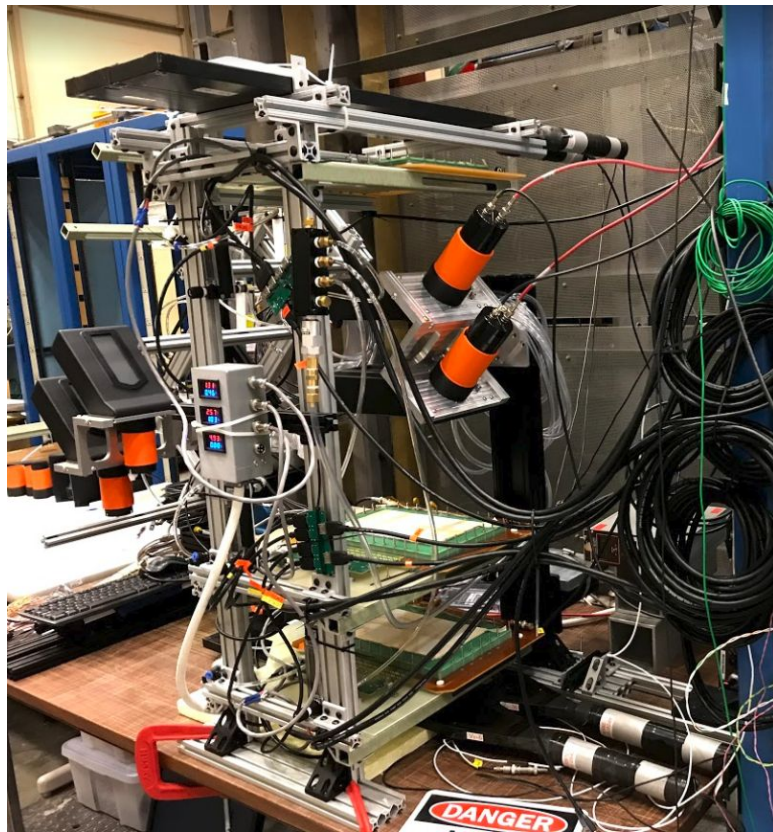
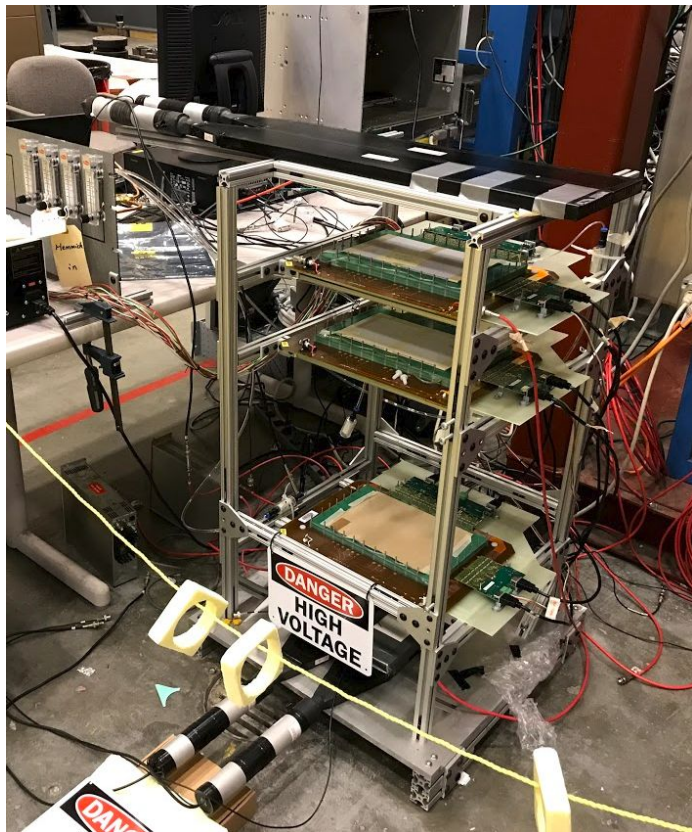


# PREX/CREX Counting mode DAQ update

Chandan Ghosh  
March 29 2019

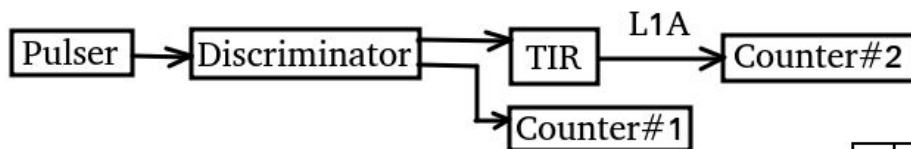
# Setup update



# Hardware update

- Need three more HV channels to run both cosmic-stands simultaneously
- The SBU module (4 channels) is repaired and back to jlab.
- Modified and tested 8-slot backplanes - all are good.
- GEM detector repair- Will visit UVa on coming Monday
- Working on HRS to configure the counting mode DAQ.

