

MVTX 4-stave Telescope Setup Photos

- 4 staves
- GTM
- RU
- PU
- SamTec Cables, 5m & 8m
- USB control
- LAN
- Cooling system

Seattle: E103, C105

	0	1	2	3	4	5	6	7	8
A102	X								
A101				4k					400
A100	1.5k			1.5k			1.5k	1.5k	1.5k
J2							X		

E103 5m-0/52
C105 ← now cable
C104 5m-1/53
A105 5m-2/54

Introduction

Report of the results of the test on three IB-STAVES. Note that in the following, the nine chips of the Staves are numbered from 0 to 8.

IB-STAVE-E103

The wire-bonds of chip0 have been disconnected.

Chips from 1 to 8 can be used without any issue. It can be used both at 600 Mb/s and 1.2 Gb/s.

IB-STAVE-C104

The Stave shows an high bias current (~ 30 mA at Vbb=-3V) and DVDD current (~200 mA at 1.8 V). Use it without back-bias voltage (→ Vbb = 0V).

Chips 0, 3, 6, 7, 8 have about 1500 dead pixels.

It can be used at 600 Mb/s. At 1.2 Gb/s, it could operate at high values of charge pump (>8-10).

IB-STAVE-A105

The wire-bonds on chip6 have been removed.

The Stave can work without transmission errors at 600 Mb/s. Operations at 1.2 Gb/s are potentially possible using higher voltage or high values for the charge pump (≥ 8).

Disabling chip 7 and 8, readout performance at 1.2 Gb/s with nominal settings looks better.

IB-STAVE-C105

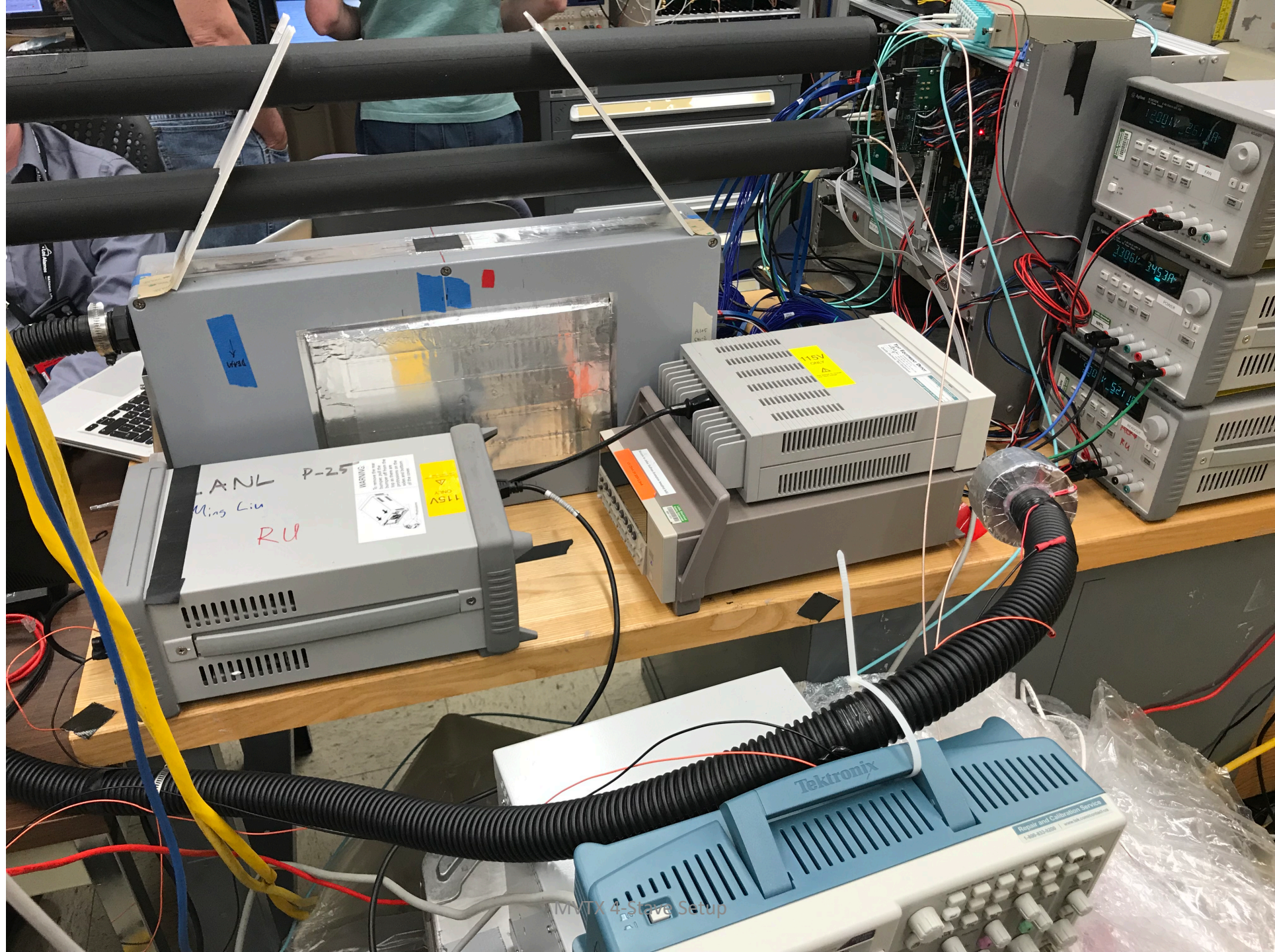
Chip 2 and 8 have about 4000 (among them, ~1450 dead) and 400 bad pixels, respectively. It can operate at 600 Mb/s. It can potentially work at 1.2 Gb/s using high charge pump values (≥7).

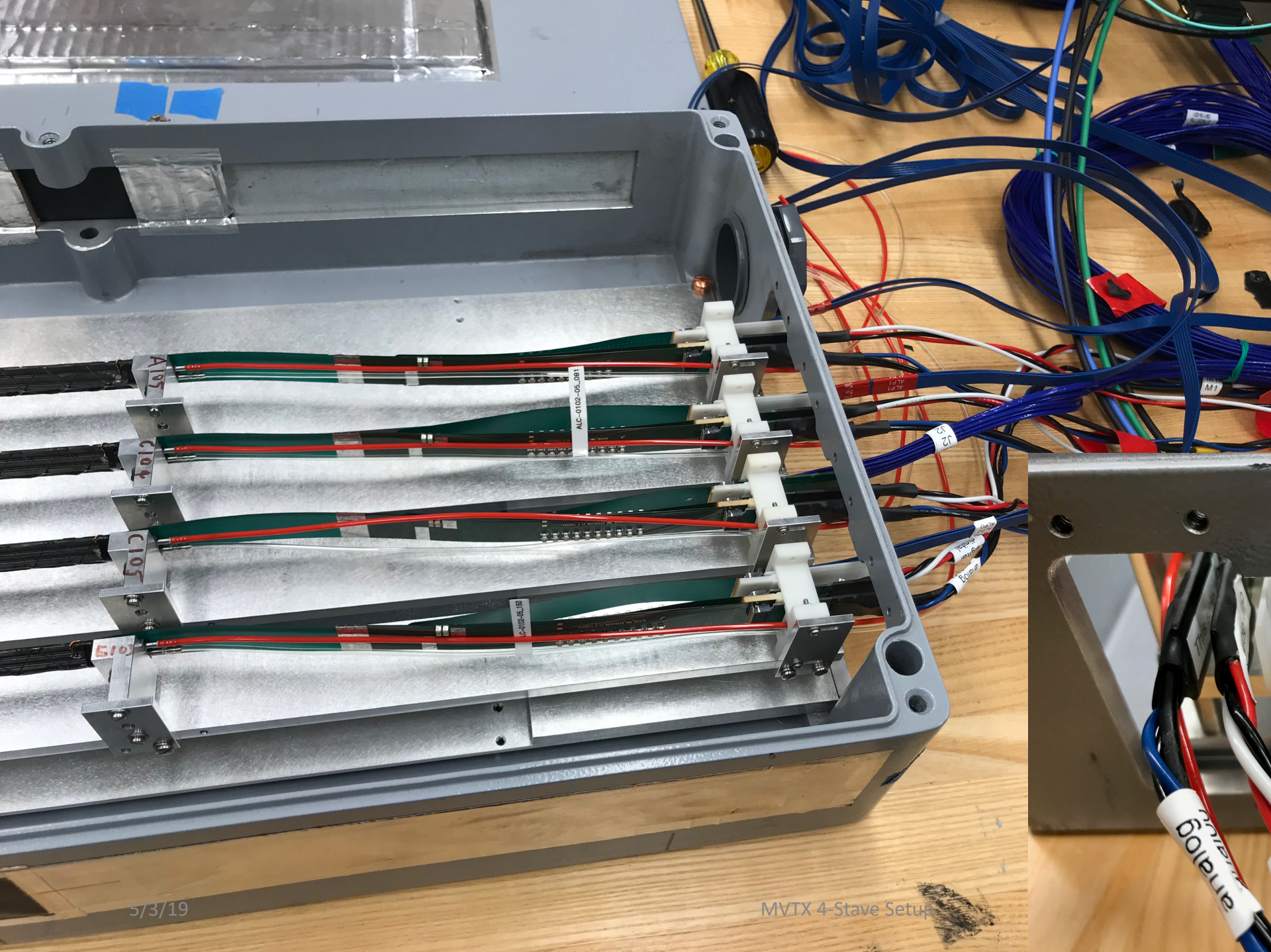
A) #7 chip add → used for broadcast.

