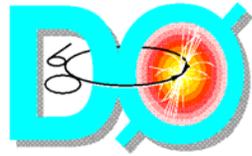


The RunII

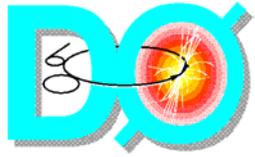


Calorimeter

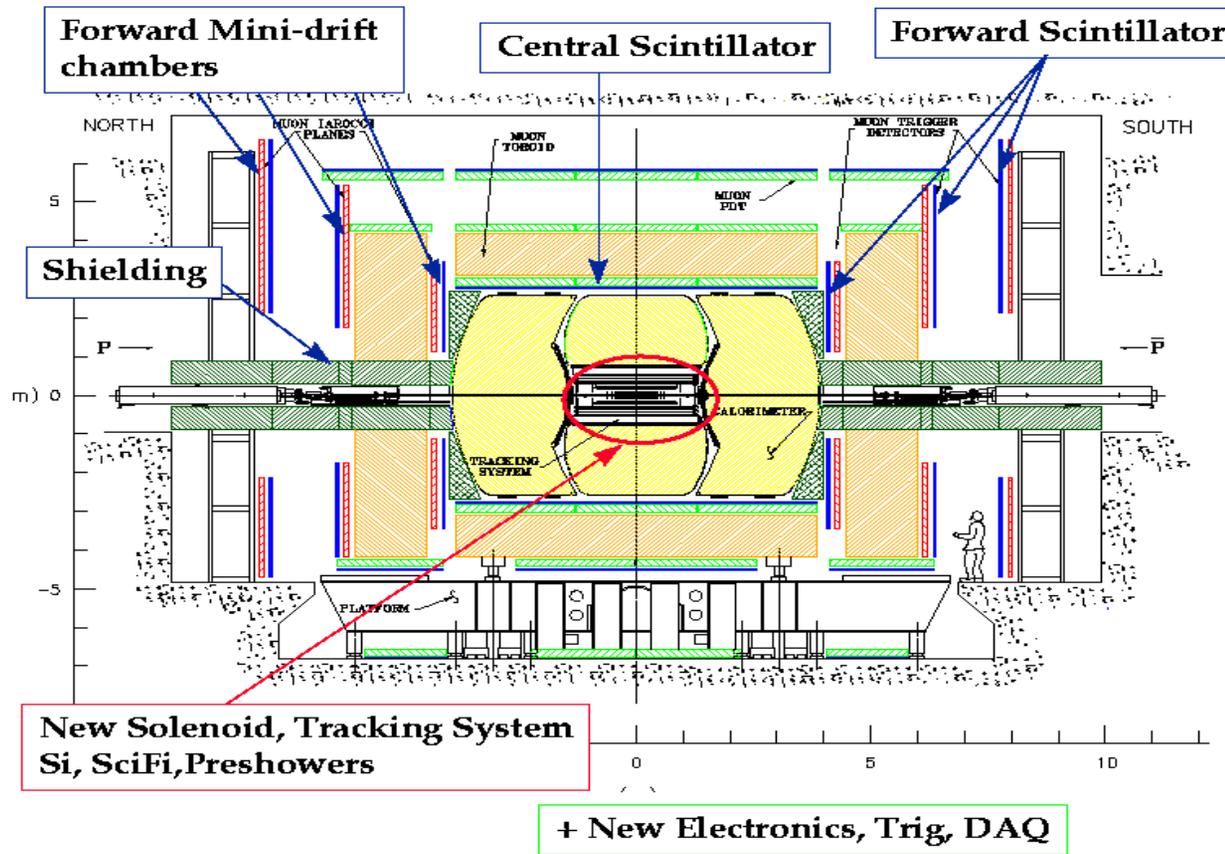
**Nirmalya Parua
(For the Calorimeter Group)**

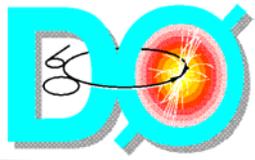
**Cal-Muo Shifter's Tutorial
June 4, 2003**

- Overview Of the D0 Calorimeter
- Shifter's task



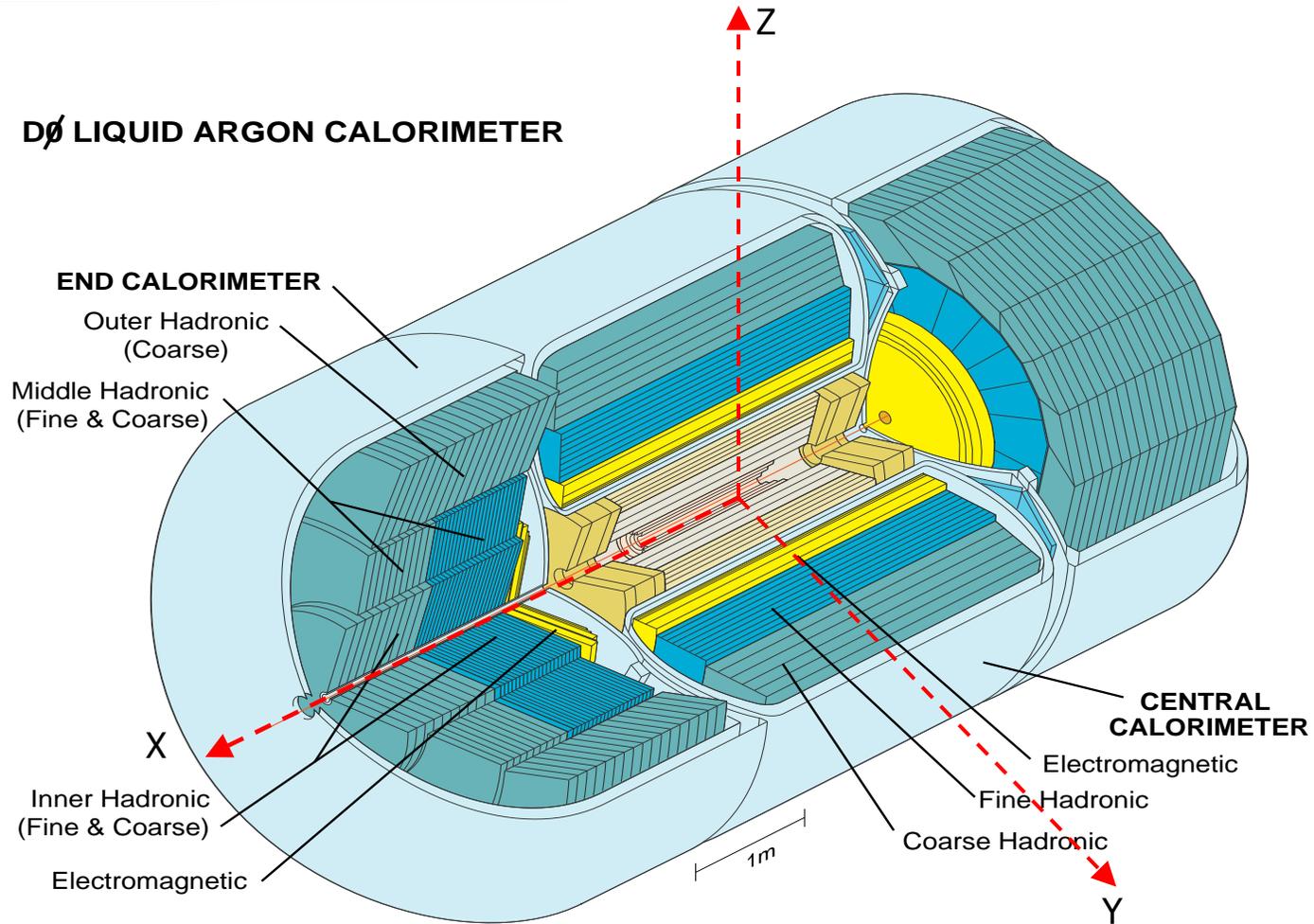
Overview of Detector

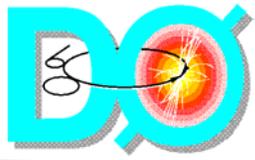




Calorimeter Overview

DØ LIQUID ARGON CALORIMETER





Overview of the Calorimeter

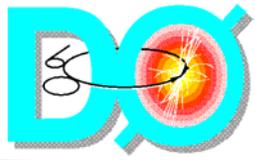
- **Liquid argon sampling**
 - Stable, uniform response, rad. hard, fine spatial seg.
 - LAr purity important
- **Uranium absorber (Cu or Steel for coarse hadronic)**
 - Compensating $e/\pi \sim 1$, dense \Rightarrow compact
- **Uniform, hermetic with full coverage**
 - $|\eta| < 4.2$ ($\theta \approx 2^\circ$), $\lambda_{\text{int}} > 7.2$ (total)
- **Energy Resolution**
 - $e: \sigma_E / E = 15\% / \sqrt{E} + 0.3\%$ $\pi: \sigma_E / E = 45\% / \sqrt{E} + 4\%$ (RunI numbers, RunII is somewhat worse now, and we don't have the final result)

