

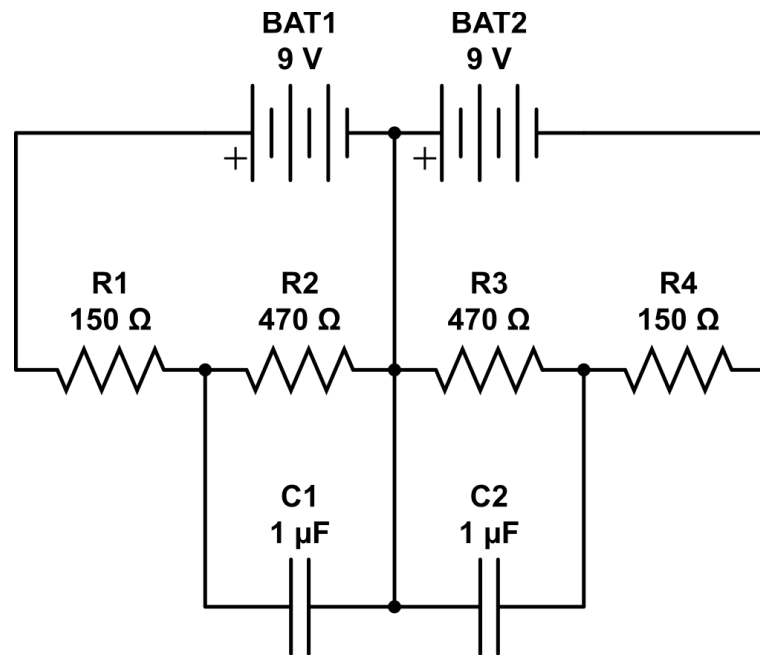
PMT Progress

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Amplifiers

- So far we have soldered the 595-THS3202D amplifier to a board that takes surface mount chips
- However it was difficult to find a bipolar power supply for the chip

- In order to remove delays, we are going to build a very primitive bipolar supply



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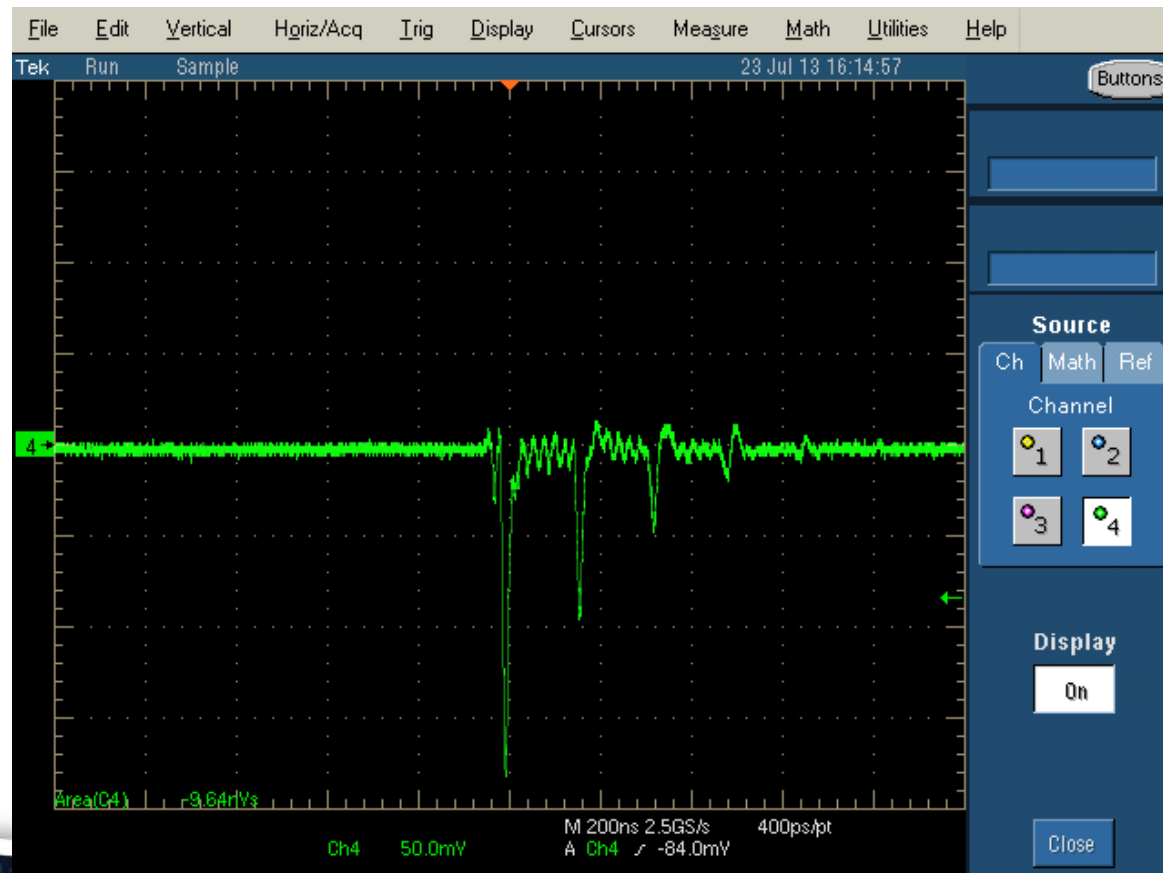
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PMT Calculations

