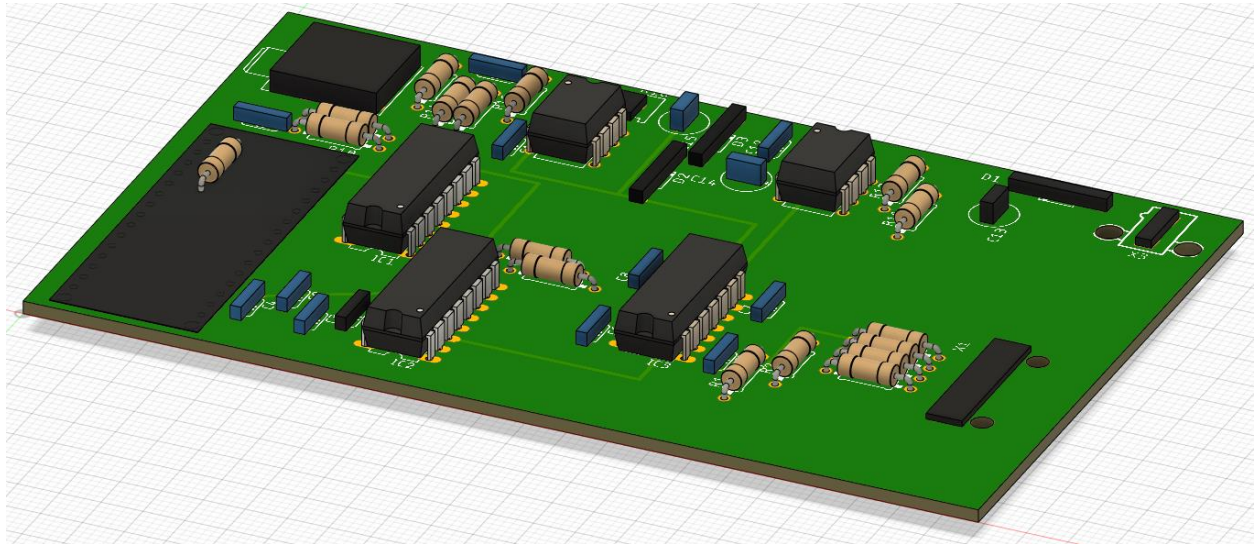


RDF ELECTRONICS

3/30/2021



Preliminary electronics for the RDF doppler unit uses an Arduino Nano that will generate the antenna rotation clock (approximately 500 Hz) that drives a ripple counter used to generate two bits required to drive a dual 1x4 switch. Half of the 1x4 is used to drive the doppler antenna array with PIN diode switching shaped with a basic integrator. The audio output of the receiver connected to the doppler array passes audio through a Sallen-Key LP that also serves as a buffer.

Nano firmware (still being hacked) generates the rotation clock that is also used as the phase reference for values digitized from each of the RDF antennas.

Missing features to be added:

1. Wonder whether or not add GPS or use a COTS (commercial off the shelf) unit
2. Will add Serial out with NMEA level shifters to communicate with downstream devices
3. Will add SPI/I2C to drive an OLED LCD display
4. Will add some user interface controls (encoder, 3-4 multi-purpose buttons that can be reassigned by the firmware)