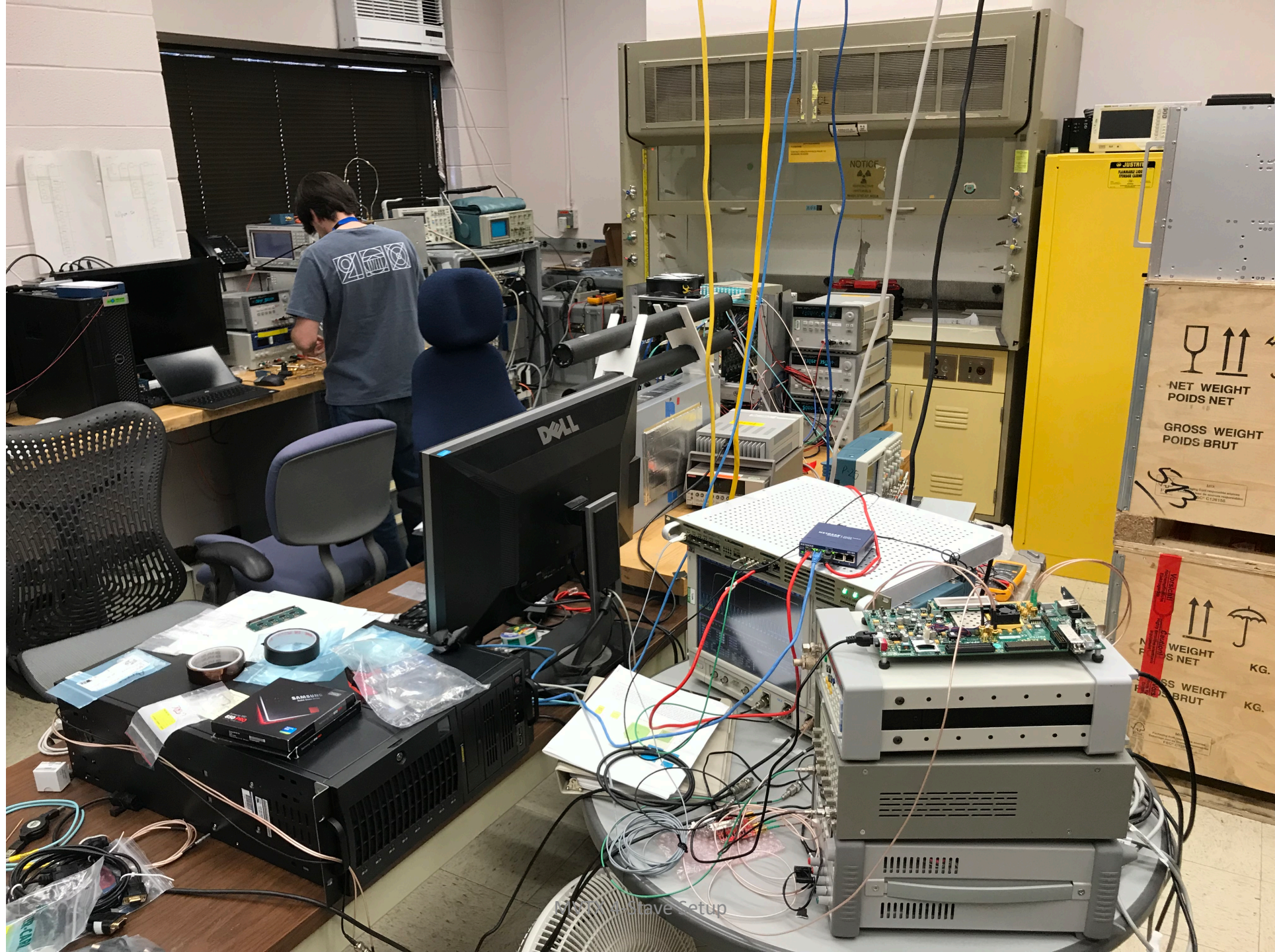
1) do #7 first.

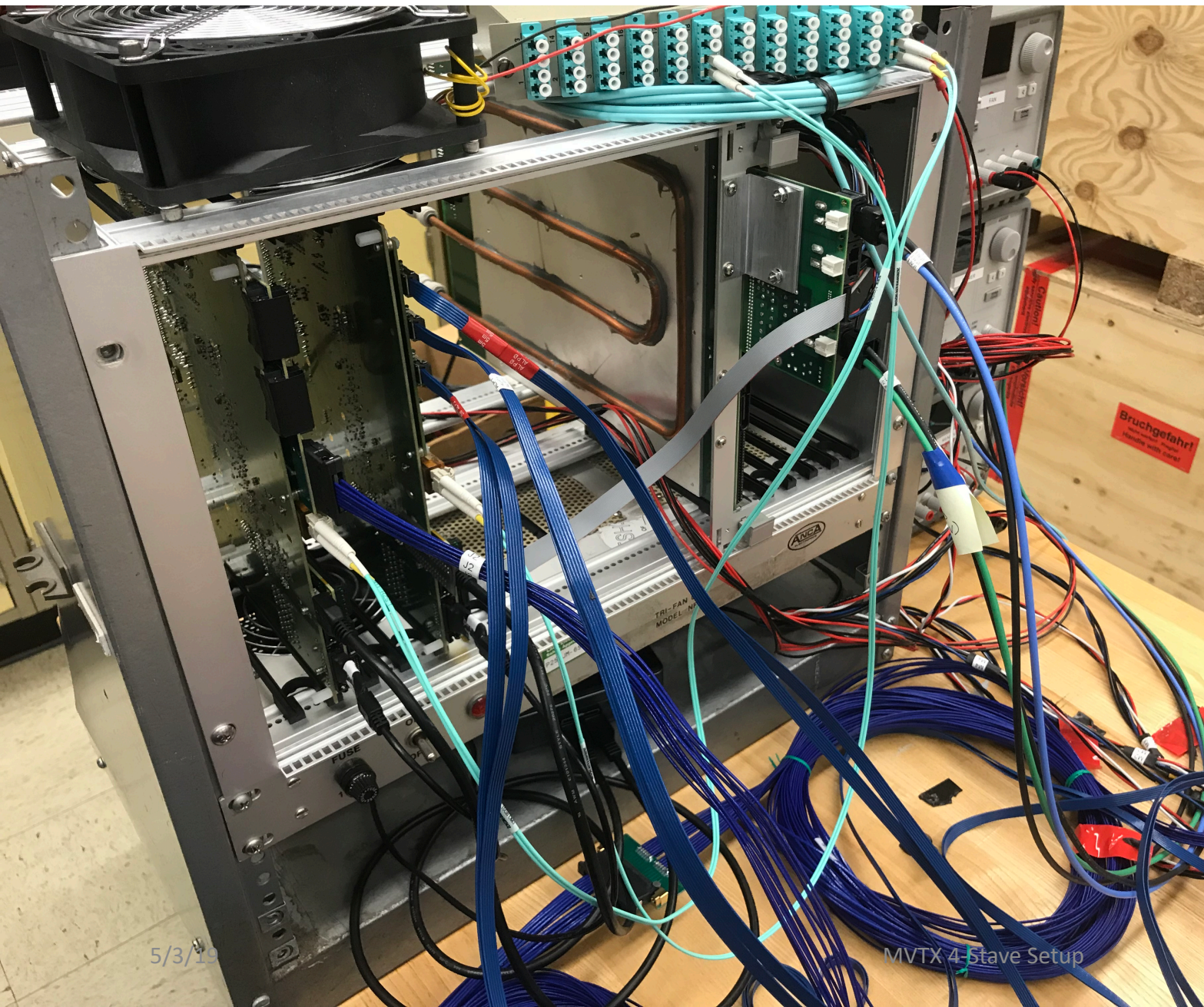
2) program the rest.

B). FPC will be modified to fix this program issues.



