

ANALOG SYNTHESIZER



I have been interested in synthesizers since I first started becoming interested in acid/new wave rock when I was in middle school. Analog synthesizers particularly interested me because they are easier to build and also cheaper, as well as having a lot of nostalgia for the original form of sound synthesis. Consequently when I first ran across the circuit board being offered at Music From Outer Space, I was very excited. The board is not only relatively expensive, it is also well made and was shipped very quickly. My synthesizer, pictured below, cost around \$100 to make because I had to purchase the majority of the parts as well as the case. I purchased most of the parts and the case from Mouser, except for the potentiometers and the switches which I bought from Jameco. The construction of the board was fairly straight forward and took a few hours.

The wiring of the board to the faceplate, however, took several hours of tedious wiring which I would not relish to repeat.

In the end though I ended up with a great little unit which works great and can produce a variety of sounds. As can be seen from the photos, I also installed the mod which allows the modulation of VCO-1 with VCO-2's output. I rearranged the faceplate accordingly to fit on my case's aluminum plate. I had no alignment issues with the unit and it worked from the first time I turned it on. In the future I may build an audio amplifier as well as a sequencer to control the oscillators and actually produce music as opposed to just noises.



I had been looking for some time for a way to modify my analog synthesizer project to be powered by an AC adapter instead of the two 9 volt batteries that it had originally been designed to use. This was more complicated than it sounds since the synthesizer requires both +9V and -9V from the same power supply. After some investigation I found a circuit; that could be used to transform a single +9V input into both +9V and -9V.

It is a really clever design that accomplishes this feat using a special charge pump converter IC and a couple of capacitors.

As the pictures show I also changed the power switch to one that is more aesthetically pleasing than the toggle switch used previously. I also added a coaxial power socket to the back panel to accept the plug from that AC adapter. The synthesizer performs the same as it did before my modifications, however, I am now freed from having to worry about battery life.

Source: <http://www.highonsolder.com/blog/2007/6/12/analog-synthesizer.html>