For more details

The D0 Detector ("The NIM paper")

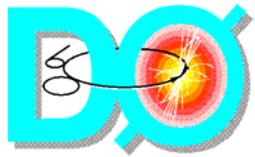
Nucl. Instr. and Methods, A338, 185 (1994)

FERMILAB-PUB-93/179-E PS

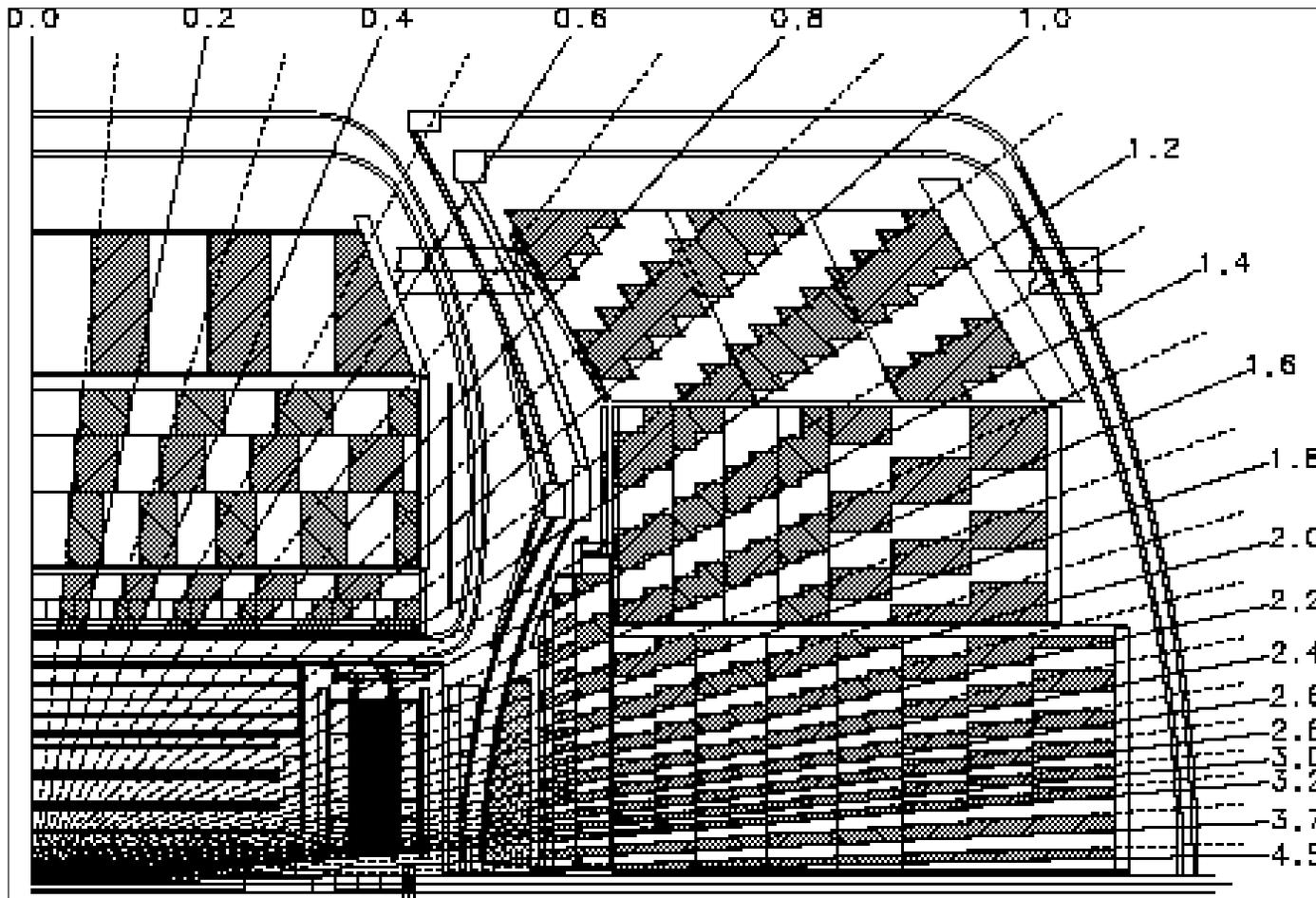


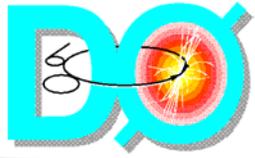
Overview of the Calorimeter





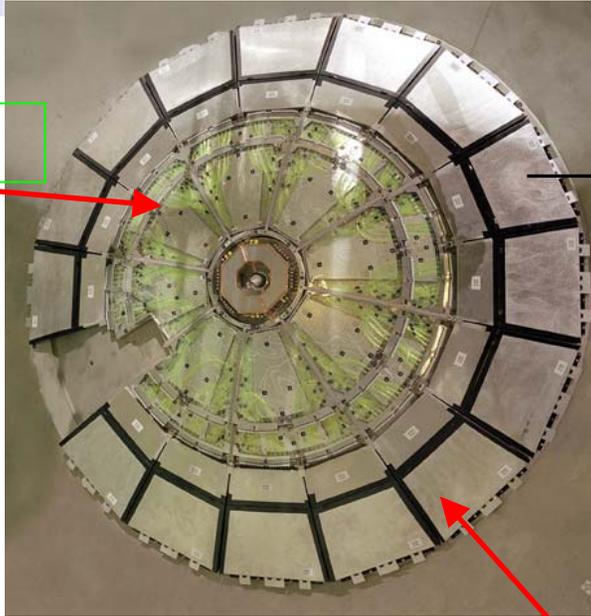
Overview of the Calorimeter



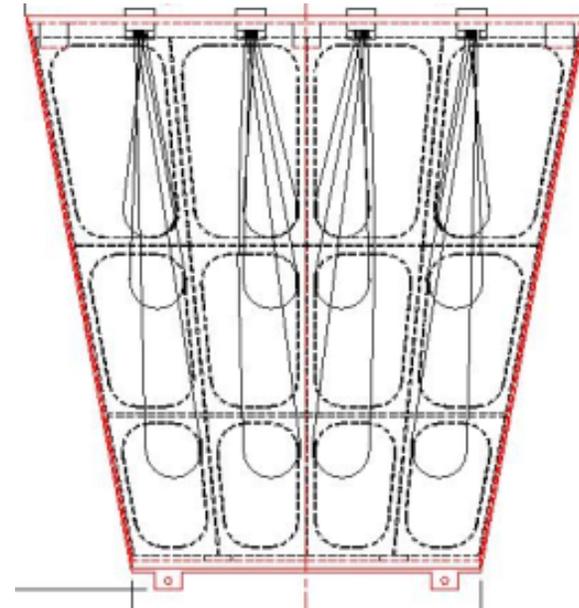


Intercryostat Detector (ICD)