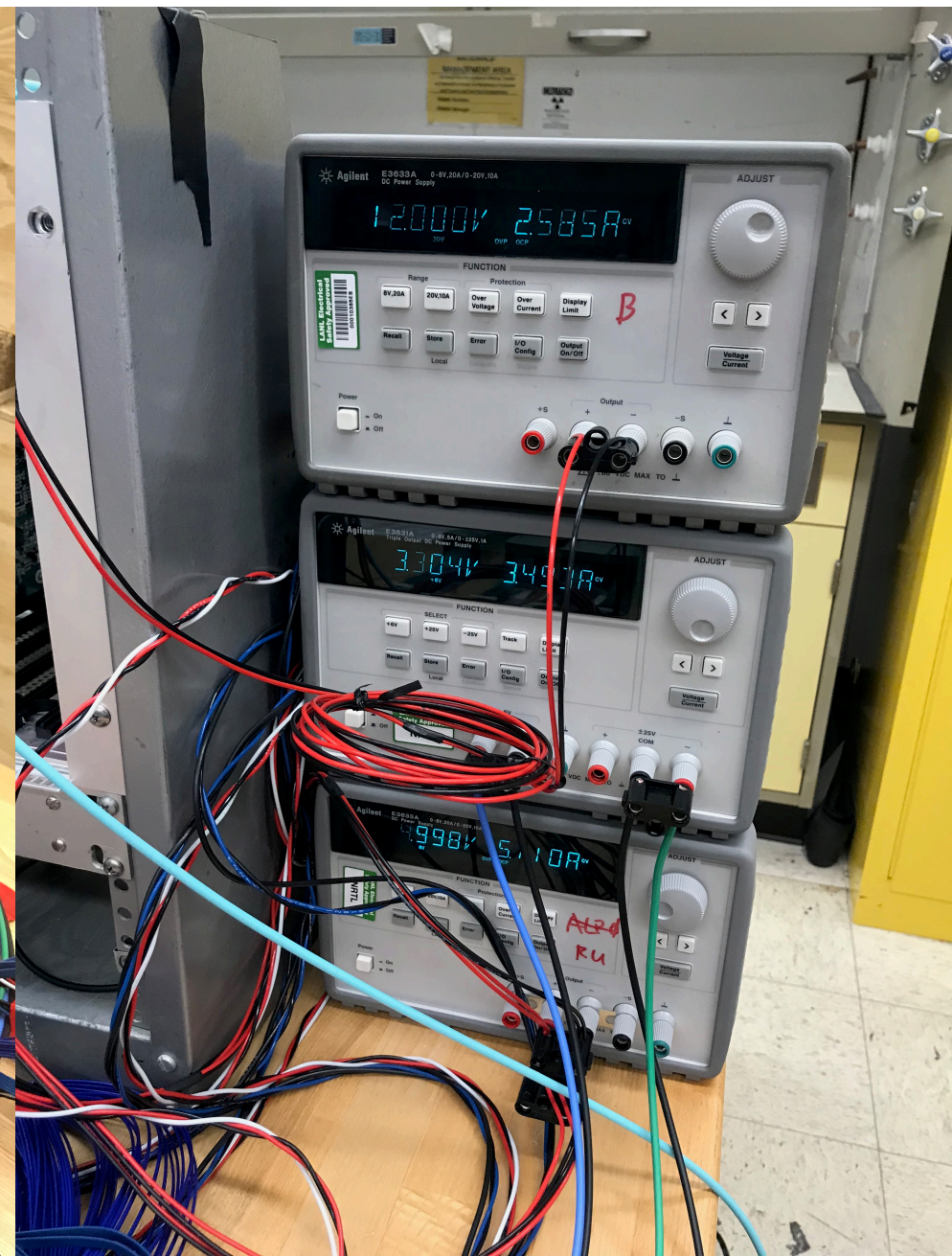


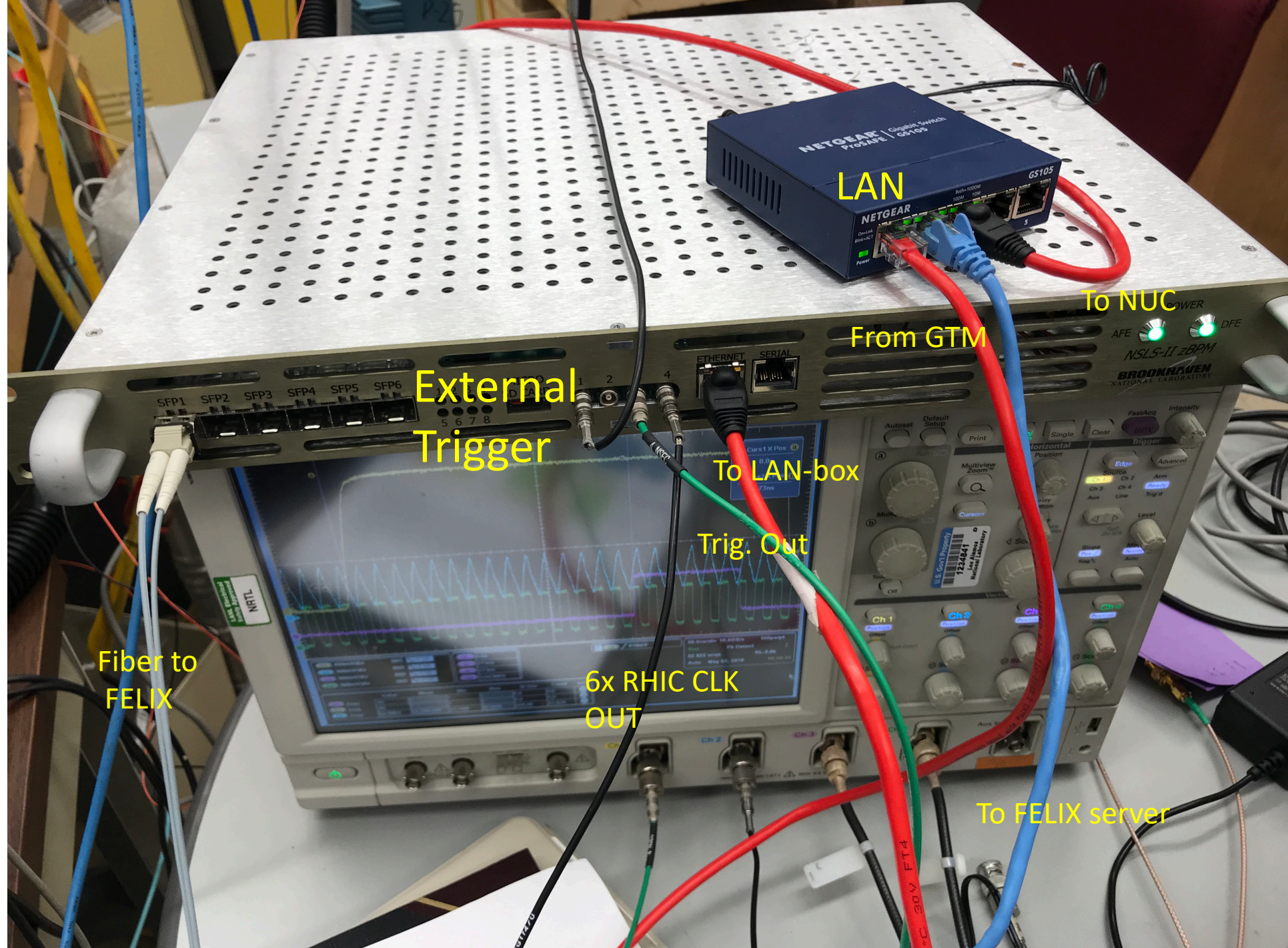


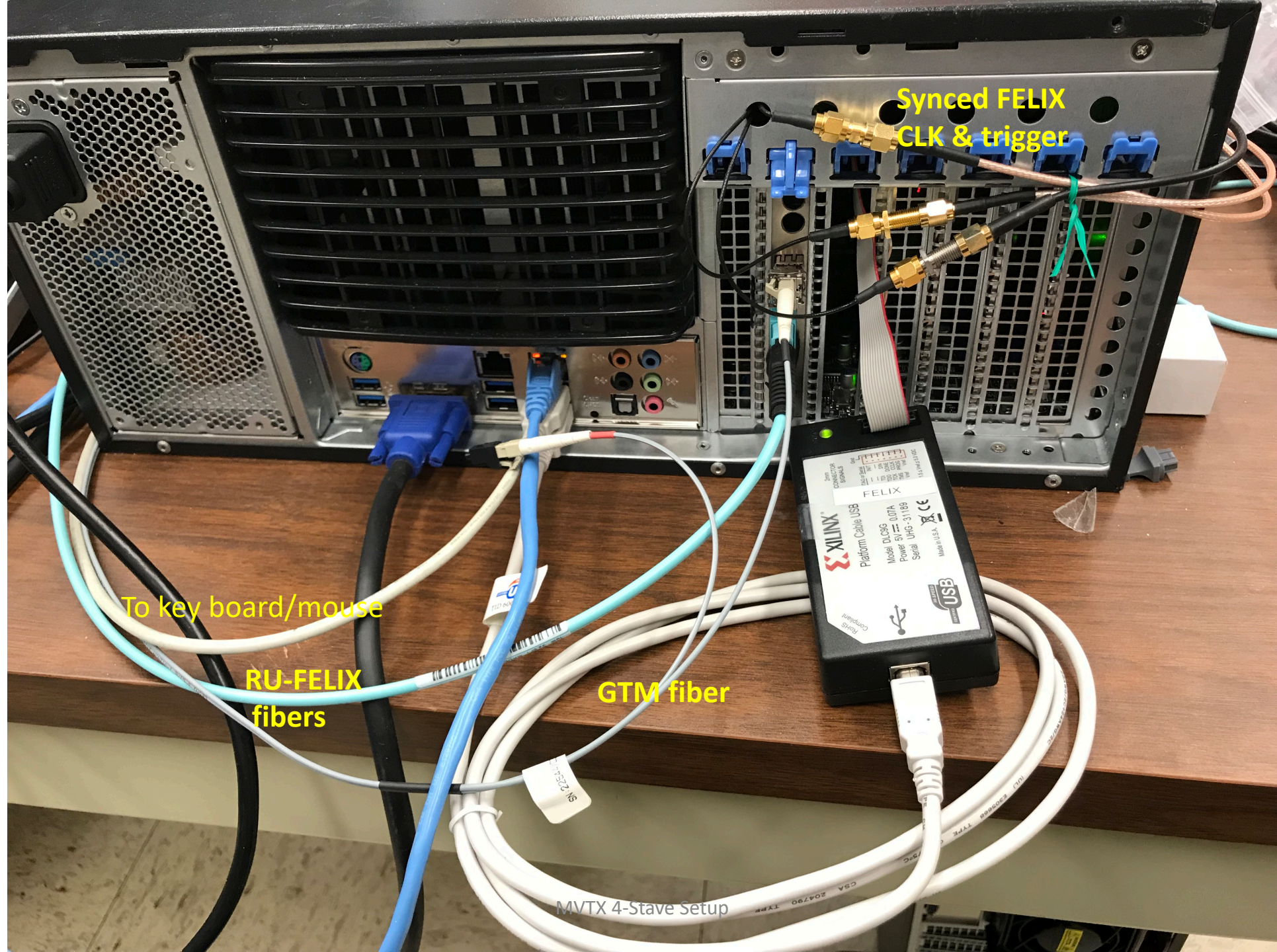


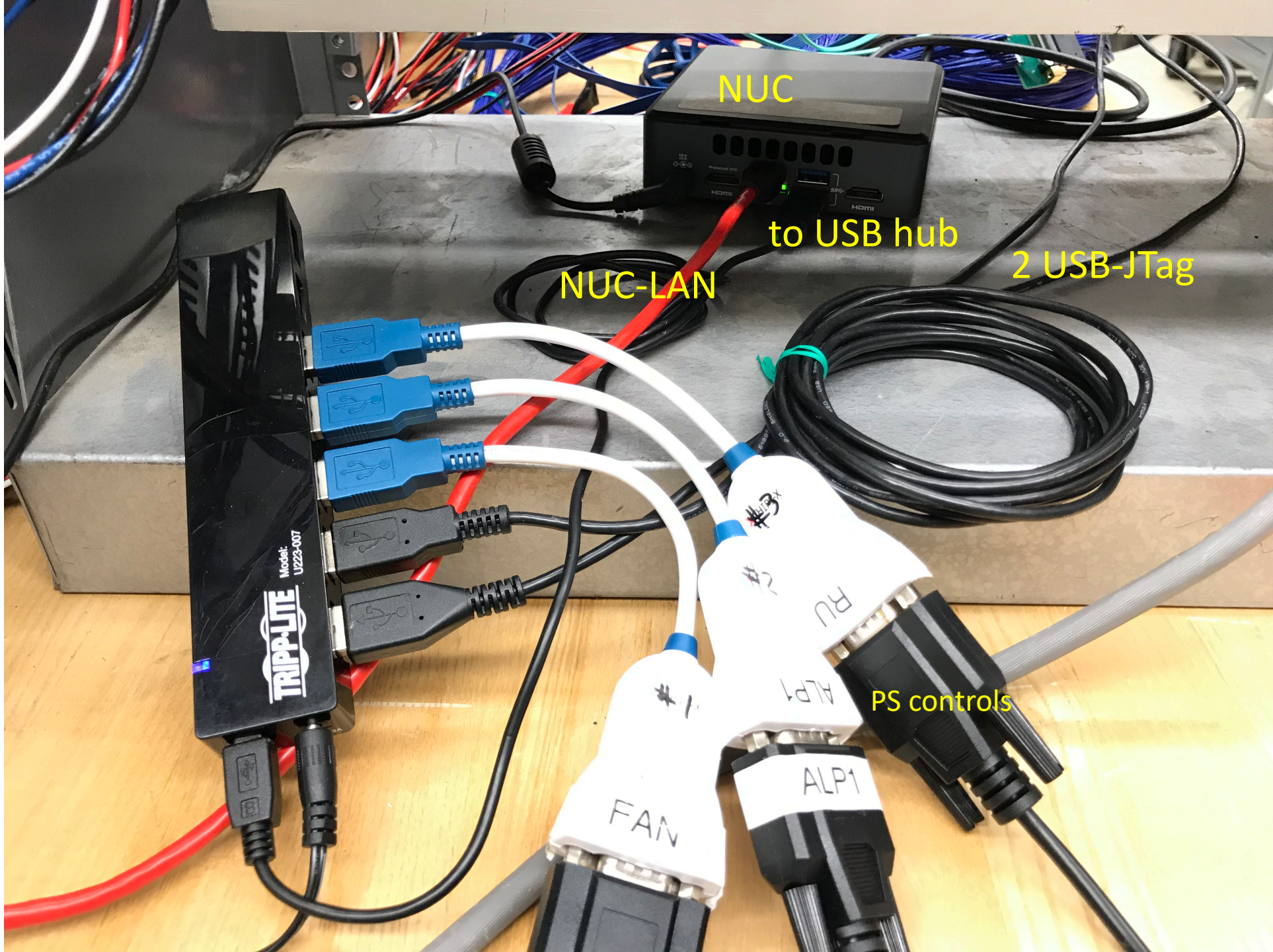