- Listed Gain of the PMT is 8.7×10^5
- For a single photoelectron $(-1.602 \times 10^{-19})(8.7 \times 10^5) = -0.139 \text{ pC}$
- The resolving power of the ADC is 0.25 pC
- Amplification factor needed is approximately 3

PMT Cables

- A problem we have encountered with the PMT signal is the phenomenon of a reflected pulse

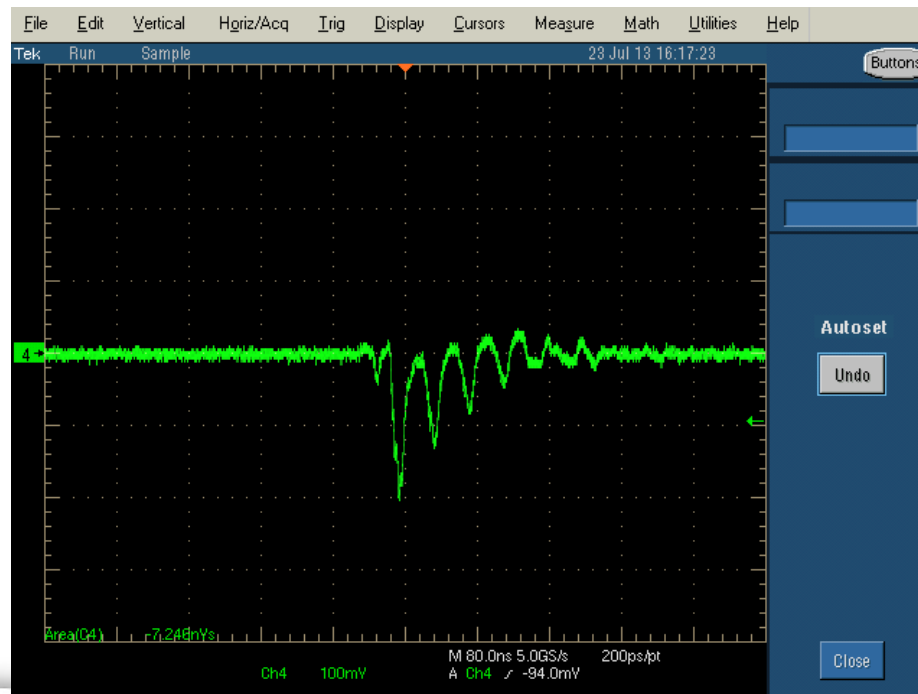


PMT Cables

- The scope trace is of the PMT signal using the 70.5 nanosecond cable.
- This is clearly a reflected pulse as it occurs every 140 to 150 nanoseconds
- It also decreases in amplitude linearly

PMT Cables

- Even with the short cable, there are some problems
- We do not believe these are reflected pulses though



Goals

- Testing the amplifier today and making the simple power supply to test it
- A secondary goal is to test the lab equipment for future use and make sure the specs are up to date