FPS

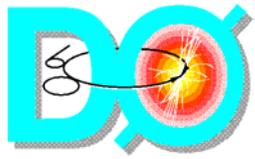


ICD

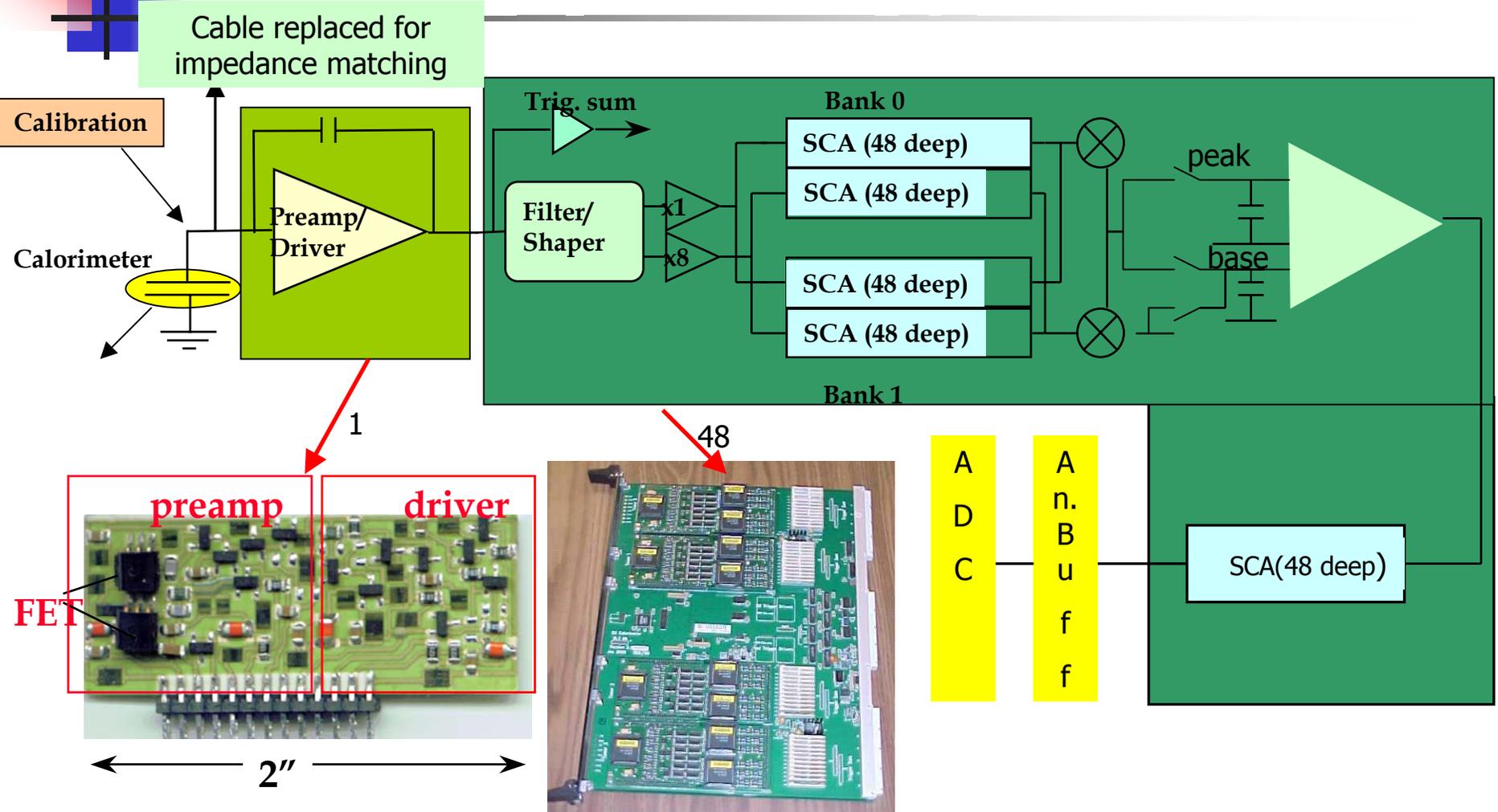


- Design

- ◆ Scintillator based with phototube readout .
- ◆ 16 *supertile* modules per cryostat with a total of 384 scintillator tiles
- ◆ WLS fiber readout of scintillator tiles
- ◆ Clear fiber light piping to region of low field ~40-50% signal loss over 5-6m fiber.
- ◆ Readout/calibration scheme for electronics similar as for L. Ar. Calorimeter .



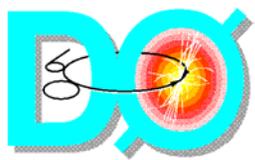
Readout



55k readout channels

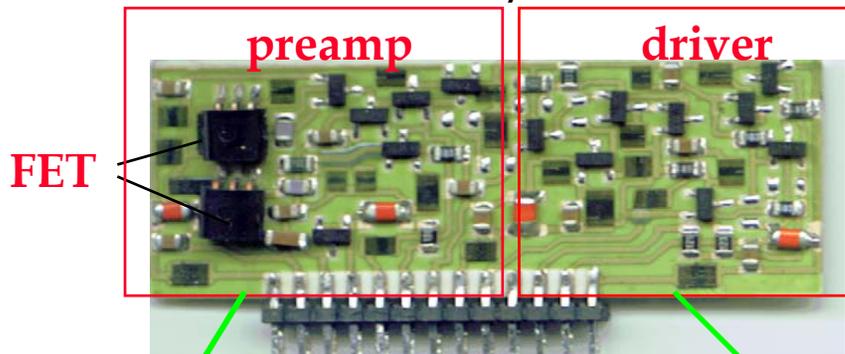
June 4, 2003

Nirmalya Parua

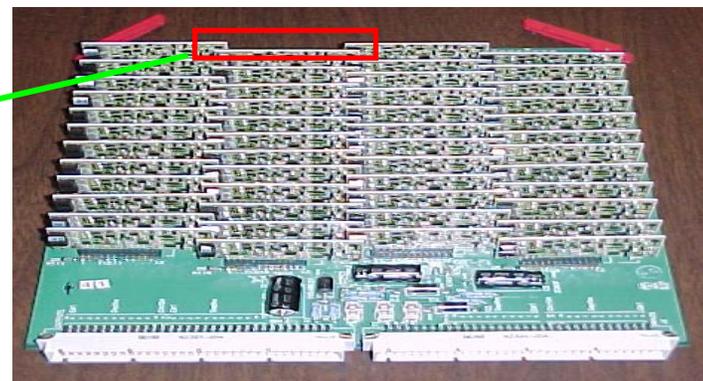


Preamplifier

55296 hybrids



1152 boards

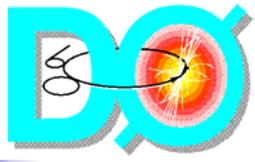


- Dual FET Frontend
- Compensation for Det. Cap.
- Faster Recovery Time

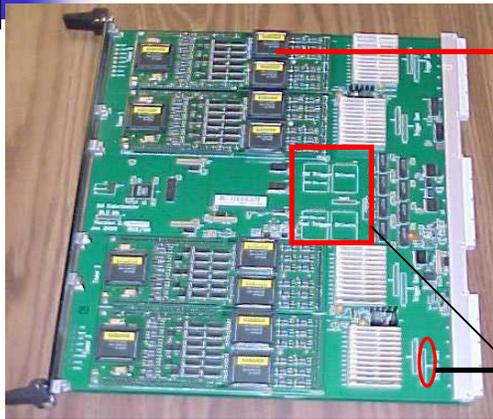
New output Driver for terminated signal

New calorimeter preamp

- Hybrid on ceramic
- 48 preamps on a motherboard
- New low-noise switching power supplies in steel box



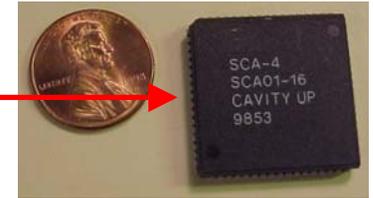
Base Line Subtractor (BLS)



1152 BLS boards



4608 SCA cards



23440 SCAs

Trig Summers
Trigger
summers/Drivers

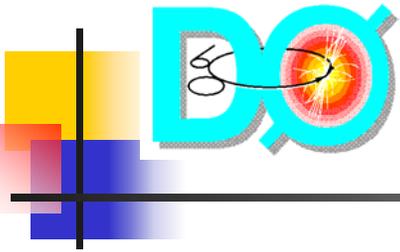


ADC's have 12 bit dynamic range. To achieve 15 bit dynamic range SCAs have low and high gain path for each readout channels (X8/X1)