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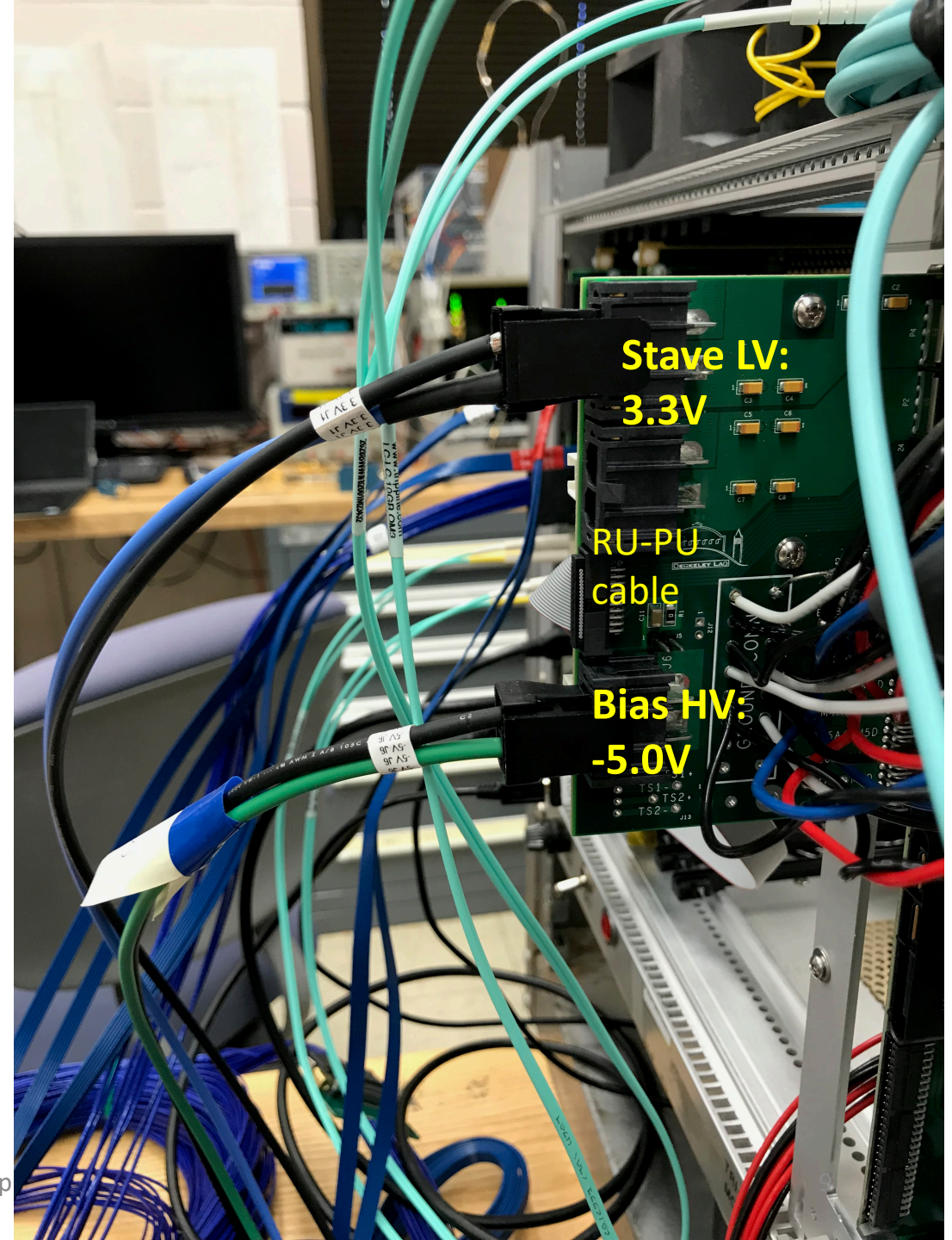
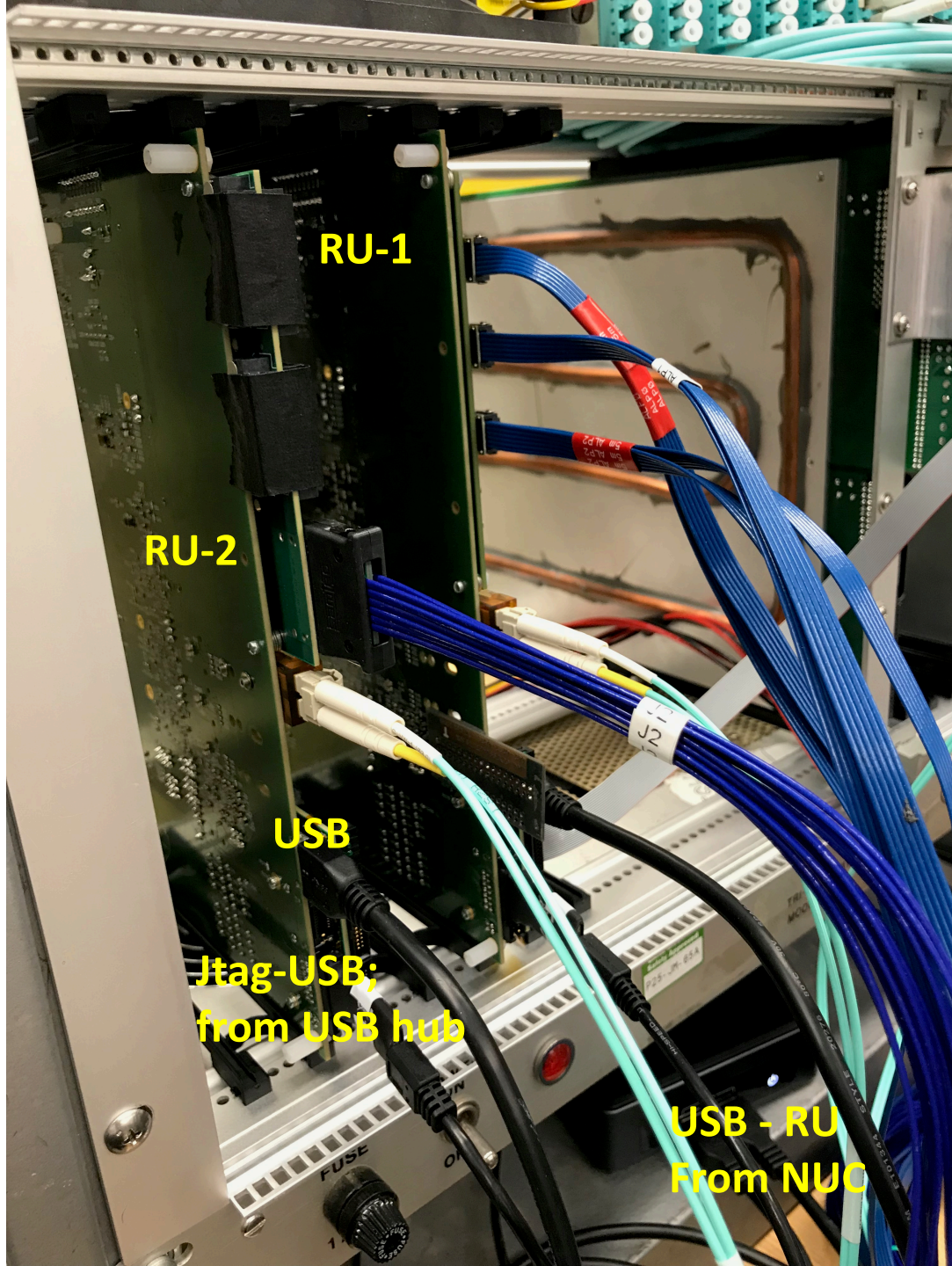
MVTX 4 Slave Setup







