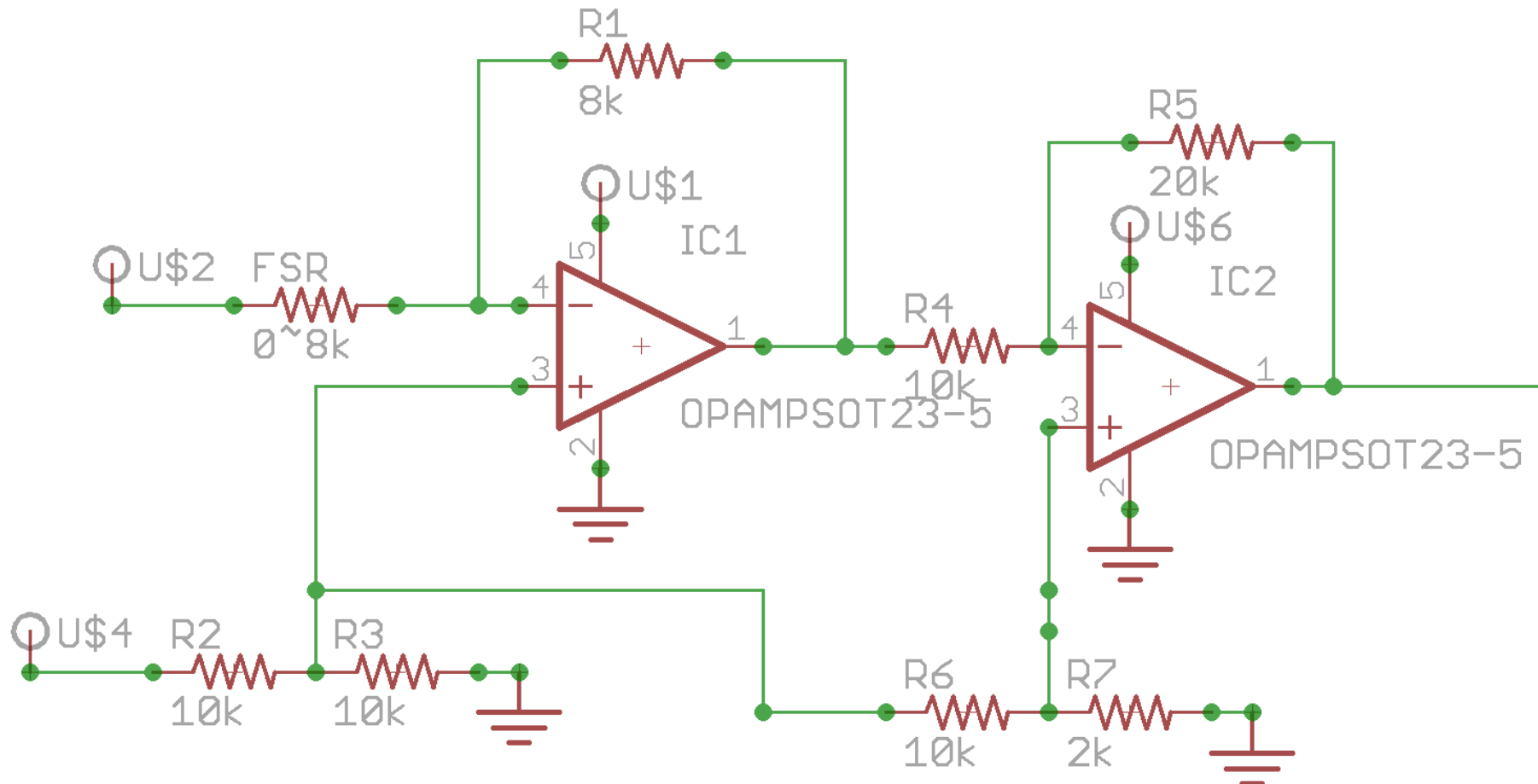
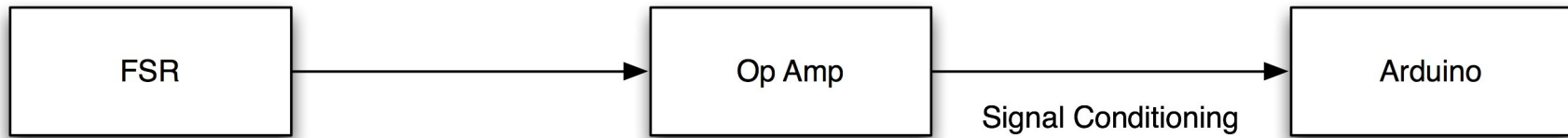
System

Force Sensitive Resistors (FSRs) are used to detect push force from users and weight measurement of an object. Potentiometer is used to control the tempo of a drum sequence. Sixteen analog inputs on arduino mega board is used to capture data for push detection and weight measurement.