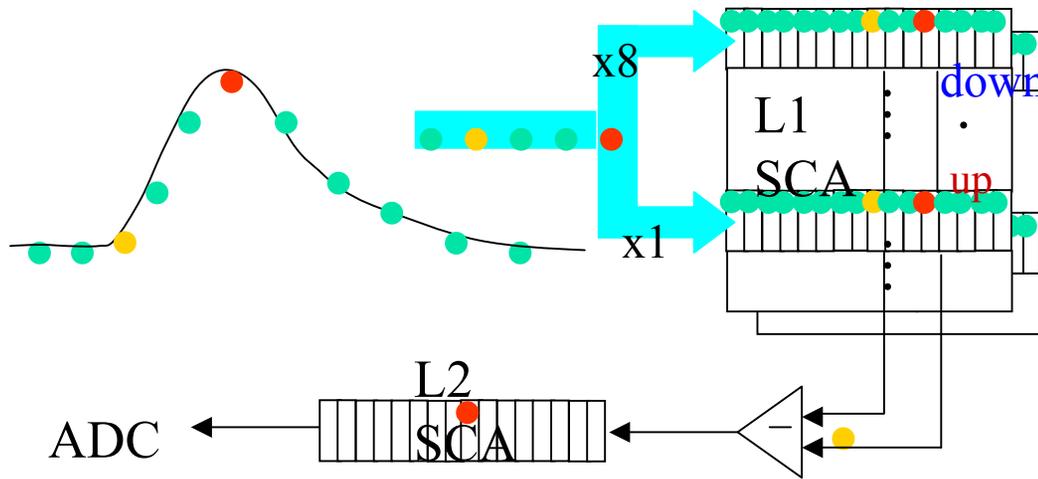
SCAs are not designed for simultaneous read/write operations. Two banks of SCAs, upper and lower (can't see in the picture), for alternate read/write operation.

Readout time $\sim 6 \mu\text{s}$ (length of SCA buffers $132 \times 46 > 6 \mu\text{s}$).

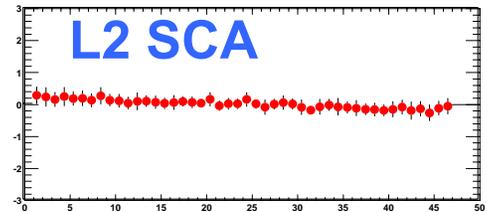
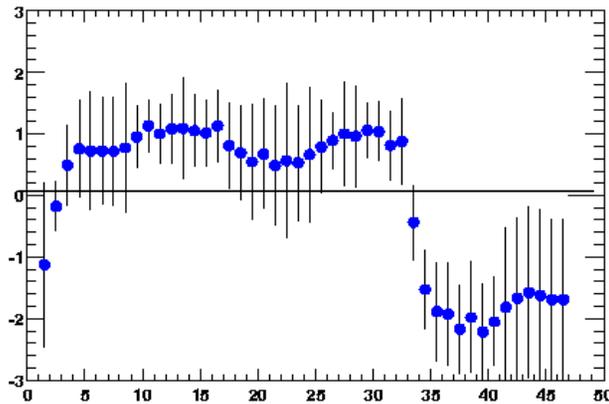
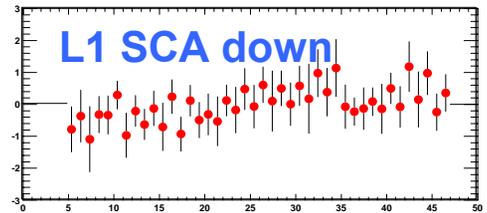
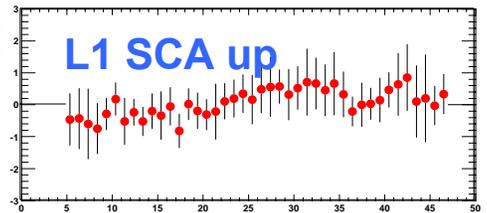
Trigger tower formation 0.2×0.2 for Level 1.

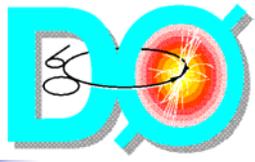


More on SCA's

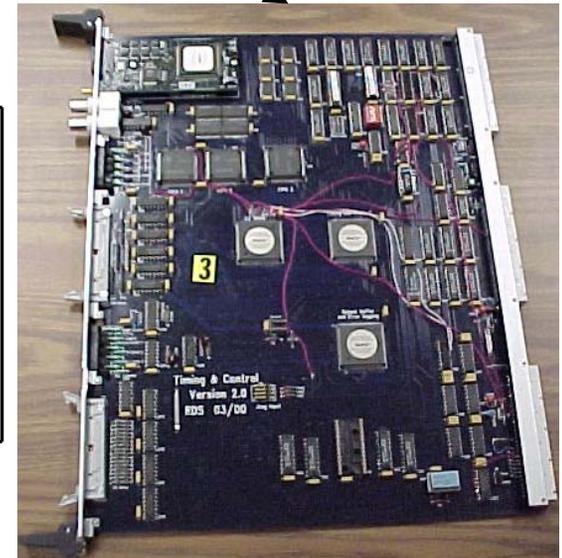
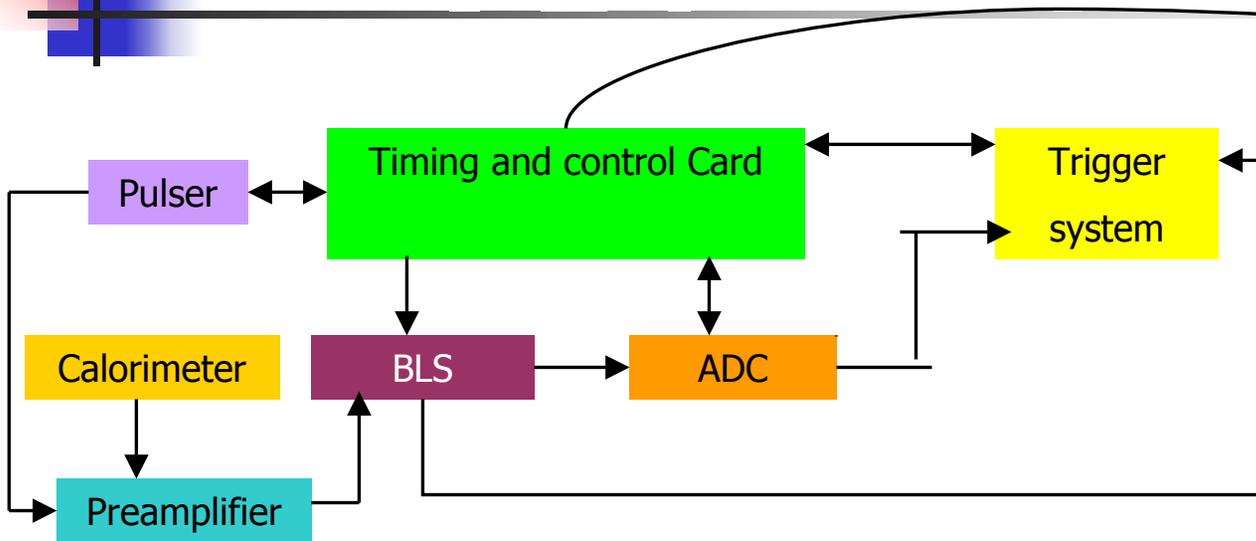


ADC counts



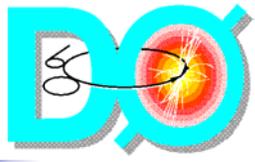


T&C cards



12 T&C boards and 1 controller board is used

- Receives trigger, accelerator, clock information
- Samples BLS shapers at the signal peak and base.
- Keeps track of the memory location of crossings.
- Generates busy signal when system is not ready.
- Coordinates pulser calibration.