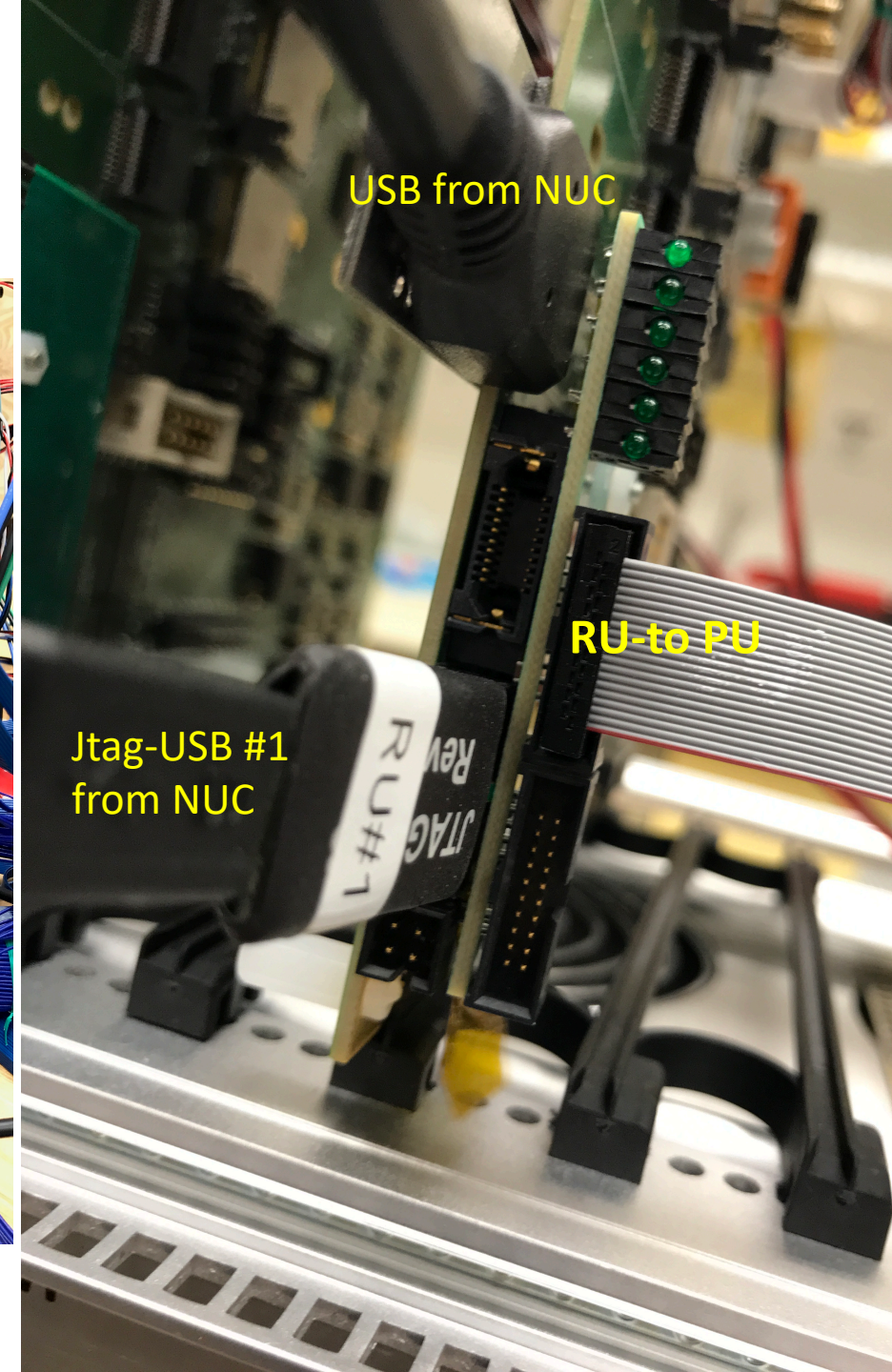
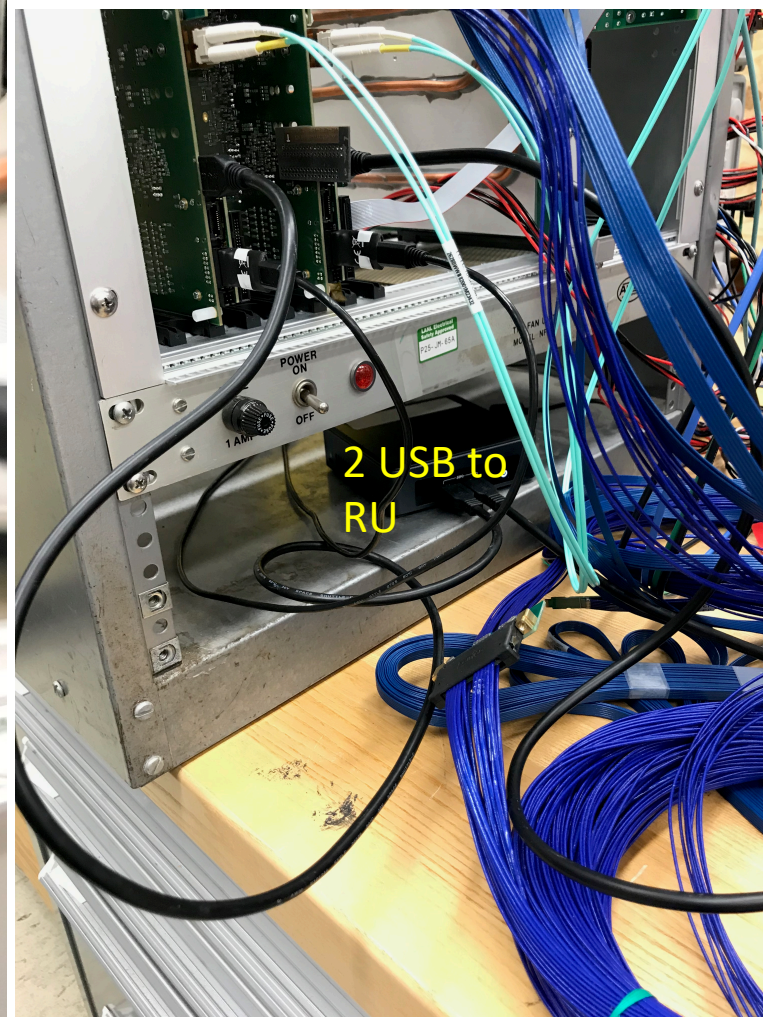




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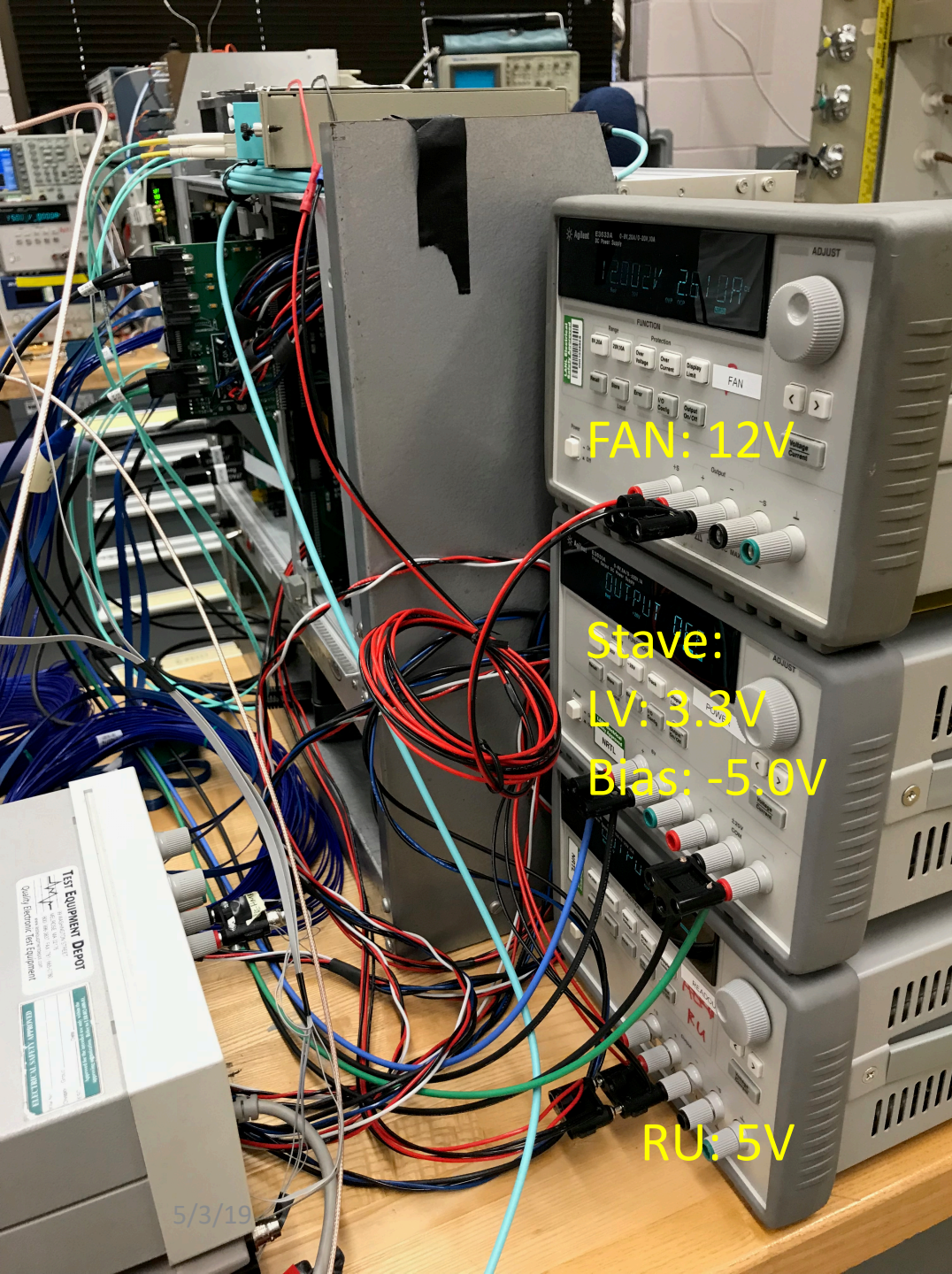


