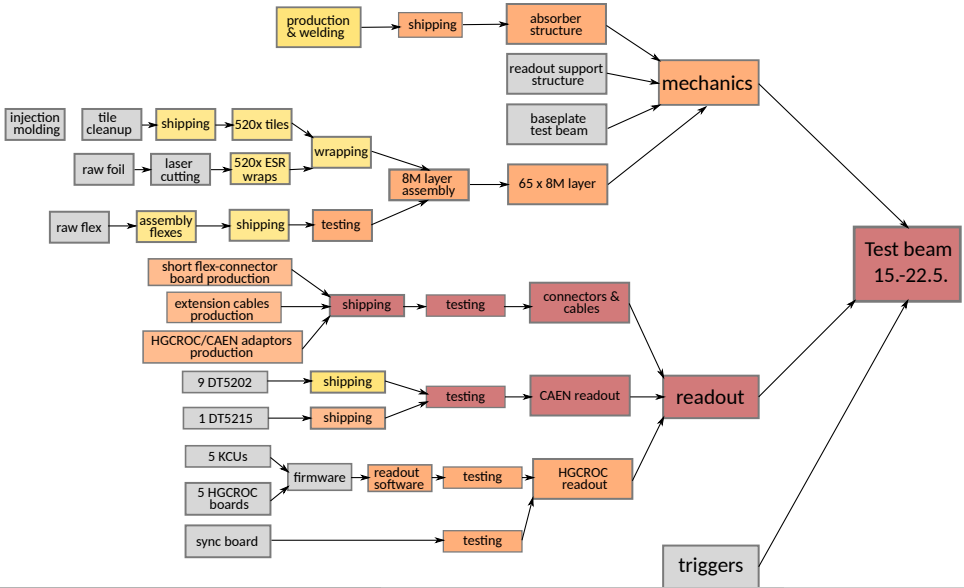
TB preparation status

April 24, 2024

TB preparations: Where we stand today



Absorber Structure

- Components confirmed & produced
- Welding scheduled for 29th/30th April
  - What if not successful?
- Shipping initial planned to ORNL & measurements at leading edge & ORNL
- Could be shipped to CERN directly
  - Time estimate?/ risk of delay
  - No prior confirmation of correct assembly besides vendor
  - Additional export costs

8M layer assemblies

- Tile production & wrapping
  - Newly produced tiles with correct dimensions in transit from Fermilab to ORNL
  - ESR foil cutting working, but delayed until reception of tiles
- Flex boards
  - Board couldn't be assembled at ORNL, sent to Hungary for assembly
  - Production this week & shipped partially to ORNL & CERN
  - Very little time for testing of boards shipped to ORNL, none at CERN
    - ⋆ No time if fixes necessary
- Full 8M layer assembly would need to happen at CERN 12th-14th May

Connectors & Cables

- Production of short flex-connector, cables & HGCROC/CAEN adapter delayed till May 2nd
  only learned today
- Would need partial shipping to CERN & ORNL
  - 1 full set for testing at ORNL
  - 9 to CERN
- Nearly no time for testing at ORNL in full setup
  - If one component fails no readout available
  - No time for fixes

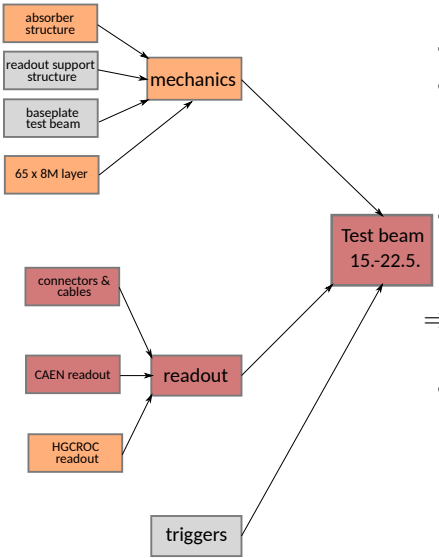
CAEN read-out

- Total 10 CAEN units identified which could be used (4 FoCal-H, 2 ORNL, 1 Yale, 3 ordered, 1 Valpo)
  - 3 ordered from CAEN would arrive just in time
  - At least 5 different firmware versions among CAEN units, never tested running with so many versions
- CAEN promised Concentrator unit (DT5215) for evaluation
  - No shipping info received
  - Unable to test full planned readout system at ORNL
- Know & currently seen problems with CAEN software in particular with sync of multiple units
  - Newer firmware seems more susceptible to problems

HGCROC read-out

- 5 KCUs availbale & 5 HGCROC boards produced
  - HGCROC boards being tested
- Firmware written and largely tested
- Readout software programming in progress
- Syncronization board produced
  - untested
- Unable to test full planned HGCROC-readout system at ORNL/Debrezen

Summary



- Mechanical components risky
- Read-out:
  - Connectors & cables very risky
  - CAEN readout very risky
  - HGCROC readout risky
- Full system test prior to TB not possible
  - Expected out-come too uncertain to proceed at given cost

⇒ **LFHCal TB postponed to existing August time-slot at PS-T09 beam line**

- HGCROC tests at CERN moving forward with FoCal-H TB at SPS 22nd-28th May
  - Large participation from European groups (Debrezen, IJCLab, Copenhagen) & ORNL