General

DO Muon System Group Homepage - Microsoft Internet Explorer

Address: <http://www-d0online.fnal.gov/www/groups/calmuo/>

calorimeter muon shift instructions

- experts on-call
- shift schedule
- useful links

examine programs
electronic logbook
cal & muo run checklist

cal muo

calorimeter menu

- calorimeter main page
- calorimeter shifter's guide
- Frequently Asked Questions
- video tutorials (2 * 26min)

| | | |
|----------------------------|--|---|
| at the begin of a store | <ul style="list-style-type: none">Download cal_prepare_for_run trigger, then free the trigger and tell the captain and the DAQ shifter that the calorimeter can be included in the global runverify that the pulsers are off (ICD: p. 13, CAL: p. 44) | <ul style="list-style-type: none">after the shift captain has informed you that the store scraping is completed: ramp all Muon high voltages to 100% (full) - a description of the HV GUI is here |
| at the begin of a new run | <ul style="list-style-type: none">check that there are no alarms | <ul style="list-style-type: none">check on the "COORMON" window that the run has started and is collecting eventsstart to fill out the run checklist for the new run |
| while a run is in progress | <ul style="list-style-type: none">start "cal_examine" and the "histo" programstart L1Cal_examine and the "histo" program | <ul style="list-style-type: none">start "muo_examine" and the "histo" programs |
| | <ul style="list-style-type: none">monitor the alarm display and take actions accordinglycheck detector operation in cal_examine, L1cal_examine and muo_examinemonitor the resource monitors for all subsystemsput observations into the logbook | |
| | <ul style="list-style-type: none">monitor hot cellskill hot cells using the HotCellKiller (p. 45) | |

Logbook | DO Online | DO Home | Fermilab

Security | Privacy | Legal

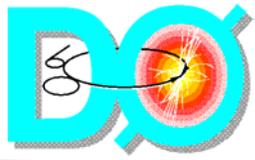
Calorimeter group Web page

Shifter's corner:

- Calorimeter Checklist: in Shifters Manual - goto page 118
- Today's tasks list
- Access
- Current PowerSupply Status
- Calorimeter Shifter's Guide: Word format , pdf, html - courtesy Mike Tuts
- Calorimeter Shifter Schedule
- Calorimeter Run Database (for all Facilities: Explore request) - courtesy Mike Tuts
- Calorimeter Group Task Lists
- Current Task List
- Instructions, etc:

Contributors:

- Last 72 hours of CAG - log - Last week - 2 weeks
- Current Shifters: for the Run and 2 weeks before the Calorimeter Status
- CAG Check Sheet
- Calorimeter L1Cal Examine and Muo Examine
- Current Information



Shifter's task

General:

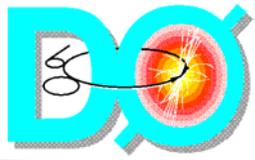
Locate the monitors and orient yourself.

Open/login to the electronic logbook

Recognize/start all calorimeter monitoring GUIs

Fill out the checklist in a timely manner.

Make sure archiver is running



Shifter's task

>start_cal alarm

| Group Name | MAJOR | MINOR | INVALID | ACKED | DISABLED | GOOD |
|-------------------------|-------|-------|---------|-------|----------|------|
| CAL Preamp | 0 | 10 | 0 | 0 | 3 | 1 |
| CAL BLS | 0 | 7 | 0 | 0 | 5 | 2 |
| CAL ADC | 0 | 1 | 0 | 0 | 0 | 0 |
| CAL HV | 0 | 0 | 0 | 0 | 27 | 0 |
| CAL MCH Protection | 0 | 0 | 0 | 0 | 0 | 0 |
| CAL Platform Protection | 0 | 0 | 0 | 0 | 4 | 0 |
| CAL Controls | 0 | 0 | 1 | 0 | 0 | 0 |

Status: Connection to server started

CAL Preamp:Minor Alarms

- CALC_CMCP_PA02/XTEMP
- CALC_CMCP_PA02/XTEMP
- CALC_CMCP_PA03/XTEMP
- CALC_CMCP_PA03/XTEMP
- CALC_CMCP_PA09/RT
- CALC_CMCP_PA09/XTEMP
- CALN_LVCP_PA00S/8VD
- CALS_LVCP_PA07S/DB1T
- ICD_LVCP_PW09/12VA
- ICD_LVCP_PW09/8VF

SHOW

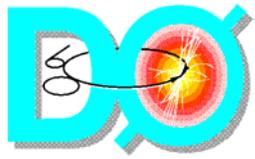
ACK

ACK ALL

DISABLE

DISABLE ALL

CLOSE



Shifter's task

>start_cal global

Calorimeter Global Monitor Display

File View Help

Global

| Device | Preamp | PA Tmp | BLS | Pulser | ADC |
|----------|---------|--------|-----|--------|-----|
| EC North | | | | | |
| Crate 00 | 0x40 NW | | | | |
| Crate 01 | 0x41 SW | | | | |
| Crate 10 | 0x4A SE | | | | |
| Crate 11 | 0x48 NE | | | | |
| CC | | | | | |
| Crate 02 | 0x42 NW | | | | |
| Crate 03 | 0x43 SW | | | | |
| Crate 08 | 0x48 SE | | | | |
| Crate 09 | 0x49 NE | | | | |
| EC | | | | | |
| Crate 04 | 0x44 NW | | | | |
| Crate 05 | 0x45 SW | | | | |
| Crate 06 | 0x46 SE | | | | |
| Crate 07 | 0x47 NE | | | | |
| ICD | | | | | |
| Crate 12 | ICD | | | | |

Status: GUI initialization complete

Reconnect Exit

>start_cal ioc

IOC Resource Monitor Display

File View Help

| CAL | CFT | CTL | MUO | MUO/RC | SMT | SMT/RC | STT | Test |
|---------------------------|-----|-----|-----|--------|-----|--------|-----|------|
| IOC Node CPU % Mem % FD % | | | | | | | | |
| MCH Vertical Interconnect | | | | | | | | |
| d0olct103 | 45 | 57 | 46 | Reboot | | | | |
| Platform | | | | | | | | |
| d0olct109 | 6 | 42 | 54 | Reboot | | | | |
| d0olct111 | 14 | 71 | 52 | Reboot | | | | |
| ICD High Voltage | | | | | | | | |
| d0olct126 | 15 | 34 | 46 | Reboot | | | | |
| d0olct127 | 15 | 34 | 46 | Reboot | | | | |
| d0olct133 | 10 | 33 | 46 | Reboot | | | | |
| CAL High Voltage | | | | | | | | |
| d0olct142 | 16 | 34 | 48 | Reboot | | | | |
| d0olct143 | 15 | 36 | 48 | Reboot | | | | |
| d0olct144 | 14 | 34 | 48 | Reboot | | | | |
| d0olct145 | 16 | 34 | 58 | Reboot | | | | |

Status: GUI initialization complete

Reconnect Reboot

>start_cal rmi

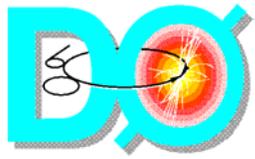
Track Environment Monitor Display

File View Help

| Central | North | West | South | East | Cath | Tunnel |
|---------|-------|----------|------------|------------|----------|--------------|
| Rack | Smoke | Air Flow | Water Leak | Water Flow | Flow g/m | RM DSTAT |
| PC00 | | | | | <2 | Normal Reset |
| PC01 | | | | | | Normal Reset |
| PC02 | | | | | 2-4 | Normal Reset |
| PC03 | | | | | 2-4 | Normal Reset |
| PC04 | | | | | 2-4 | Normal Reset |
| PC05 | | | | | | Normal Reset |
| PC06 | | | | | | Normal Reset |
| PC07 | | | | | 2-4 | Normal Reset |
| PC16 | | | | | 2-4 | Normal Reset |
| PC17 | | | | | <2 | Normal Reset |
| PC18 | | | | | <2 | Normal Reset |
| PC19 | | | | | 2-4 | Normal Reset |
| PC20 | | | | | <2 | Normal Reset |
| PC21 | | | | | 2-4 | Normal Reset |
| PC22 | | | | | <2 | Normal Reset |
| PC23 | | | | | <2 | Normal Reset |