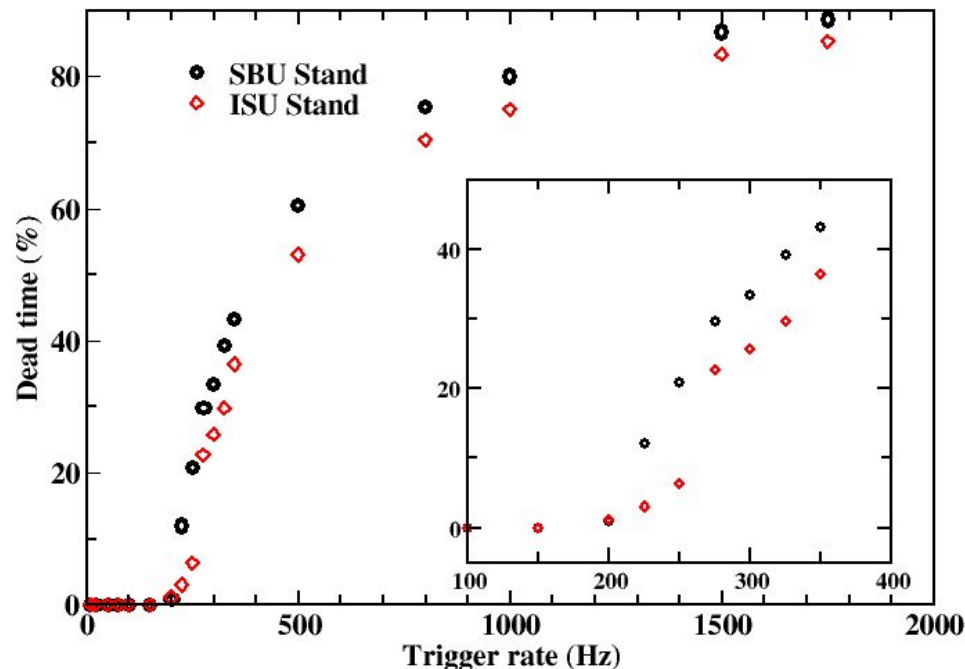
# Dead time measurement



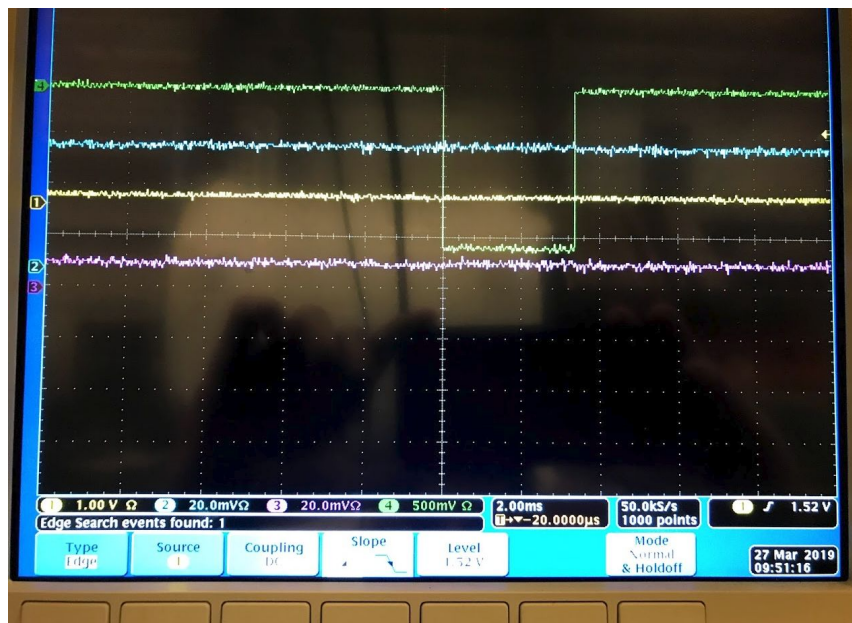
With MBTL fast readout (80 MB/s)

