

# Main characteristics of JLab discriminator

- 16 Channel discriminator each channel is splitted into 2 Independent channels with separate
  - Thresholds ( -1023 to 0 mV )
  - Pulse width ( 4 to 40 ns )
  - Delays ( 0 to 1016 ns with 8ns steps )
- Scalers (125 MHz)
  - Gated (Ext. NIM), Ungated (100% gated)
  - Trigger, TDC (dECL output)

# EPICS driver desired requirements

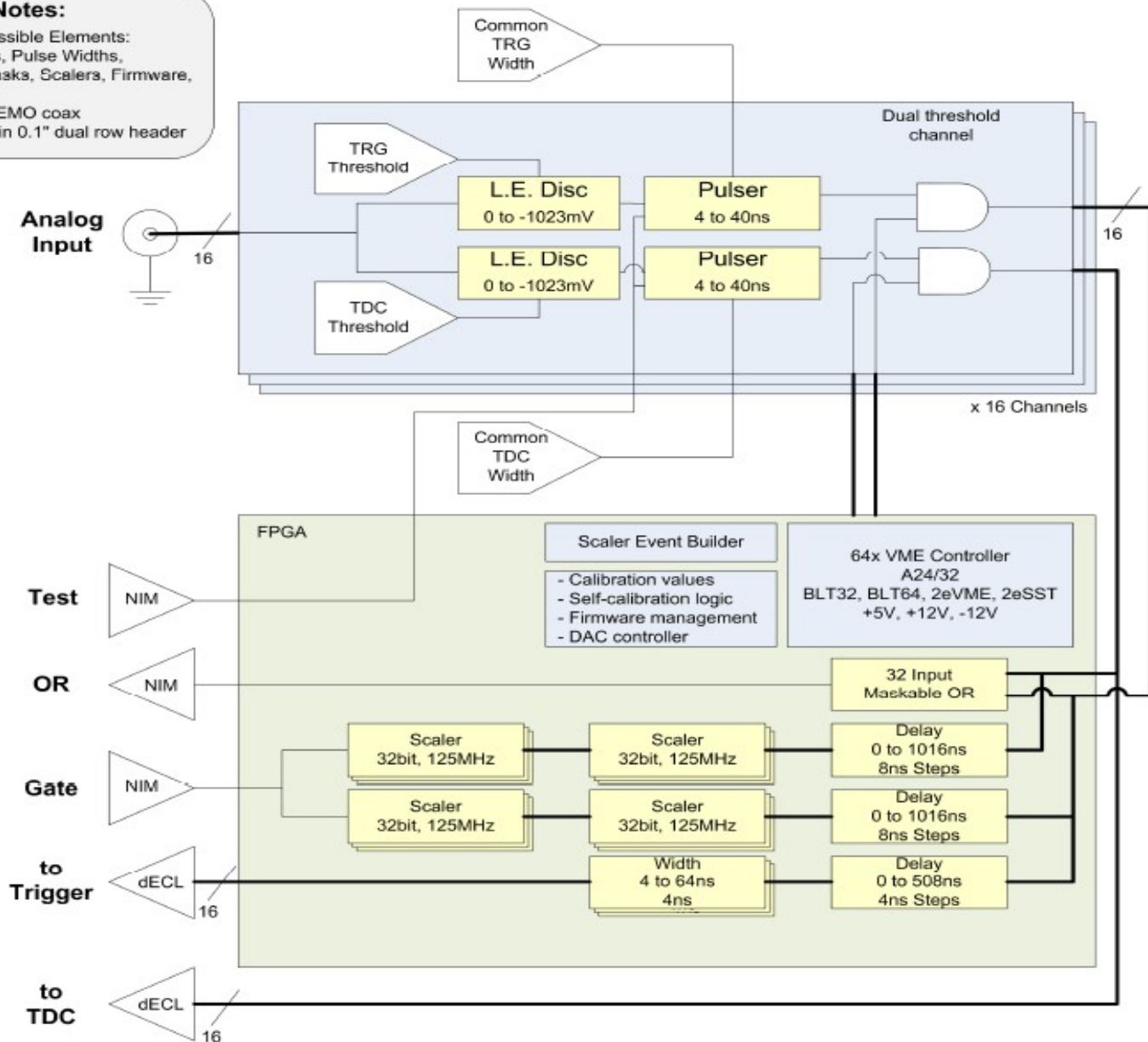
- Set and monitor at  $\sim 2$  Hz the
  - Thresholds
  - Pulse widths
  - Delays
- Read scalers at 1 kHz
  - Set scaler configuration parameters like FIFO length, sampling time, etc..

**NB: This should be done without interfering DAQ**

## Discriminator/Scaler Block Diagram

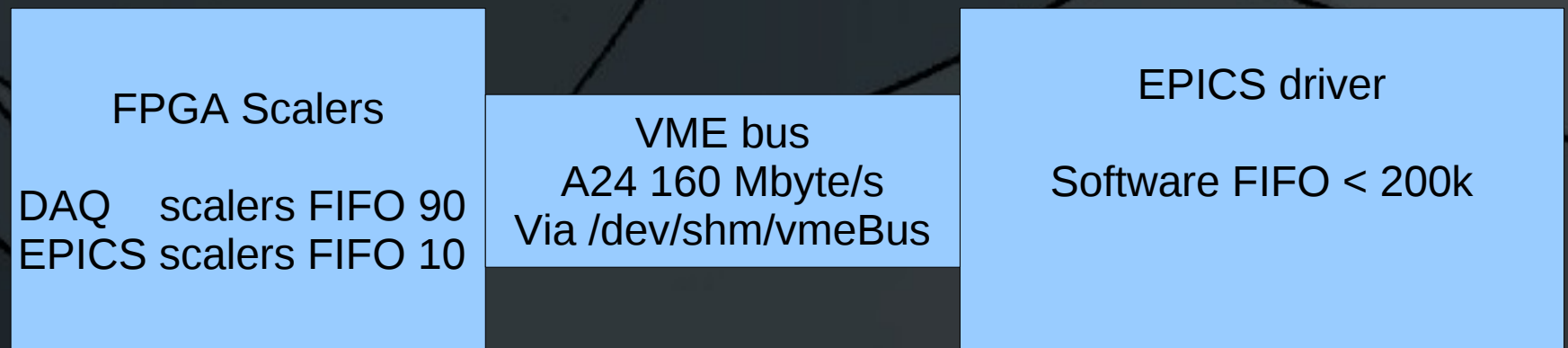
### General Notes:

- 1) VME Accessible Elements:  
Thresholds, Pulse Widths,  
Delays, Masks, Scalers, Firmware,  
Calibration
- 2) NIM I/O: LEMO coax
- 3) dECL: 34pin 0.1" dual row header



- EPICS driver implementation schemes

New firmware with additional scalers for EPICS



- New firmware with snapshots of scalers

