Resistor Calculations

Desired Values:

V­start = 22V - USB

V­stop = 20V - USB

V­start = 11V - GIMBAL

V­stop = 10V - GIMBAL

V­out = 5V

Known Constants:

V­falling = 1.19V

V­rising = 1.22V

V­ref = 0.596V

Ip = 0.7 μA

I­h = 1.55 μA

R4 = , we will use 910k.

R5 = , we will use 51k.

R2 = 20k

R3 = 2.7k

**USB:**

Using R4 = 910k and R5 = 51k, and plugging them back into the above equations we get:

* Vstart = 22.385V
* Vstop = 20.376V

Using R2 = 20k and R3 = 2.7k we get Vout = 5.011V.

**GIMBAL:**

The above equations are redone with Vstart = 11V and Vstop = 10V.

R4 = 465.5k, we will use 470k

R5 = 56.2k, we will use 56k

Using R4 = 470k and R5 = 56k, and plugging them back into the above equations we get:

* Vstart = 11.13V
* Vstop = 10.12V

The Vout will be the same as above at 5.011V.