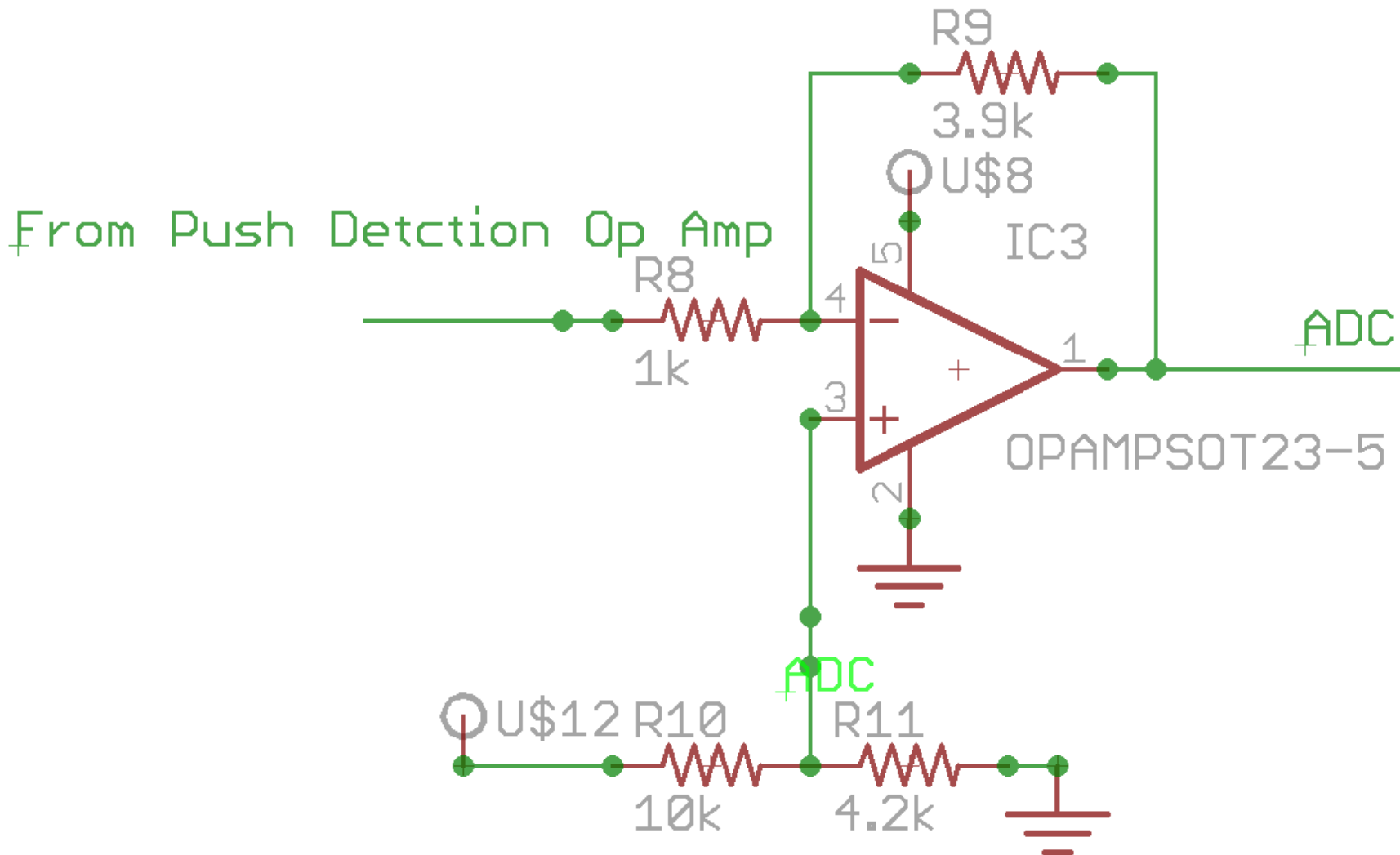
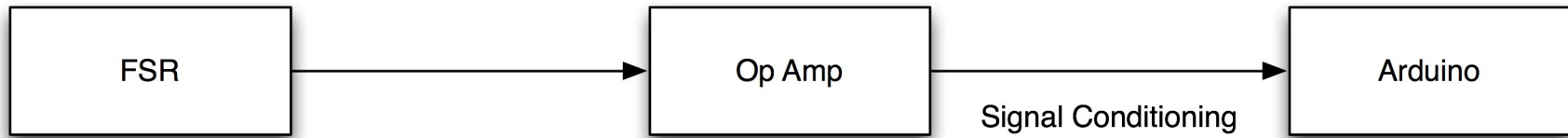
System

