

## **0.1 Executive Summary**

The Theremizer is a sound control and manipulation device. It produces an audio output that sounds otherworldly and has been used in famous songs like the theme from Star Trek and the Beach Boys "Good Vibrations". It is controlled by moving your hand further or closer to an antenna to change the pitch. The Theremizer also accepts an external audio input, and if provided, will modulate this external audio input using amplitude modulation which will create wild sounds. The Theremizer's output is then run through a classic Voltage Controlled Filter, the AS 3220. This shapes the sound further using resonance and by changing the cutoff.

## **0.2 Market Analysis**

This would be primarily marketed towards analog synthesizer enthusiasts. There is a large market of modular synthesizer users that are always looking for interesting audio sources and control methods. There currently is nothing on the market that meets the same criteria as what the Theremizer does, as most theremins are much more expensive, and the cheaper ones don't have any musical filtering on the output.

## **0.3 Requirements**

The device must produce audio output of at least one octave. The device must use a filter to eliminate frequencies above 20 kHz.