Status: GUI initialization complete

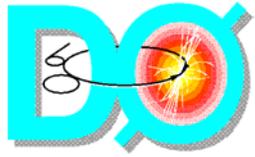
Reconnect



Shifter's task

>start_cal supply

| Calorimeter Power Supply Monitor Display / | | | | | | | | | | | | | | | | | | Help | | | | | | | | |
|--|-----------------------------|---------|----------------|-----------|--------------|-----------|-----------|--------|---------|--------|--------|--------|----------|--------|----------|--------|------------|---------|--------------------------|--------|--------|------|-----|-----|-------|-------|
| File View | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Preamp | BLS N | BLS C | BLS S | BLS BCK N | BLS BCK C | BLS BCK S | ADC Temp | | PA Temp | | Fanout | ADC | LAr Temp | Pulser | PLS Mode | Mode | Mode Shift | | | | | | | | | |
| Device | +12VA V | +12VA I | +12VB V | +12VB I | +8VC V | +8VC I | +8VD V | +8VD I | +8VE V | +8VE I | +8VF V | +8VF I | -6VG V | -6VG I | -6VH V | -6VH I | Vic Tmp | Shn Tmp | Mag F | D1 Tmp | D2 Tmp | STAT | RM | | | |
| EC North | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CALN_LVCP_PA00P | 12.14 | -0.23 | 12.14 | -0.45 | 8.22 | -0.06 | 8.09 | -0.11 | 8.16 | -0.31 | 8.26 | -0.31 | -6.00 | -0.26 | -6.03 | -0.11 | 18.41 | 17.24 | -5.13 | 6.35 | 4.39 | Ox2 | On | Off | Reset | |
| CALN_LVCP_PA00S | 12.29 | 15.99 | 12.27 | 16.67 | 8.35 | 17.94 | 8.22 | 17.71 | 8.31 | 15.75 | 8.37 | 15.99 | -6.25 | 23.56 | -6.26 | 23.56 | 32.52 | 35.25 | 0.49 | 42.48 | 36.13 | Ox3 | On | Off | Reset | |
| CALN_LVCP_PA01P | 12.39 | 15.69 | 12.39 | 16.66 | 8.39 | 17.76 | 8.13 | 17.10 | 8.20 | 15.69 | 8.36 | 16.03 | -6.22 | 23.43 | -6.28 | 23.08 | 32.37 | 35.40 | -3.17 | 38.57 | 33.69 | Ox3 | On | Off | Reset | |
| CALN_LVCP_PA01S | 12.30 | 0.09 | 12.35 | 0.11 | 8.32 | 0.26 | 8.04 | 0.35 | 8.11 | 0.38 | 8.31 | -0.11 | -6.13 | 0.21 | -6.20 | 0.09 | 18.41 | 16.06 | -2.69 | 10.25 | 10.25 | Ox2 | On | Off | Reset | |
| CALN_LVCP_PA10P | 12.56 | 15.91 | 12.45 | 16.86 | 8.38 | 17.74 | 8.34 | 17.88 | 8.43 | 16.15 | 8.40 | 15.88 | -6.28 | 23.47 | -6.30 | 23.72 | 32.47 | 35.21 | -0.24 | 38.57 | 33.69 | Ox3 | On | Off | Reset | |
| CALN_LVCP_PA10S | 12.38 | -0.13 | 12.33 | -0.09 | 8.28 | -0.11 | 8.21 | -0.09 | 8.29 | -0.09 | 8.23 | -0.13 | -6.10 | -0.18 | -6.15 | -0.13 | 19.09 | 18.31 | -15.38 | 15.14 | 12.21 | Ox2 | On | Off | Reset | |
| CALN_LVCP_PA11P | 12.27 | 16.47 | 12.49 | 16.37 | 8.44 | 17.86 | 8.45 | 18.10 | 8.49 | 16.37 | 8.37 | 16.10 | -6.27 | 23.57 | -6.27 | 23.47 | 34.23 | 33.84 | 1.71 | 38.57 | 34.67 | Ox3 | On | Off | Reset | |
| CALN_LVCP_PA11S | 12.12 | 0.01 | 12.59 | 0.23 | 8.28 | -0.26 | 8.31 | -0.04 | 8.34 | 0.31 | 8.26 | 0.01 | -6.12 | -0.18 | -6.14 | 0.16 | 18.02 | 18.80 | 4.15 | 8.30 | 10.25 | Ox2 | On | Off | Reset | |
| CC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CALC_LVCP_PA02P | 12.36 | 16.20 | 12.37 | 16.66 | 8.29 | 17.30 | 8.11 | 16.39 | 8.30 | 17.42 | 8.16 | 17.26 | -6.25 | 23.03 | -6.26 | 23.33 | 34.33 | 36.67 | -7.57 | 32.71 | 36.62 | Ox3 | On | Off | Reset | |
| CALC_LVCP_PA02S | 12.26 | 0.33 | 12.53 | -0.04 | 8.22 | 0.23 | 8.04 | 0.10 | 8.20 | 0.11 | 8.09 | -0.31 | -6.11 | 0.16 | -6.15 | -0.16 | 18.31 | 20.75 | 0.73 | 10.25 | 15.14 | Ox2 | On | Off | Reset | |
| CALC_LVCP_PA03P | 12.41 | 16.32 | 12.43 | 16.00 | 8.39 | 17.69 | 8.39 | 17.47 | 8.40 | 17.40 | 8.24 | 16.81 | -6.30 | 23.67 | -6.29 | 23.57 | 33.20 | 34.52 | 6.10 | 46.39 | 37.60 | Ox3 | On | Off | Reset | |
| CALC_LVCP_PA03S | 12.34 | 0.33 | 12.35 | -0.26 | 8.33 | 0.13 | 8.33 | 0.04 | 8.33 | 0.50 | 8.15 | -0.18 | -6.15 | -0.33 | -6.19 | -0.67 | 18.99 | 16.16 | 7.57 | 11.23 | 11.23 | Ox2 | On | Off | Reset | |
| CALC_LVCP_PA08P | 12.43 | 16.61 | 12.45 | 15.81 | 8.38 | 17.76 | 8.40 | 17.44 | 8.42 | 17.47 | 8.35 | 17.32 | -6.31 | 23.43 | -6.24 | 24.13 | 32.86 | 34.62 | 3.66 | 35.64 | 38.57 | Ox3 | Ox0 | On | Off | Reset |
| CALC_LVCP_PA08S | 12.36 | -0.12 | 12.38 | 0.07 | 8.31 | -0.16 | 8.31 | -0.07 | 8.30 | -0.22 | 8.30 | 0.15 | -6.18 | 0.17 | -6.18 | 0.02 | 18.85 | 18.26 | 7.81 | 14.65 | 13.18 | Ox2 | Ox0 | On | Off | Reset |
| CALC_LVCP_PA09P | 12.46 | 16.64 | 12.39 | 16.42 | 8.42 | 17.71 | 8.41 | 17.18 | 8.41 | 17.52 | 8.39 | 17.37 | -6.29 | 23.52 | -6.30 | 23.96 | 33.06 | 33.94 | 3.66 | 25.88 | 36.62 | Ox3 | Ox0 | On | Off | Reset |
| CALC_LVCP_PA09S | 12.37 | 0.12 | 12.37 | -0.12 | 8.32 | 0.22 | 8.32 | -0.49 | 8.31 | 0.29 | 8.28 | 0.22 | -6.18 | 0.02 | -6.21 | 0.07 | 18.21 | 19.04 | -1.46 | 11.72 | 7.81 | Ox2 | Ox0 | On | Off | Reset |
| EC South | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CALS_LVCP_PA04P | 12.39 | 16.49 | 12.40 | 16.87 | 8.39 | 17.55 | 8.40 | 17.32 | 8.42 | 16.02 | 8.41 | 16.06 | -6.32 | 24.05 | -6.30 | 23.86 | 30.37 | 36.62 | -3.17 | 38.09 | 29.30 | Ox3 | Ox0 | On | Off | Reset |
| CALS_LVCP_PA04S | 12.34 | 0.26 | 12.39 | 0.35 | 8.31 | -0.31 | 8.33 | 0.45 | 8.33 | -0.01 | 8.35 | 0.35 | -6.25 | -0.04 | -6.21 | 0.11 | 18.12 | 18.60 | 5.62 | 17.09 | 15.14 | Ox2 | Ox0 | On | Off | Reset |
| CALS_LVCP_PA05P | 12.67 | 16.31 | 12.66 | 16.85 | 8.43 | 18.48 | 8.41 | 18.38 | 8.43 | 16.59 | 8.43 | 16.74 | -6.30 | 23.46 | -6.25 | 23.27 | 31.40 | 33.50 | 10.25 | 32.23 | 26.37 | Ox3 | Ox0 | On | Off | Reset |
| CALS_LVCP_PA05S | 12.71 | -0.06 | 12.67 | -0.18 | 8.34 | -0.40 | 8.33 | 0.11 | 8.37 | -0.35 | 8.36 | 0.13 | -6.16 | 0.01 | -6.16 | -0.21 | 17.92 | 17.63 | 3.17 | 15.14 | 12.21 | Ox2 | Ox0 | On | Off | Reset |
| CALS_LVCP_PA06P | 12.62 | 17.21 | 12.60 | 16.78 | 8.54 | 17.91 | 8.55 | 16.54 | 8.54 | 16.92 | -6.32 | 23.75 | -6.42 | 23.75 | -6.42 | 23.75 | 31.74 | 33.89 | 16.11 | 47.85 | 45.90 | Ox3 | Ox0 | On | Off | Reset |
| CALS_LVCP_PA06S | 12.34 | 0.45 | 12.35 | -0.48 | 8.29 | -0.26 | 8.32 | 0.38 | 8.34 | -0.01 | 8.33 | 0.26 | -6.10 | -0.62 | -6.17 | 0.11 | 18.60 | 16.06 | -3.66 | 15.14 | 14.16 | Ox2 | Ox0 | On | Off | Reset |
| CALS_LVCP_PA07P | 12.42 | 16.93 | 12.44 | 16.15 | 8.51 | 18.53 | 8.53 | 18.92 | 8.56 | 16.92 | 8.49 | 17.02 | -6.46 | 23.95 | -6.36 | 23.38 | 31.40 | 31.35 | 6.35 | 44.43 | 40.04 | Ox3 | Ox0 | On | Off | Reset |
| CALS_LVCP_PA07S | 12.20 | -0.40 | 12.16 | 0.48 | 8.31 | -0.04 | 8.32 | 0.56 | 8.37 | 0.42 | 8.29 | 0.17 | -6.20 | -0.76 | -6.12 | -0.12 | 19.43 | 16.50 | 17.09 | 8.79 | 11.23 | Ox2 | Ox0 | On | Off | Reset |
| ICD | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ICD_LVCP_PA09 | 12.77 | 2.45 | | | | | | | | | 8.70 | 5.79 | -6.36 | 3.72 | | | 26.27 | 38.09 | | | | Ox3 | Ox0 | On | Off | Reset |
| Global Buttons | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Global | Turn ON Primary | | Turn ON Second | | Turn OFF All | | Reset All | | | | | | | | | | | | | | | | | | | |
| Status: | GUI initialization complete | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reconnect | Archiver | | | | | | | | | | | | | | | | | | Sun Mar 16 14:05:16 2003 | | Exit | | | | | |



