

## **sdmay19-32: Sound Effect Devices for Musicians**

Week 6 Report

February 28 – March 7

Advisors: Dr. Geiger & Dr. Chen

### **Team Members**

Tim Day — *Analog Engineer*

Eric Fischer — *Test Engineer*

Francisco Alegria — *Chief/ Musical Engineer*

Blake Beyer — *Digital Engineer*

Travis Gillham — *Integration Engineer*

### **Summary of Progress this Report**

This week was the first test of the mixer to the oscillator. This test showed that there was no degradation in signal quality. However, there needs to be a voltage bias to make sure the digital potentiometers do not clip the output. The logarithmic pots were soldered and will be tested soon for the filter. The digital potentiometers have been purchased for the output amplifier. The code for the entire system is being worked on and debugged.

### **Pending Issues**

- Need to combine all of the modules together
- Need to put all the code onto a single Arduino
- Need to find a way to manage the power
- Need to finish filter. Need to finish output amplifier

### **Plans for Upcoming Reporting Period**

- Filter will be complete
- Output amplifier will be complete
- Need to find a box for the circuit.
- Soldering will start on each module

**Individual Contributions**

<b>Team Member</b>	<b>Contribution</b>	<b>Weekly Hours</b>	<b>Total Hours</b>
Tim Day	Completed the mixer circuit. Tested the mixer with the oscillator. Discovered there need to be a voltage added between the two to ensure the digi-pot doesn't clip the output.	13	63
Eric Fischer	Soldered four digi-pots to breakout boards. They are ready to be tested to make sure no shorts are present and to make sure the tap position can be changed. Read up on digi-pot datasheet to know how to use them.	9	54.5
Francisco Alegria	Writing and debugging code for entire system.	8	40
Blake Beyer	Updated and completed entire oscillator schematic. Oscillator to oscillator integration testing, oscillator to mixer testing. Implemented sync function.	15	56.5
Travis Gillham	Received digital potentiometers. Soldered them onto a break out board that can now be used in the bread board. Completed the function part of the code. Looked more into how to connect to the digital potentiometers, particularly the logarithmic ones.	10.5	47