MAPP Electronics Status November 2024

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System Overview

Hardware Requirements

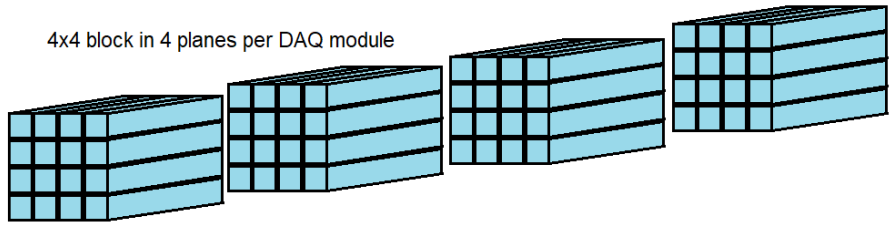
	Ready	MAPP Required	Outrigger Required
PMT	400	400	80
Power supply and base	256	400	80
Amplifier	51	50	10
ADC	30	25	5
Motherboard	5	7	1*
Card cage and backplane	1	1	0*

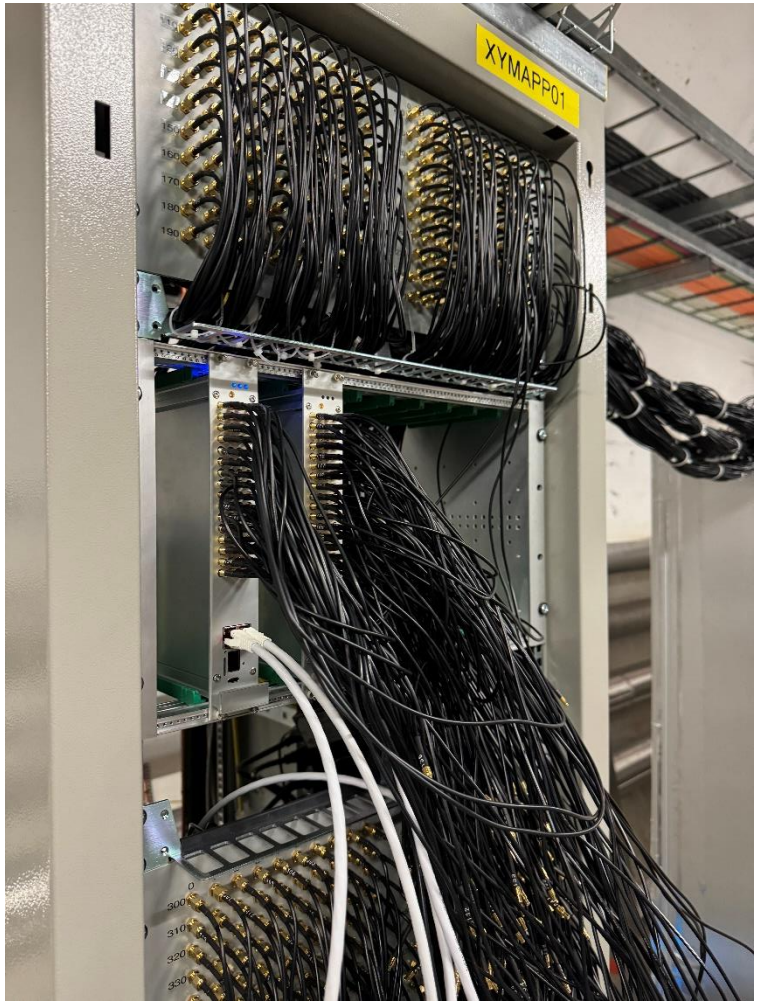
* Increase by 1 if not shared with MAPP

TS2 Activities

- Only 2 days to get all work done
- Card Cage Installed
- Power supplies wired and tested
- Ground bonding added
- 2 DAQ Modules Installed & wired

	DAQ slot2					DAQ slot 4			
3									
4	162	262	362	462		166	266	366	466
5	163	263	363	463		167	267	367	467
6	164	264	364	464		168	268	368	468
7	165	265	365	465		169	269	369	469
8	172	272	372	472		176	276	376	476
9	173	273	373	473		177	277	377	477
10	174	274	374	474		178	278	378	478
11	175	275	375	475		179	279	379	479
12	182	282	382	482		186	286	386	486
13	183	283	383	483		187	287	387	487
14	184	284	384	484		188	288	388	488
15	185	285	385	485		189	289	389	489
16	192	292	392	492		196	296	396	496
17	193	293	393	493		197	297	397	497
18	194	294	394	494		198	298	398	498
19	195	295	395	495		199	299	399	499
20									





DAQ Status

- DAQ Computer accessible
- DAQ boards accessible
- State of health readout functioning
- Working on commissioning with channel readout

Sensor	Current	Min	Max
TEMPERATURE	46.4°C	26.2°C	49.7°C
VCCPAUX	1.801V	1.790V	1.812V
VCCBRAM	0.998V	0.996V	1.001V
VCCPINT	0.998V	0.995V	1.000V
VCCAUX	1.801V	1.790V	1.813V
VCCO_DDR	1.506V	1.503V	1.510V
VCCINT	0.999V	0.996V	1.001V

Software Status

PL (FPGA)	PS (Processor)
✓ Processor Core	✓ Compile and install Linux
■ Motherboard	✓ Device tree for processor hardware
✓ MB SPI bus	✓ Ethernet setup and test
✓ CLOCK MDIO	✓ PHY MDIO device tree
✓ MB I2C Bus	Save MAC address in uboot environment variable
✓ XADC voltage/current readout	✓ SDCARD mount and test
✓ MIO	✓ SROM setup and partitioning
✓ Ethernet	✓ MB I2C
✓ SDCARD	✓ device tree
✓ SROM	✓ modify kernel LED driver
Backplane Signaling	MB SPI
✓ Misc GPIO	✓ device tree
✓ Clock control	Clock driver
✓ PMT power	FE SPI
LHC clock	✓ device tree
Fan Control	ADC configure
■ Front End	FE I2C
✓ Front End SPI AXI	✓ device tree
✓ ADC MDIO	✓ LED driver
✓ Front end I2C AXI	PMT DAC
✓ I2C MUX	Set DAC I2C address
✓ GPIO AXI	Current Monitor ADC
JSED204B	EEPROM & Temperature
Coincidence	TCP/IP config interface
Per channel histograms	TCP/IP data transport
Shared memory interface	

Schedule

Tasks to complete before end of run

- Finish readout software
- Analyze muons from beam and cosmics

Tasks to complete at YETS

- Prep 3 more DAQ modules for installation
- Finish installation of the remainder of bases & PMTs
- Install 6 DAQ modules & cable
- Install temperature sensors
- Install LED pulser cables