Push Detection



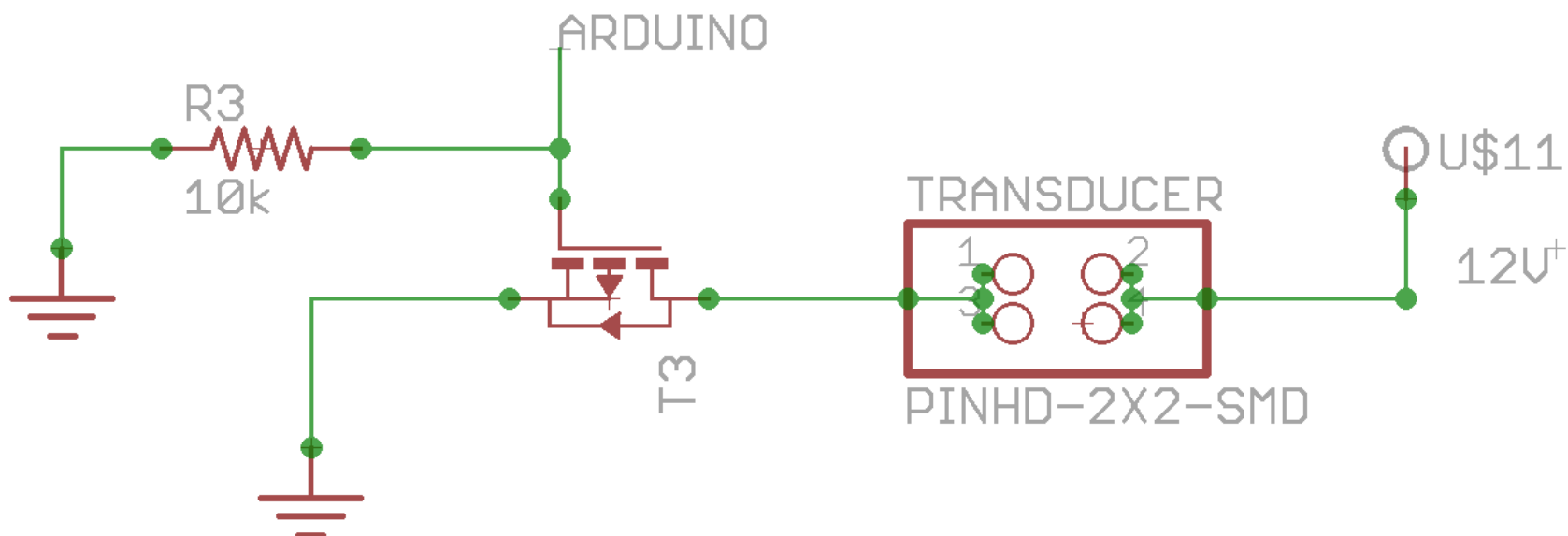
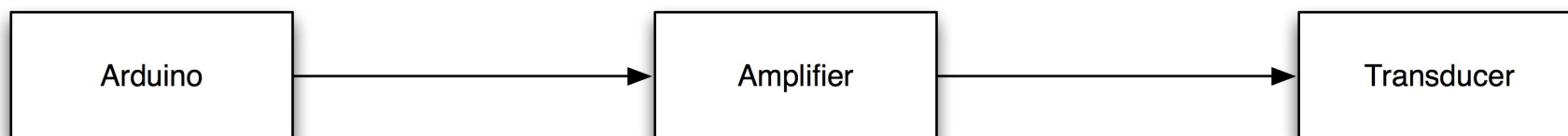
System

Weight Detection



System

Impulse Trigger (T3 is N-Channel MOSFET)



Resources

Demo Video <http://vimeo.com/23876278>

Source Code <http://web.media.mit.edu/~akito/lib/src/DrumTopV1.zip>

Akito van Troyer <http://web.media.mit.edu/~akito/>