Shifter's task

Calculator Power Supply Monitor Display

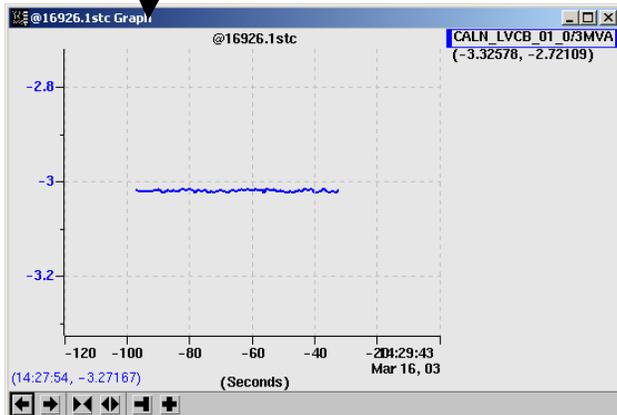
File View Help

Preamp BLS N BLS C BLS S BLS BCK N BLS BCK C BLS BCK S ADC Temp PA Temp Fanout ADC LAr Temp Pulser PLS Mode Mode Mode Shift

Device +7V8 V -38V V -38V A8Temp +13VCV +13VCV -12VDV -12VDV CD Temp +9VE1 +5VE1 -5.20V -5.20V 10Temp ST88 ST8M STAB STCD ST8P RM 1 RM 2

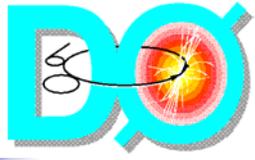
| Device | +7V8 V | -38V V | -38V V | A8Temp | +13VCV | +13VCV | -12VDV | -12VDV | CD Temp | +9VE1 | +5VE1 | -5.20V | -5.20V | 10Temp | ST88 | ST8M | STAB | STCD | ST8P | RM 1 | RM 2 | On | Off | Reset |
|----------------|-------------|--------------|--------------------------|--------|--------|--------|--------|--------|---------|-------|-------|--------|--------|--------|-------|------|--------------|------|------|------|------|----|-----|-------|
| EON NW | | | | | | | | | | | | | | | | | | | | | | | | |
| CALN_LVCB_00_0 | 6.99 | 19.98 | -3.02 | 17.85 | 37.60 | 12.85 | 11.48 | -11.98 | 1.20 | 39.06 | 4.99 | 11.37 | -5.21 | 9.00 | 38.09 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_00_1 | 6.96 | 19.53 | -3.02 | 17.50 | 34.67 | 12.87 | 11.41 | -11.87 | 1.29 | 37.11 | 4.98 | 11.21 | -5.19 | 9.00 | 40.53 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_00_2 | 6.95 | 19.46 | -3.03 | 17.87 | 36.62 | 12.86 | 11.35 | -11.92 | 1.19 | 36.62 | 4.97 | 11.27 | -5.22 | 8.99 | 35.64 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_00_3 | 6.93 | 19.78 | -3.02 | 17.81 | 32.71 | 12.82 | 11.23 | -11.91 | 1.20 | 35.16 | 4.98 | 11.46 | -5.21 | 9.32 | 36.13 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_00_4 | 6.91 | 19.78 | -3.01 | 18.16 | 38.09 | 13.03 | 11.52 | -11.91 | 1.18 | 38.57 | 4.95 | 10.90 | -5.20 | 9.00 | 36.13 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_00_5 | 6.98 | 19.85 | -3.00 | 18.11 | 40.53 | 13.01 | 11.46 | -11.89 | 1.28 | 39.55 | 5.00 | 11.11 | -5.19 | 9.05 | 40.53 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| EON SW | | | | | | | | | | | | | | | | | | | | | | | | |
| CALN_LVCB_01_0 | 7.01 | 19.91 | -3.03 | 17.99 | 32.71 | 12.86 | 11.27 | -11.94 | 1.23 | 35.64 | 4.97 | 10.80 | -5.24 | 8.96 | 33.69 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_01_1 | 6.94 | 19.65 | -3.04 | 18.07 | 40.04 | 12.81 | 11.39 | -11.94 | 1.22 | 41.50 | 4.99 | 11.23 | -5.21 | 8.96 | 36.62 | On40 | Phase B Pres | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_01_2 | 6.90 | 19.98 | -3.05 | 17.93 | 36.13 | 12.77 | 10.98 | -12.09 | 1.20 | 38.09 | 4.95 | 10.92 | -5.25 | 9.36 | 34.18 | On40 | Phase B Pres | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_01_3 | 6.98 | 19.56 | -3.03 | 17.95 | 41.50 | 12.86 | 11.31 | -12.04 | 1.21 | 31.74 | 4.97 | 10.88 | -5.21 | 9.01 | 28.81 | On40 | Phase A Pres | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_01_4 | 7.01 | 19.46 | -3.03 | 18.14 | 33.69 | 12.89 | 11.27 | -11.98 | 1.23 | 29.88 | 4.97 | 11.21 | -5.21 | 9.19 | 34.18 | On40 | Resistor On | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_01_5 | 7.01 | 19.65 | -3.05 | 17.99 | 40.53 | 12.86 | 11.23 | -11.96 | 1.22 | 35.64 | 4.97 | 10.96 | -5.21 | 9.05 | 32.71 | On40 | W84 | W84 | On0 | On0 | On0 | On | Off | Reset |
| EON SE | | | | | | | | | | | | | | | | | | | | | | | | |
| CALN_LVCB_10_0 | 6.93 | 19.58 | -3.01 | 17.93 | 31.74 | 12.87 | 11.41 | -11.98 | 1.20 | 35.16 | 4.93 | 11.41 | -5.19 | 9.02 | 28.81 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_10_1 | 6.96 | 19.48 | -3.02 | 18.01 | 37.60 | 12.87 | 11.64 | -11.98 | 1.42 | 36.13 | 4.99 | 11.09 | -5.18 | 9.17 | 36.13 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_10_2 | 6.93 | 19.48 | -3.01 | 17.83 | 38.09 | 12.89 | 11.52 | -11.95 | 1.24 | 40.04 | 4.98 | 11.21 | -5.19 | 9.20 | 38.09 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_10_3 | 6.96 | 19.87 | -3.06 | 18.22 | 30.27 | 12.90 | 11.76 | -11.91 | 1.40 | 30.27 | 5.01 | 11.13 | -5.19 | 9.34 | 29.79 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_10_4 | 6.96 | 19.90 | -3.00 | 18.26 | 35.16 | 12.82 | 11.27 | -11.98 | 1.23 | 36.13 | 4.99 | 11.39 | -5.22 | 9.04 | 36.13 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_10_5 | 6.98 | 19.70 | -3.00 | 17.91 | 37.60 | 12.94 | 11.86 | -11.94 | 1.42 | 36.62 | 4.99 | 11.23 | -5.19 | 9.27 | 34.67 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| EON NE | | | | | | | | | | | | | | | | | | | | | | | | |
| CALN_LVCB_11_0 | 6.95 | 19.91 | -3.01 | 17.79 | 31.74 | 12.86 | 11.19 | -11.96 | 1.17 | 33.69 | 4.99 | 11.11 | -5.18 | 8.90 | 36.62 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_11_1 | 6.98 | 19.56 | -3.09 | 18.03 | 36.13 | 12.86 | 11.50 | -11.94 | 1.15 | 35.64 | 4.97 | 11.35 | -5.19 | 8.90 | 36.62 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_11_2 | 6.95 | 19.56 | -3.06 | 18.07 | 37.60 | 12.91 | 10.25 | -11.99 | 1.23 | 45.41 | 4.99 | 10.76 | -5.22 | 9.09 | 41.50 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_11_3 | 6.98 | 19.56 | -3.02 | 18.30 | 33.69 | 12.78 | 11.07 | -11.92 | 1.17 | 33.69 | 5.00 | 11.19 | -5.21 | 9.05 | 32.71 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_11_4 | 6.95 | 19.65 | -3.00 | 17.99 | 31.74 | 12.81 | 11.35 | -11.94 | 1.21 | 33.69 | 4.99 | 11.11 | -5.22 | 9.05 | 36.62 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| CALN_LVCB_11_5 | 6.98 | 19.95 | -3.03 | 18.81 | 31.74 | 12.89 | 11.07 | -11.99 | 1.21 | 36.62 | 4.98 | 10.84 | -5.22 | 9.11 | 34.67 | On40 | On4 | On0 | On0 | On0 | On0 | On | Off | Reset |
| Global Buttons | | | | | | | | | | | | | | | | | | | | | | | | |
| Global | Turn ON All | Turn OFF All | Reset All | | | | | | | | | | | | | | | | | | | | | |
| Status: | Reconnect | Archiver | Sun Mar 16 14:26:29 2003 | Exit | | | | | | | | | | | | | | | | | | | | |