RU – USB Connections

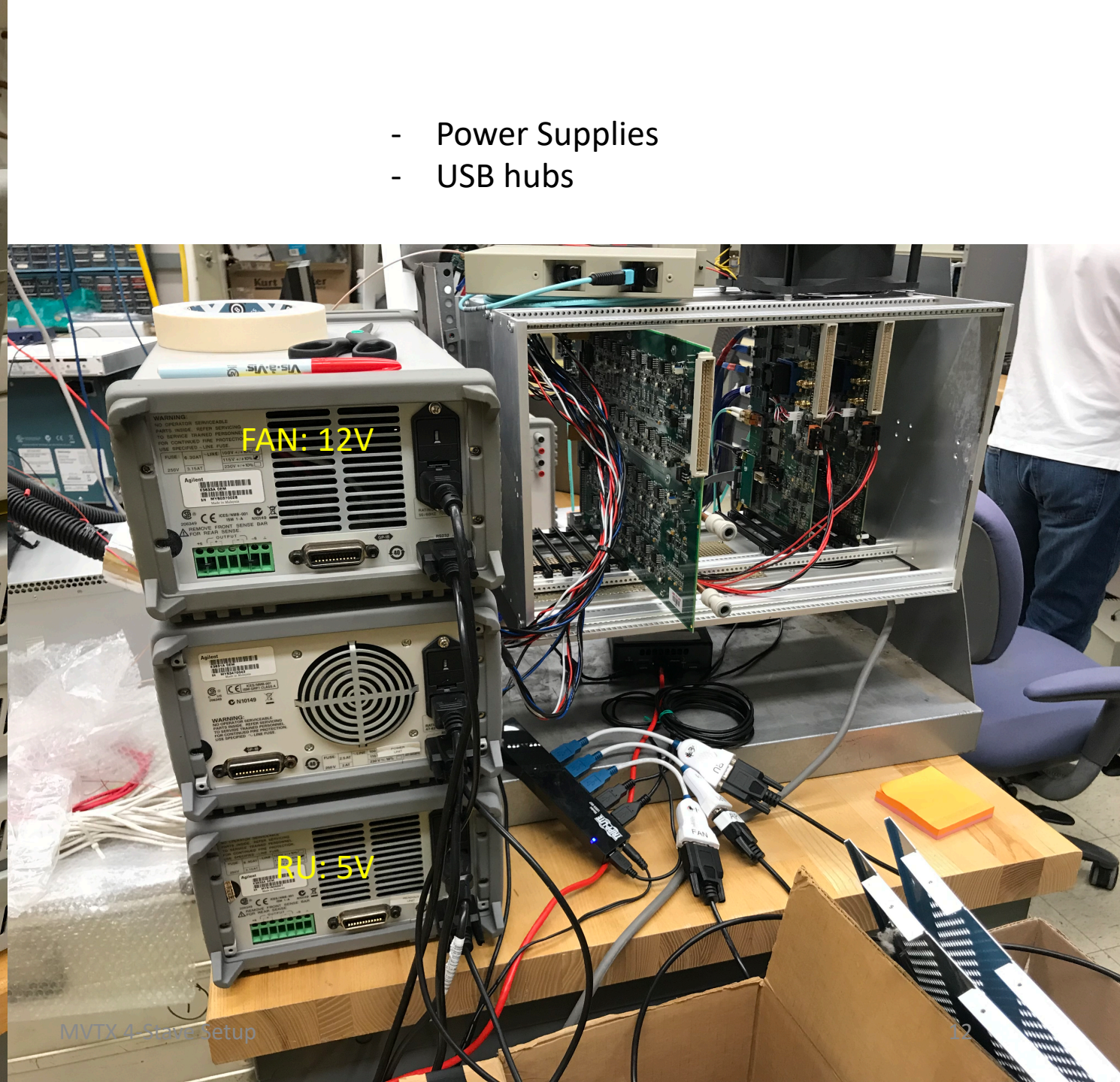


RU-FELIX Fibers





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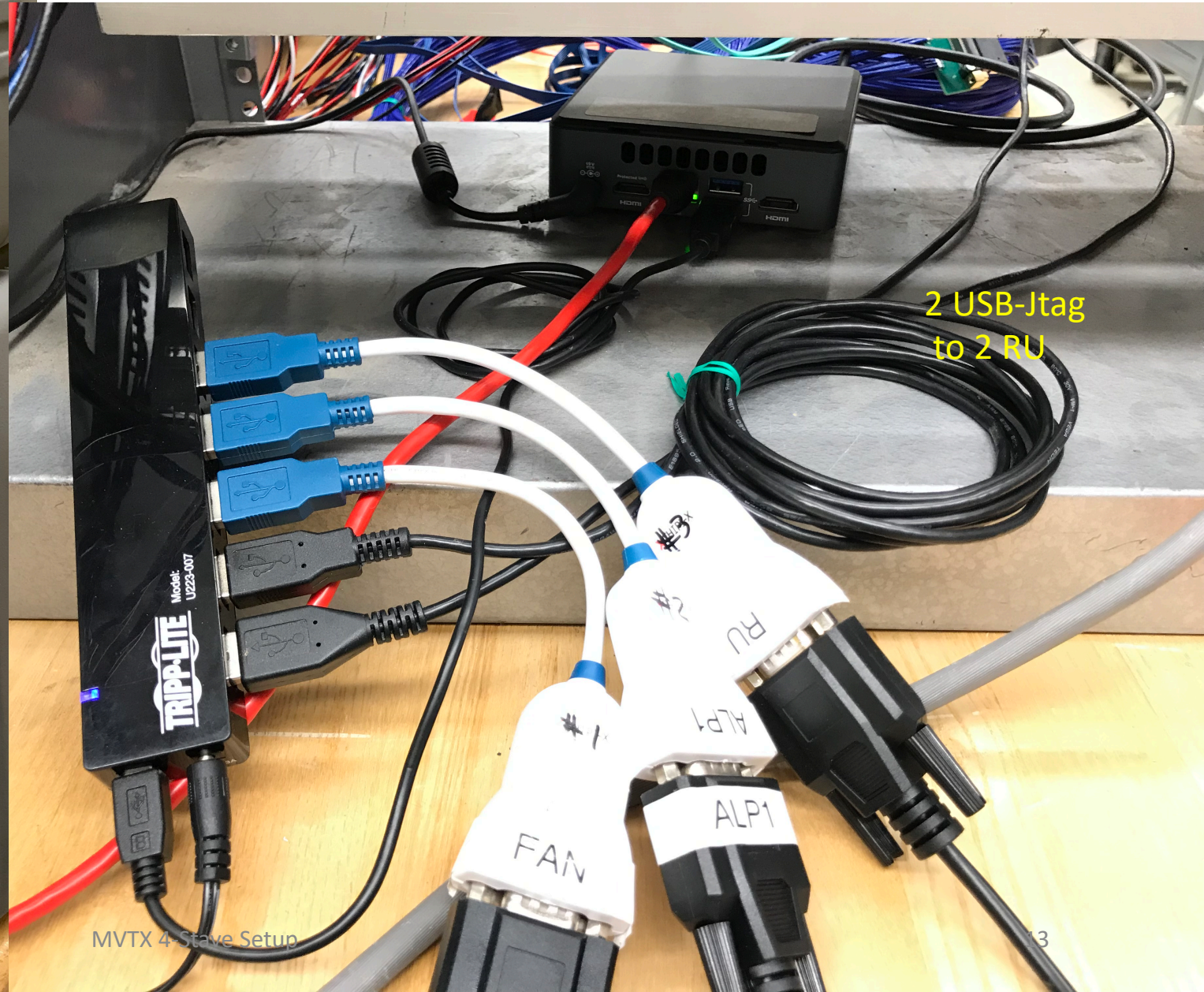


