# STGC Electronics & DAQ at the F2F Meeting
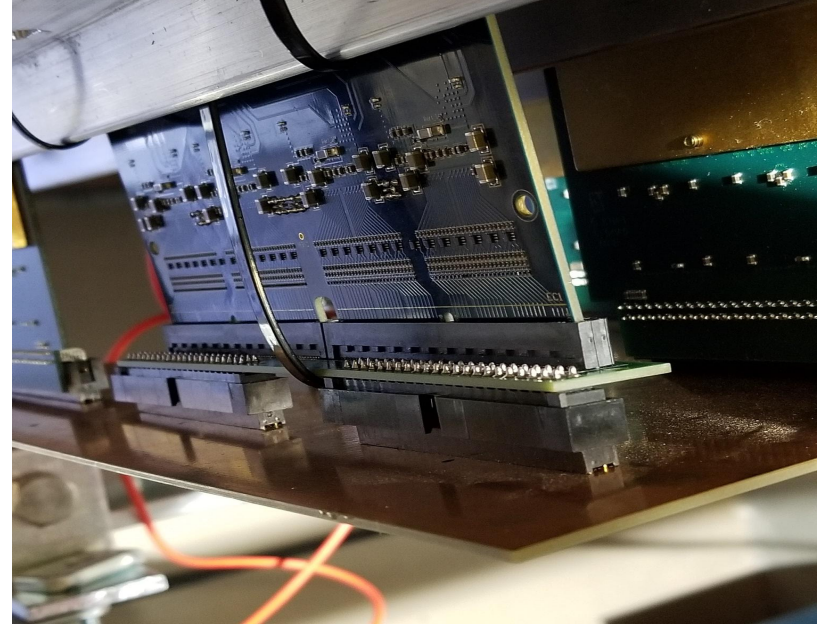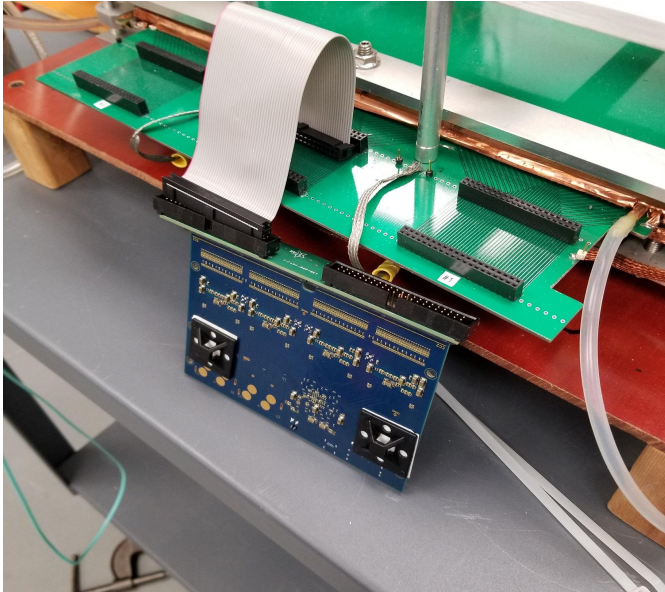
## Apr 2021

T. Ljubicic
for
Tim, Bob, Shuang, Mike, Christian

# STGC FEB & ROD

- 1 FEB and 1 ROD (and 1 adapter) tested in the lab with direct pulsers to the inputs of the FEB
  - I added timing markers relative to trigger and data arrival times to the firmware
    - looks OK
  - BTW, powered by the new custom power supply
- ready to be moved to the 60x60 prototype

# TPX FEE to STGC DEB adapter card
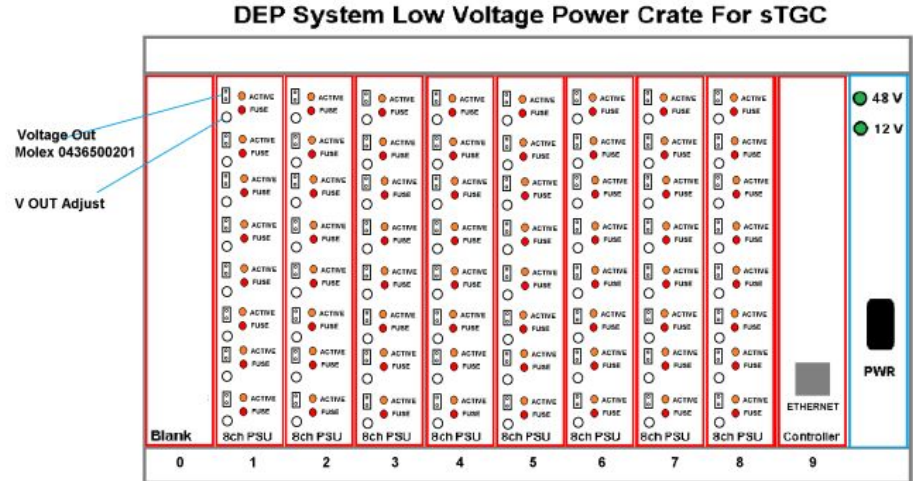
- completed, tested [Tim]

# STGC Power Supply for FEB & ROD

- 1st "final" prototype in house [Tim Camarda]
- 1 6U module (motherboard) houses and controls 8 individual power supply daughtercards
- each daughtercard can power 1 FEB or 1 ROD

# FEB/ROD Power Supplies (cont'd)

- 6U modules will be housed in 2 crates
  - 8 modules per crate, each:
    - 1 output for the corresponding ROD
    - 6 outputs for the FEBs of that ROD
    - 1 output spare
  - 1 crate controller card per crate connected to Ethernet for monitoring and controls
- Schedule
  - final tests → now
  - production → finished in Aug
  - installation → Sep
  - but I'd like to speed this up by 1 month...



**DEP System Low Voltage Power Crate For sTGC**

6 1/2 U size crate   Same as DEP32 ADC but w/ differnet PSU mounting plate
8x Power card slots   Isolated Common "Floating Ground" 8u Card Width (1.6")
1x Crate controller card
CRATE PSU 120/208 VAC to 48VDC 1.4kW

# Near Term

- Installing the 60x60 into STAR tomorrow
  - right??
- old TPX electronics (-2 FEEs) as 1 part of STGC ("sector" 6)
- new FEB/ROD as 2nd part of STGC ("sector" 1 to 4, TBD)
- independent PCs/readout/DAQ
  - and power supplies controlled via NPS, nothing sophisticated
- but common trigger interface (TCD), Run Control, Monitoring, etc
- plan
  - old TPX electronics/DAQ is ready for STAR: Run Control, Event Builders etc.
    - I plan to have it included in physics runs "soon" (and daily pedestal runs)
  - new FEB/ROD DAQ not yet ready
    - I will run it "by hand", in the background until ready, probably ~2 weeks
    - commissioning/testing will follow
      - need other people to check the data