**Highlights**

* **Developed a low-cost, open source, Teensy 3.2-based interface for systems neuroscience experiments that can flexibly integrate diverse instruments**
* **Demonstrate the temporal precision of the Teensy 3.2 interface in two experimental conditions**
* **Demonstrate the utility of the Teensy 3.2 interface in generating analog signals (sound waveforms) and digital pulses simultaneously**