- Power Supplies
- USB hubs

MVTX 4 Slave Setup

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NUC, PS etc

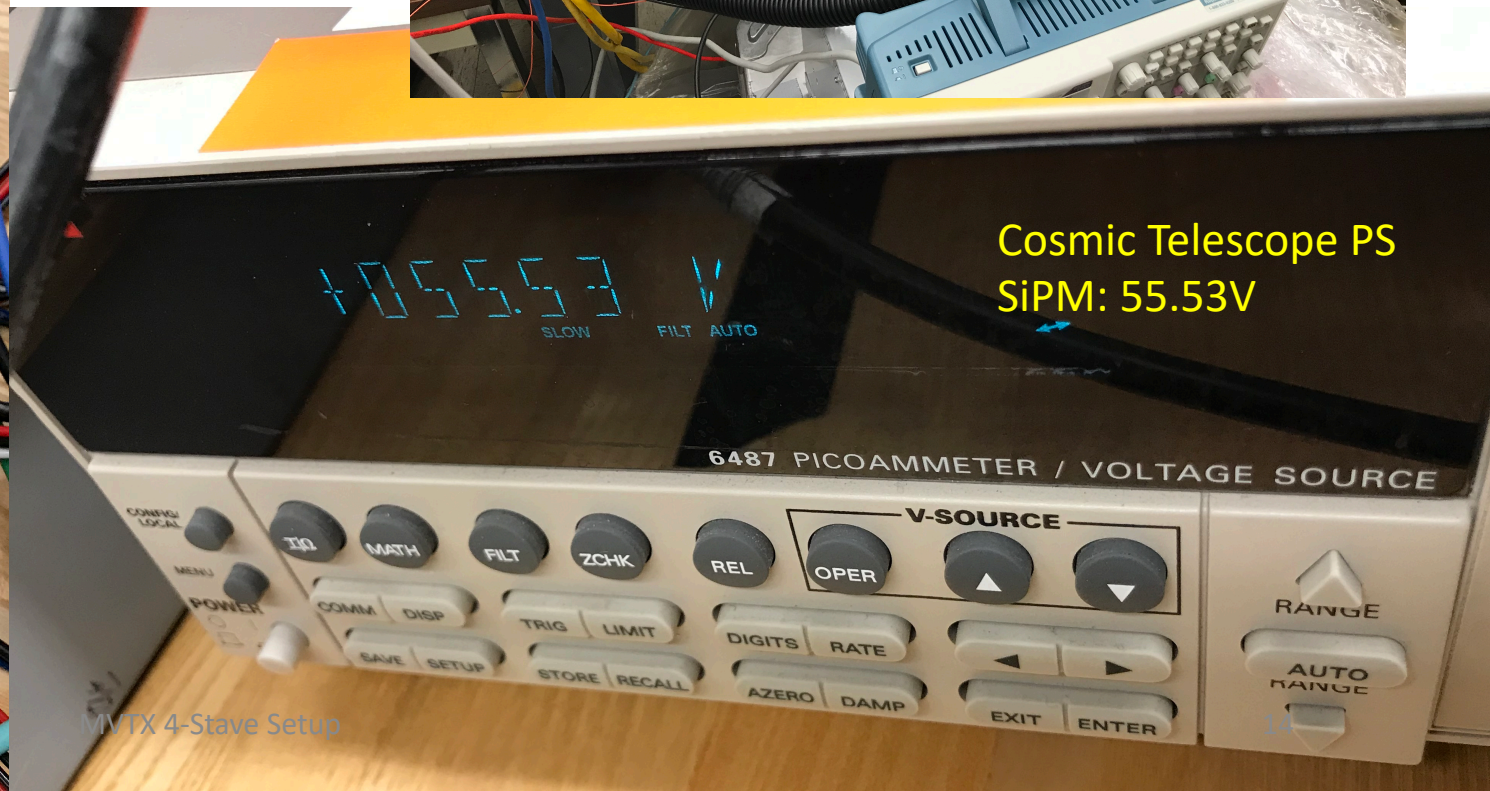




Cosmic Telescope PS
SiPM PreAmp: 6V

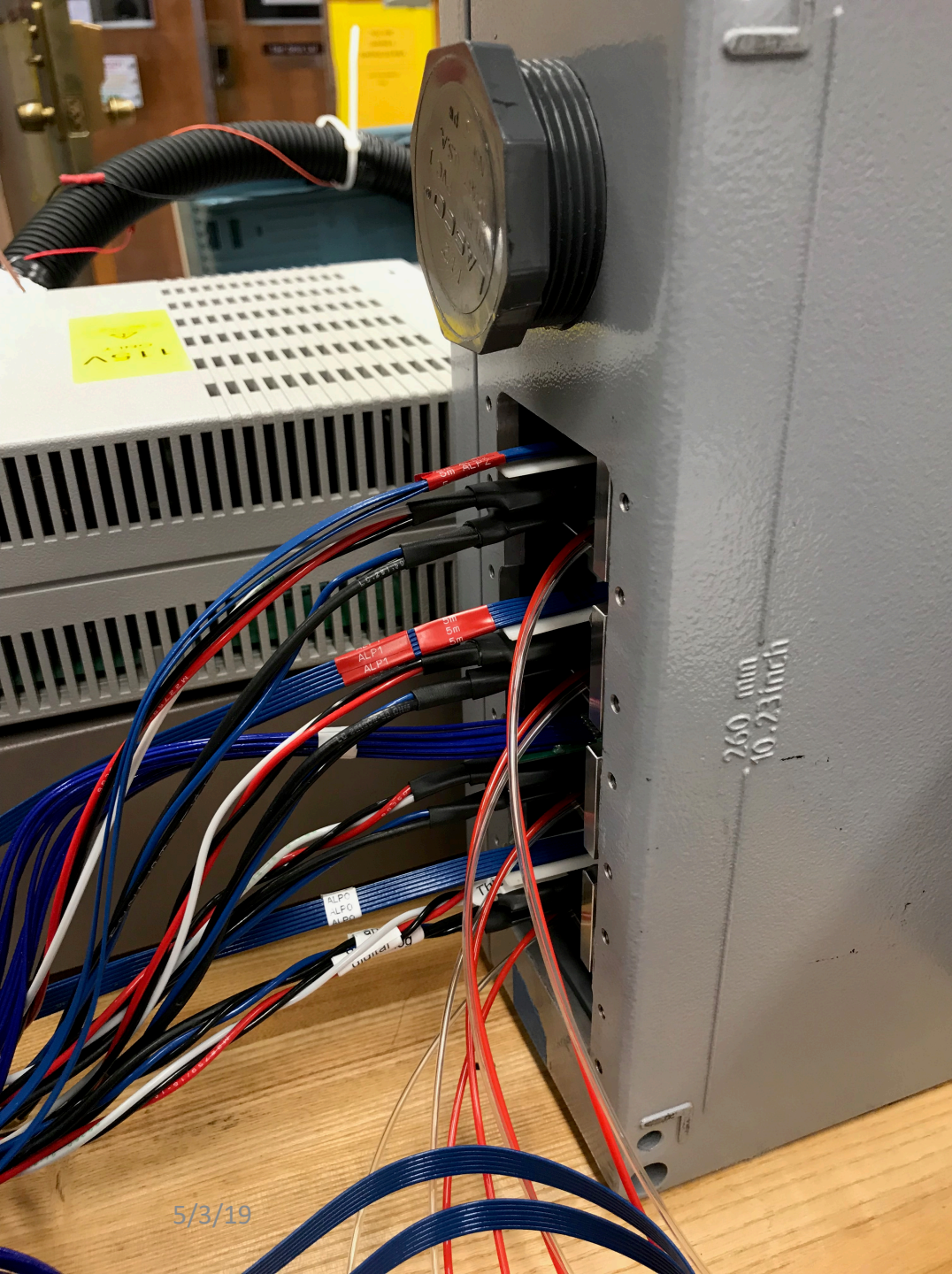
Cosmic Telescope PS
SiPM: 55.53V

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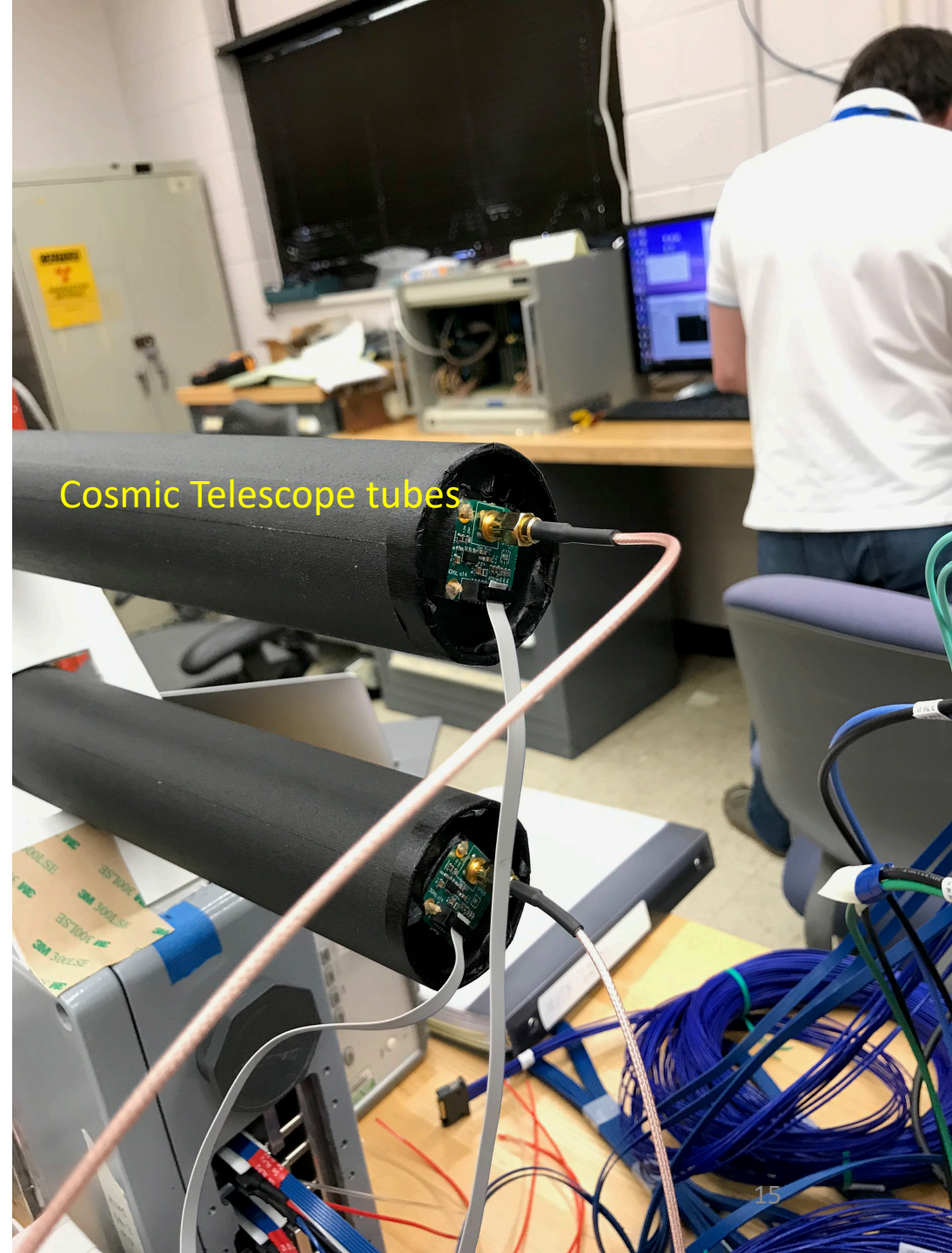
Cosmic Telescope PS
SiPM: 55.53V

