

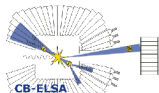
The OLYMPUS experiment

Drift chamber readout

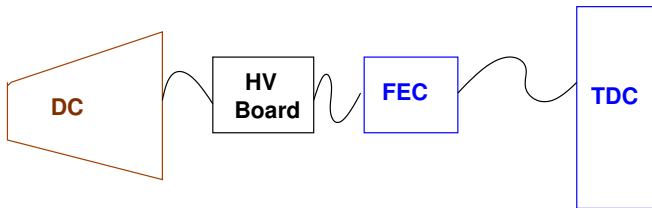
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28th of June 2010

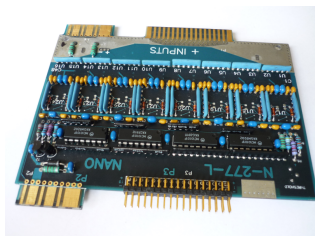


DC readout



- HV boards: HV supply & signal decoupling
- FEC: PreAmp, discriminator, output driver

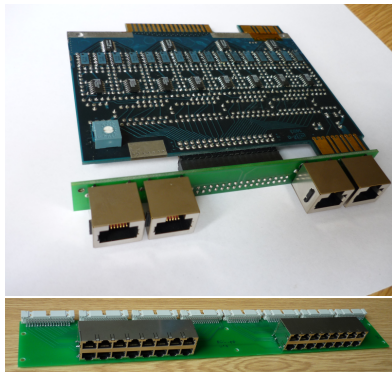
Front end card



N-277-L discriminator card

- 16 channels
- Preamplifier
- Common threshold discriminator
- ECL output driver
- Power consumption **5.5 W/FEC**

Signal transmission



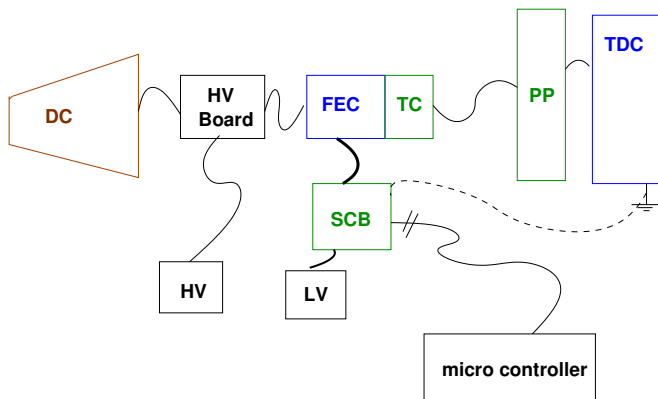
- CAT5e cables
- Pinheader (FEC) to RJ-45
- RJ-45 to Pinheader (TDC)
- Cable length $\lesssim 30$ m ✓

Low voltage and slow control

Slow control board (SCB)

- Supply 8 FEC with +5 V, 0 V, -5 V
- Monitor voltages and currents
- Set discriminator thresholds per FEC
- Generate test pulses
- Controlled by I²C remotely

Grounding scheme



GND fixed at TDC (electronics rack)

Status and Todo

Done

- Design of readout and grounding scheme
- Planning of slow control
- Test of transmission circuits
- Cooling optimized mechanical design

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To do

- Design SCB
- Manufacture & test all parts
- Assembly and commissioning