

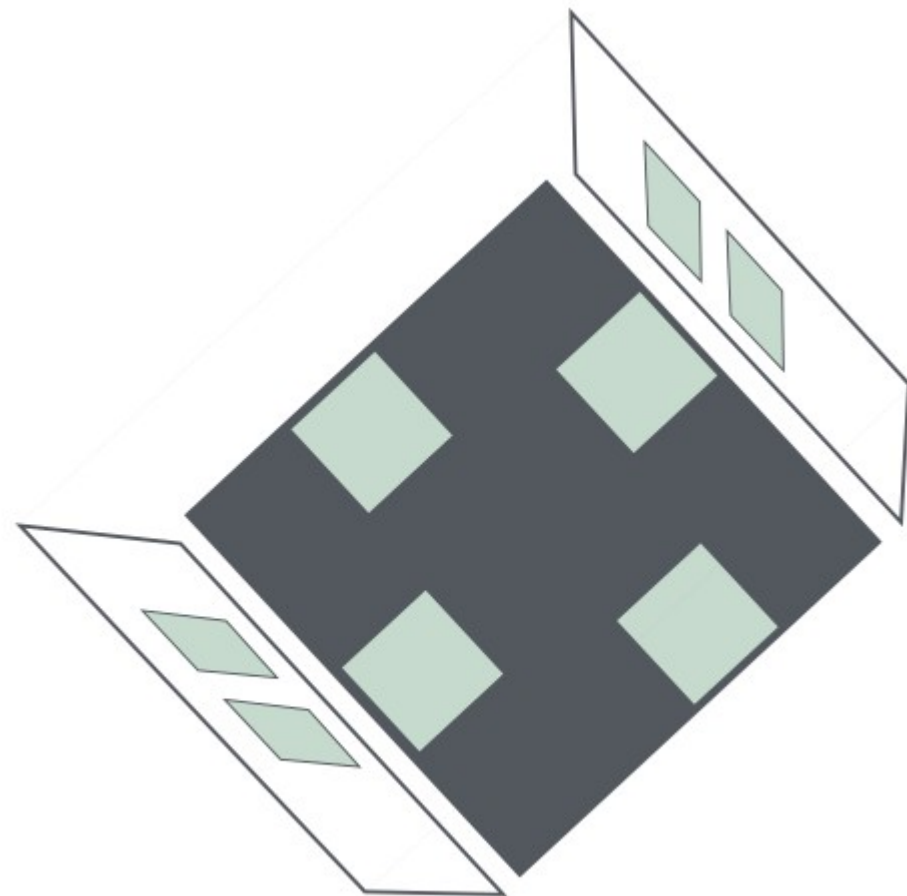
M1-November Inventory

Sabrina Sacerdoti, for coordination team

M0/M1 meeting - 27/09/2024

Plan A: installation october 24?

- 4 cathode modules
 - SoF readout
 - PoF power
 - ~~HPK~~ SiPMs → 1 ½ HPK, 2 FBK
 - ~~Double sided~~ → vikuiti backplane
- 4 membrane **full modules**
 - 2x HD-readout/FBK SiPMs
 - 2x VD-readout/HPK SiPMs
- Schedule:
 - Coldbox closure? (8 Nov? 15 Nov?)
 - Runtime? Feedback from PNS: “not sure useful to run again”?



Inventory: mechanics

- 4x M1-style single sided frames in fabrication → not ordered yet, potentially week of 14/10 and maybe shipped 3/4-assembled (WLS and SiPM @ CERN)
 - 2 membrane and 2 cathode in hand to be refurbished
- 4x cold electronics enclosures **M1 style**: fabrication not confirmed
 - PoF enclosure fabricated for square boxes for now → let B&D know if we move to tapered enclosure
- Support for new membrane setup: fabricated after Jay and Zach evaluate the situation
- Blue cable: 2 to be fabricated at CSU but need to send pinout & length

Inventory: optics

- FBK “small area”:
 - 12 new soldering received in September (4 at Fermilab) → Proposal: **HD modules, 1 old, 1 new.**
 - Old available 8 from M1 16 from M0 (3 full modules)
- FBK “large area” late october... no date confirmaiton yet.
- HPK:
 - 20 flexis arriving 30/09 → could be at CERN ~7/10
 - 8 flexis left from M1
 - Proposal: 2 HPK VD-membrane modules,
- **Proposal of SiPM distribution:**
 - **HD membrane modules: 1 new FBK, 1 old FBK (16 flexis)**
 - **VD membrane modules: 2 HPK (16 new flexis)**
 - **Cathode: 1 HPK, ½ HPK ½ cry of help, 2 FBK**
- WLS:
 - 1x 5.5mm 40mg/kg WLS now at CERN free
 - From M1: 2 in membrane modules, 2 in cathode – one has ptp on it.
 - 6 new in prod? Estimate arrival mid october OK?
- Filters:
 - All modules single sided: 128 filters for top
 - 64 ZAOT Dfilters from Module 1 at CERN
 - 16 ZAOT Dfilters with Carla
 - ptp glass: 105 coated at CERN, 64 to be used in ProtoDUNE → there should be 41 available
 - CIEMAT provides 8 missing glass substrates, hand carried week of 7/10

Inventory: membrane electronics

- HD-style readout for 4 membrane channels:
 - 4 cold amplifiers (one needs the tuning?) + 1 DMEM in hand
 - Readout 2 channels per board → 2 electronic boxes
 - Warm stage to be tested?
- VD-style readout for 4 membrane channels:
 - 2 boards available (1 not populated) BUT 2022 version
 - New version still in design this week.. probably not ready.
 - New warm stage in dev.
- White cables:
 - 2 new membrane modules: 8 short, 8 long
 - 2 membrane going from 4 to 8 flexis: 8 long
 - 2 new cathode modules: 8 short and 8 long
 - In hand if needed: 16 'long, M0'

Inventory cathode electronics

- 4 SOF readout boards:
 - 4 DCEM v1.31 → in hand. 4 at APC, N at Fermilab
 - 4 laser adapter 2 stage → in hand at APC and Fermilab
 - 8 lasers → in hand. use TalBO spares or new ones at APC
 - 4 DCDC → need new? (and what voltage) → need to produce (\$)
- Fibers: current ones in good state, but
 - Potential to install all continuous fibers like in C1?
 - Long fibers for 3 modules (12 + spares)
 - Change of flange?
- PoF
 - 16 OPCs (4 OPC boards) → available from M1 plus other spares around.
 - 4x PoF enclosure: no enclosure used before. Need new ones... compatible with existing PCBs?

Warm electronics

- SoF:
 - 1x DAPHNES V2 (previous runs showed cathode and membrane can't share, noise issues weren't understood)
 - Cathode needs 4 AFE (2 channels per AFE limitation)
 - >4x 2-channel SoF receivers available (now 5 at APC, 1 Milano, 1 Fermi?) - CSU one not available
 - Goal to do a first test of 8-channel receiver → requires new board fabrication and large modification of one AFE – never done before.
 - Proposal: Milano DAPHNE as usual
- Membrane:
 - 1x DAPHNE v2.
 - 2x warm side card for VD-style?
 -