MVTX 4-Stage Setup

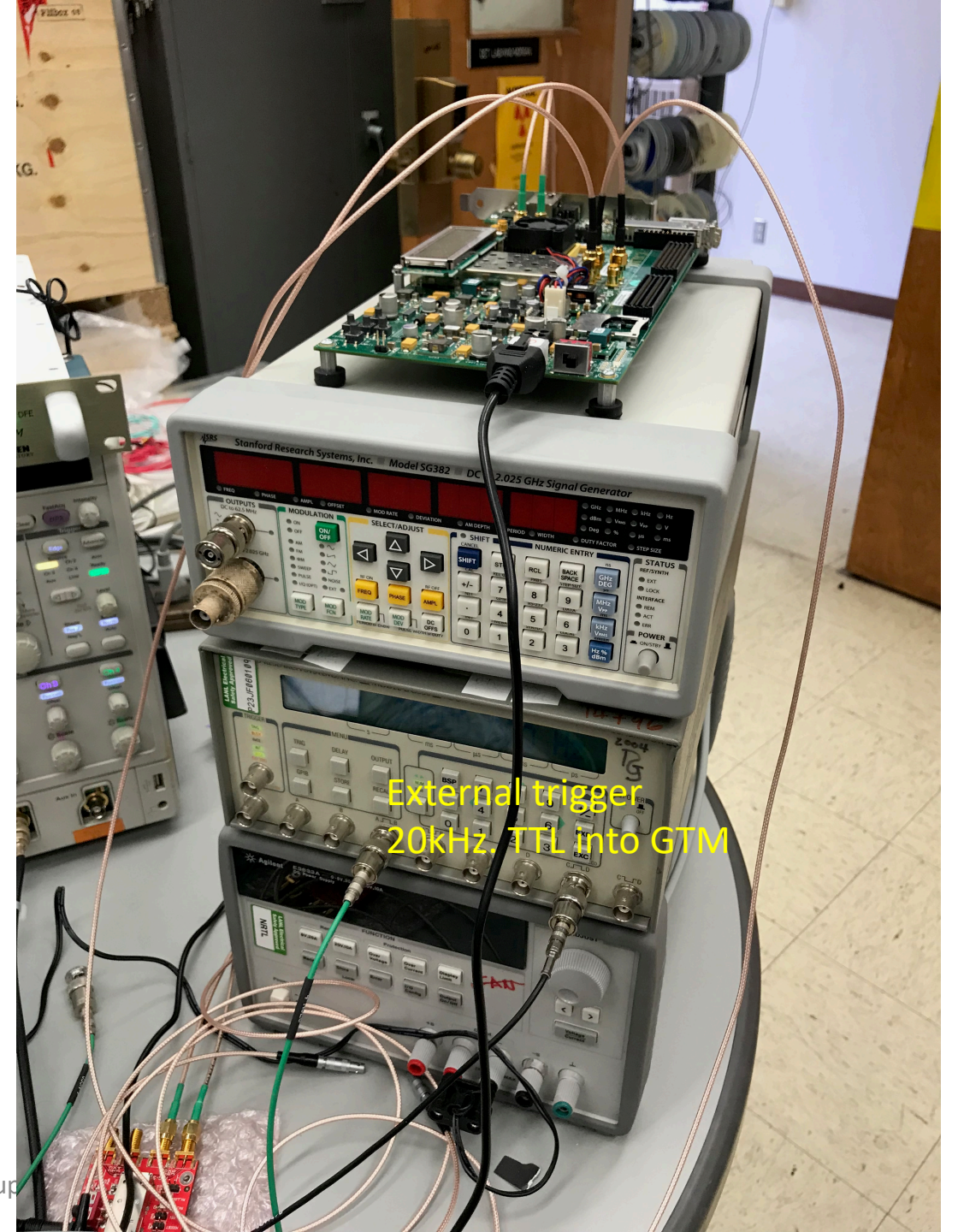
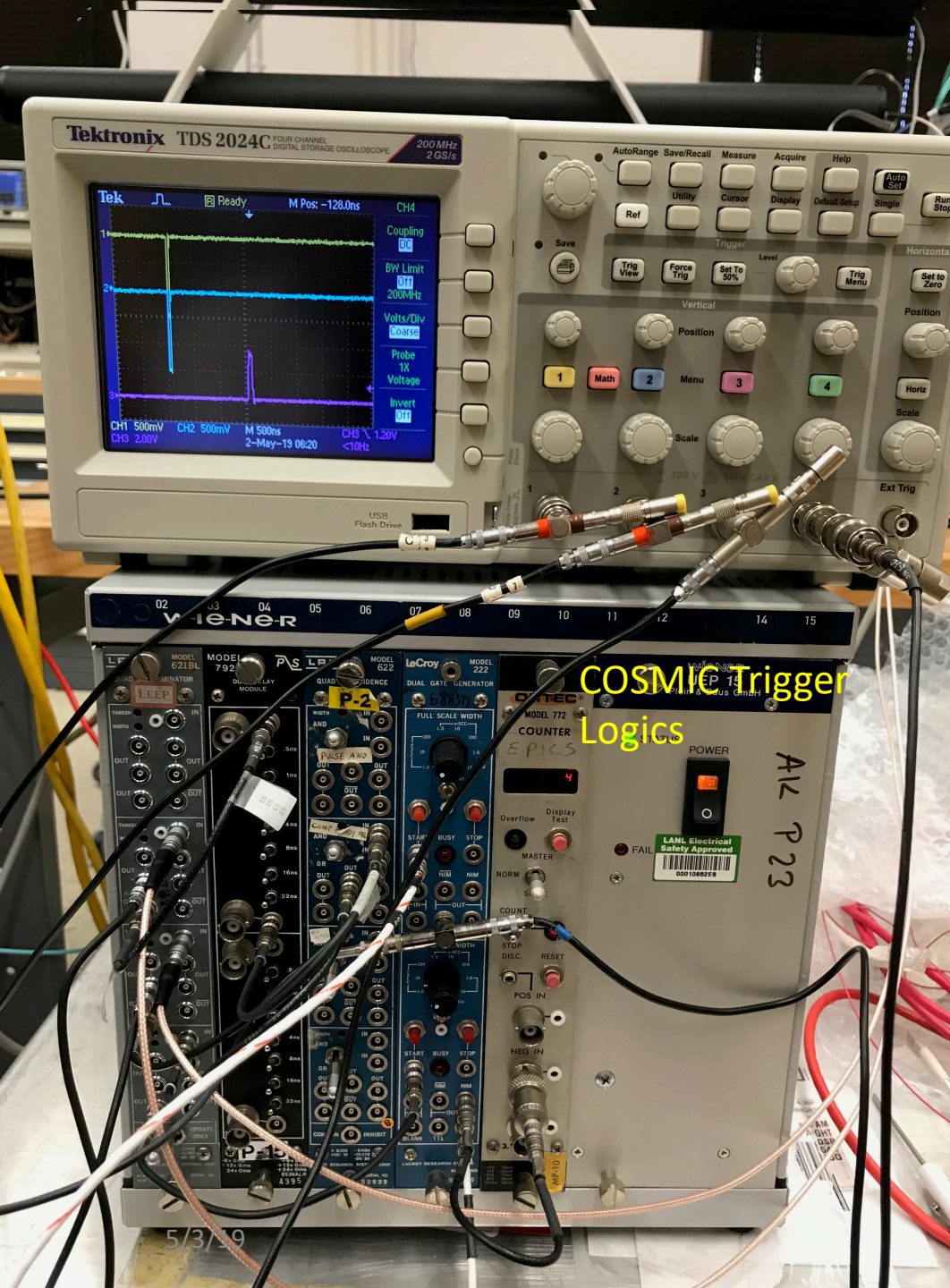


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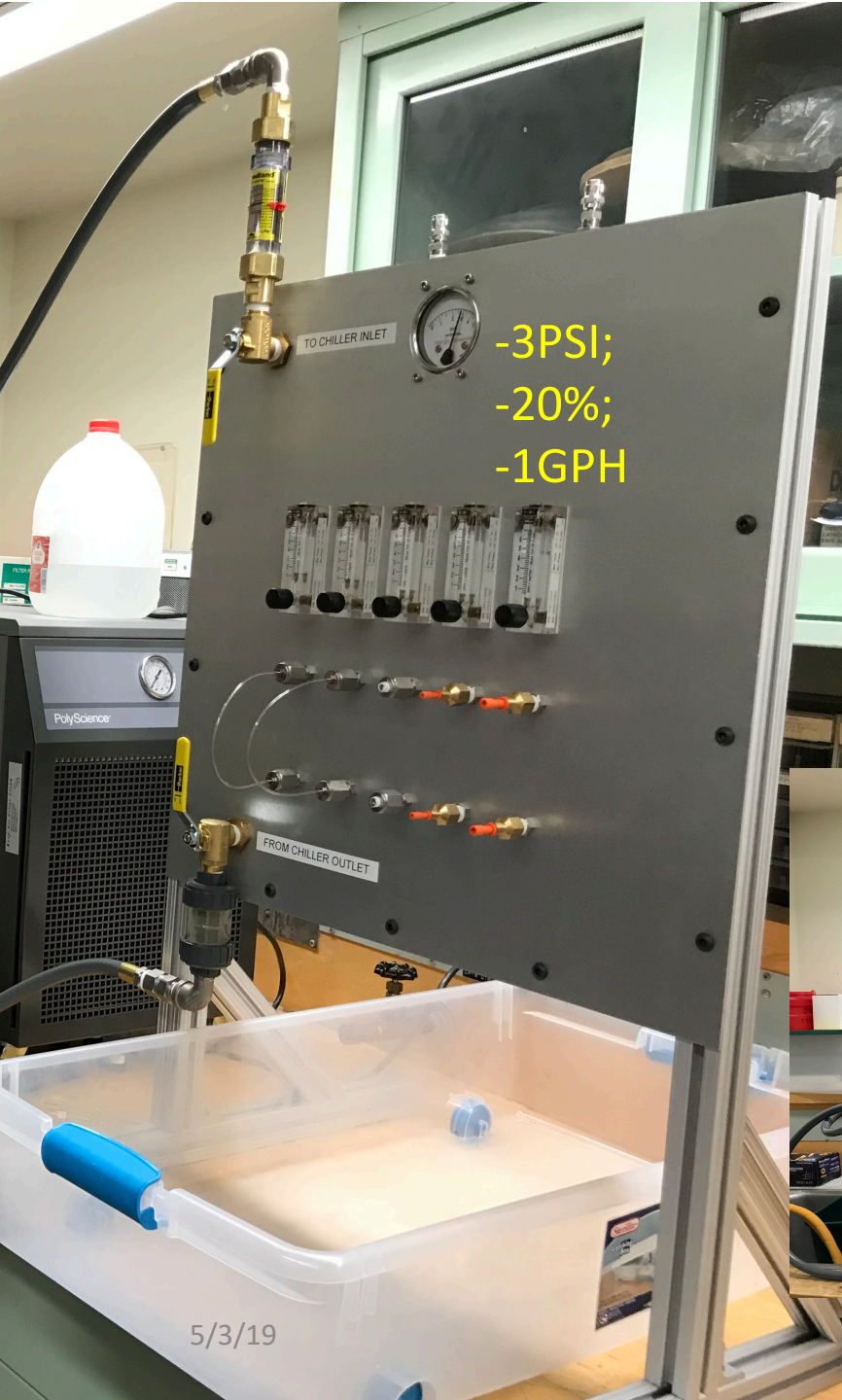
MVTX 4-Stave Setup



Cosmic Telescope tubes



MVTX 4-Stage Setup



-3PSI;
-20%;
-1GPH

Negative pressure
cooling system



MVTX 4-Stave Setup



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