

-=[DRAFT]=-

Vectrex Lunar Lander Controller

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Background

Despite owning various computers and consoles since the 1980s I never owned a Vectrex, but I always knew I *would* own one at some point...

Fast forward to 2023 when I finally found one for sale not too far from my home and knew it was time to own this little piece of gaming history.

I quickly ordered a PiTrex as I wanted to play some original arcade vector games from my youth as they were intended, on a vector monitor.

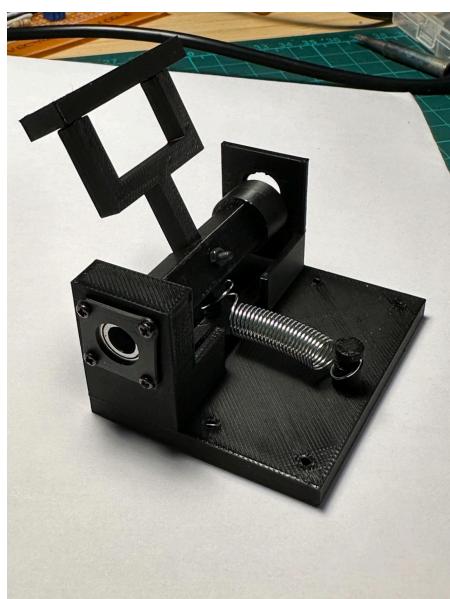
One of my earliest memories of arcade video games was Lunar Lander, which I played at every opportunity in the arcades. Now was my chance to play it again!

The problem I had was that it was good, but in order to be great needed an approximation of the original controller. This led me to embark on designing and making such a thing.

The design

The first thing I did was look at the [Lunar Lander arcade manual](#); specifically the throttle schematic.

I then experimented with several iterations of 3D model design (I use Fusion 360 if you're wondering) which resulted in this:



This throttle design formed the basis of my Lunar Lander controller, and allowed me to experiment with the necessary electrical side of things to bring it to life. As I developed the overall controller design I incorporated this throttle into the baseplate:

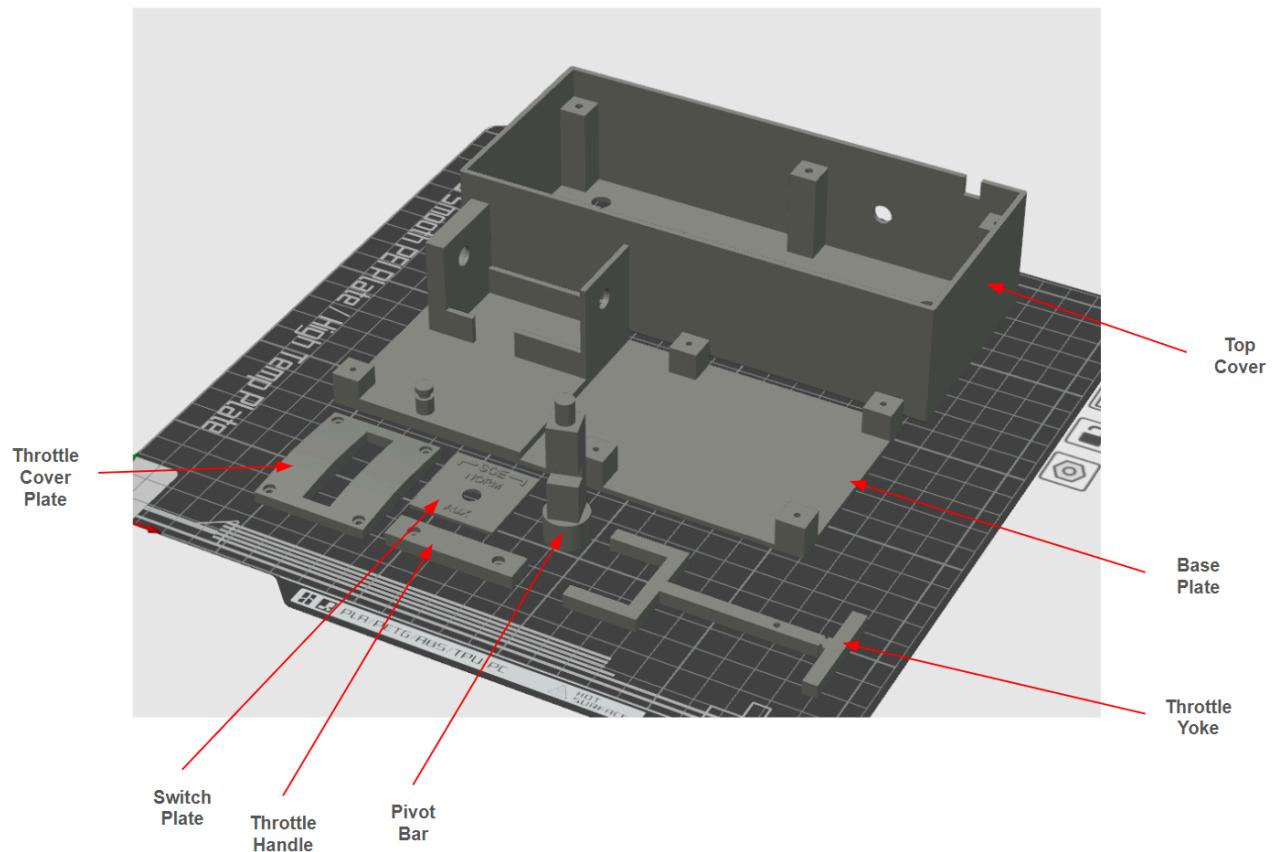


And eventually reached the current design (as of March 2024):



The components and assembly

As of March 2024 the [3D Model](#) includes the following components:



This model supports:

- Analogue Throttle
- Buttons switchable between digital X axis and buttons 1/2 (to support games that use X axis or buttons 1/2 for left/right)
- Buttons 3+4

What it doesn't support is digital Y axis buttons, so you'll need to swap out to controller for navigating menus etc if necessary (next version addresses this so look for an update in the near future).