$$\text{Deadtime} = (\#1 - \#2) * 100 / \#1$$

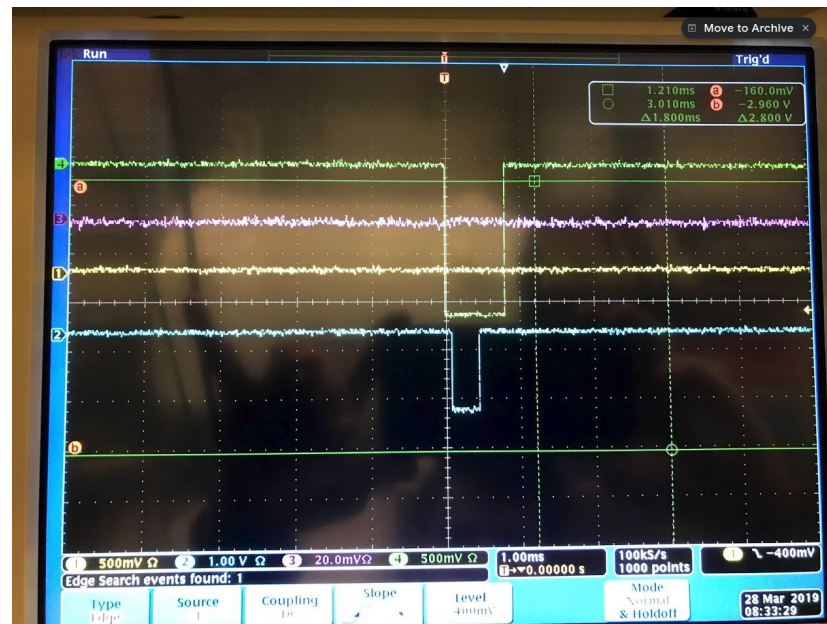
- The TIR 'busy' signal is  $\sim 3$  ms  $\sim 333$ Hz
- Measure the execution time for each major command in the ROL - we are in the limit what we could do with the current MPD firmware.



# Screen shots

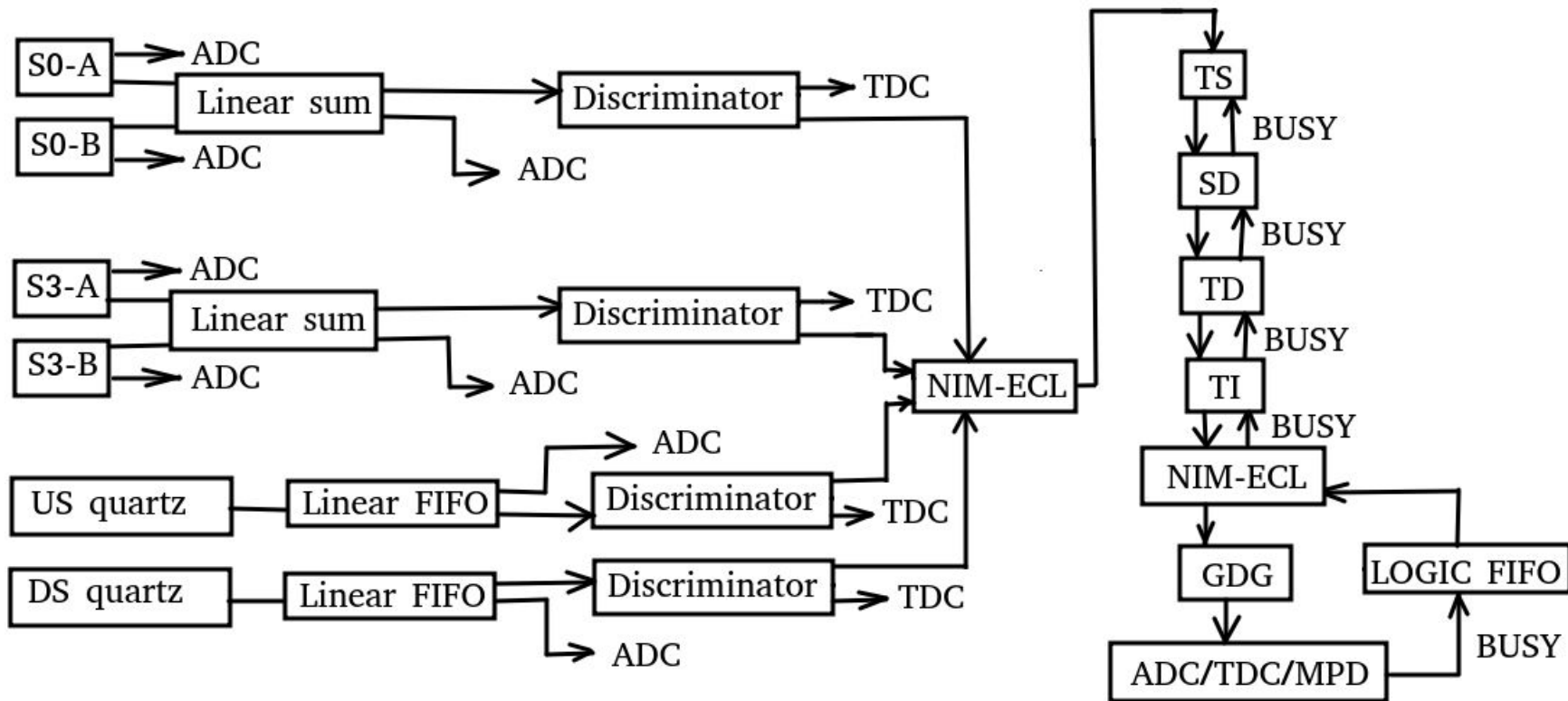


With MBTL fast readout : busy signal (Green ~ 3 ms



With SST fast readout : busy signal (green) ~ 800 us  
MPD data processing time (Blue - 400 us)

# Circuit diagram for counting mode DAQ



Fastbus ADC or Flash ADC??