Rightclick



June 4, 2003

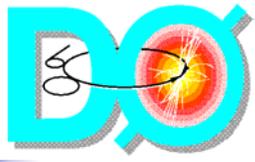
Nirmalya Parua



Shifter's task

| Calorimeter Power Supply Monitor Display \ | | | | | | | | | | | | | | | Help | | |
|--|--------|--------|---------|-----------|-----------|-----------|----------|---------|---------|---------|----------|---------|----------|---------|------------|---------|-----|
| File | View | | | | | | | | | | | | | | | | |
| Preamp | BLS N | BLS C | BLS S | BLS BCK N | BLS BCK C | BLS BCK S | ADC Temp | PA Temp | Fanout | ADC | LAr Temp | Pulser | PLS Mode | Mode | Mode Shift | | |
| Device | +7VA V | -3VB V | +13VC V | -12VD V | +5VE V | -5.2VF V | S02 Tmp | S05 Tmp | S08 Tmp | S11 Tmp | S14 Tmp | S17 Tmp | S18 Tmp | S19 Tmp | S20 Tmp | S21 Tmp | RM |
| ECN NW | | | | | | | | | | | | | | | | | |
| CALN_CMCR_00_0 | 6.88 | -2.90 | 12.91 | -12.09 | 4.90 | -5.15 | 30.03 | 30.37 | 30.86 | 30.57 | 31.54 | 30.76 | 25.29 | 29.69 | 30.96 | 14.94 | 0x0 |
| CALN_CMCR_00_1 | 6.86 | -2.94 | 12.91 | -12.08 | 4.89 | -5.13 | 28.66 | 28.61 | 28.61 | 29.00 | 29.59 | 28.52 | 25.00 | 31.15 | 30.18 | 24.32 | 0x0 |
| CALN_CMCR_00_2 | 6.88 | -2.90 | 12.83 | -12.05 | 4.82 | -5.09 | 26.71 | 27.44 | 26.66 | 27.44 | 27.44 | 27.05 | 23.93 | 26.66 | 26.46 | 23.54 | 0x0 |
| CALN_CMCR_00_3 | 6.82 | -2.91 | 12.91 | -12.11 | 4.87 | -5.12 | 22.56 | 22.17 | 22.36 | 23.97 | 24.12 | 23.34 | 17.09 | 21.39 | 21.78 | 18.12 | 0x0 |
| CALN_CMCR_00_4 | 6.89 | -2.92 | 12.83 | -12.05 | 4.83 | -5.11 | 20.80 | 21.97 | 22.61 | 22.36 | 23.34 | 23.14 | 18.65 | 22.36 | 22.56 | 17.77 | 0x0 |
| CALN_CMCR_00_5 | 6.88 | -2.92 | 12.91 | -12.05 | 4.85 | -5.11 | 20.02 | 20.61 | 21.19 | 23.14 | 23.34 | 22.75 | 20.61 | 23.54 | 22.95 | 17.87 | 0x0 |
| ECN SW | | | | | | | | | | | | | | | | | |
| CALN_CMCR_01_0 | 6.76 | -2.96 | 12.79 | -12.13 | 4.81 | -5.13 | 29.39 | 29.79 | 30.08 | 29.20 | 29.98 | 30.18 | 25.49 | 28.12 | 30.03 | 22.80 | 0x0 |
| CALN_CMCR_01_1 | 6.73 | -2.96 | 12.74 | -12.12 | 4.85 | -5.11 | 27.59 | 28.56 | 27.29 | 27.00 | 29.35 | 28.96 | 24.37 | 27.78 | 28.66 | 24.17 | 0x0 |
| CALN_CMCR_01_2 | 6.71 | -2.94 | 12.76 | -12.12 | 4.83 | -5.10 | 25.63 | 26.12 | 26.81 | 25.24 | 26.22 | 26.61 | 23.58 | 27.39 | 26.42 | 22.22 | 0x0 |
| CALN_CMCR_01_3 | 6.86 | -2.96 | 12.77 | -12.05 | 4.85 | -5.11 | 22.56 | 23.14 | 24.12 | 23.34 | 25.10 | 23.58 | 18.51 | 25.10 | 24.51 | 16.89 | 0x0 |
| CALN_CMCR_01_4 | 6.82 | -2.92 | 12.83 | -12.05 | 4.85 | -5.13 | 21.58 | 22.02 | 21.63 | 22.95 | 23.93 | 23.14 | 18.46 | 22.36 | 24.12 | 18.26 | 0x0 |
| CALN_CMCR_01_5 | 6.87 | -2.92 | 12.87 | -12.40 | 4.82 | -5.05 | 21.19 | 21.19 | 21.19 | 21.58 | 22.36 | 21.78 | 18.65 | 23.58 | 21.78 | 17.87 | 0x0 |
| ECN SE | | | | | | | | | | | | | | | | | |
| CALN_CMCR_10_0 | 6.89 | -2.90 | 12.86 | -12.06 | 4.86 | -5.13 | 28.27 | 28.76 | 28.96 | 29.05 | 29.54 | 29.05 | 24.17 | 28.56 | 30.03 | 22.71 | 0x0 |
| CALN_CMCR_10_1 | 6.79 | -2.92 | 12.78 | -12.02 | 4.86 | -5.04 | 24.76 | 27.59 | 26.90 | 26.81 | 27.69 | 26.90 | 22.51 | 27.29 | 29.74 | 22.22 | 0x0 |
| CALN_CMCR_10_2 | 6.83 | -2.92 | 12.76 | -12.14 | 4.87 | -5.07 | 25.63 | 26.22 | 27.29 | 26.32 | 27.49 | 25.93 | 23.68 | 26.42 | 28.17 | 22.90 | 0x0 |
| CALN_CMCR_10_3 | 6.85 | -2.91 | 12.94 | -12.10 | 4.93 | -5.13 | 21.92 | 22.90 | 24.27 | 23.29 | 23.78 | 23.29 | 18.80 | 24.27 | 27.98 | 17.72 | 0x0 |
| CALN_CMCR_10_4 | 6.85 | -2.91 | 12.82 | -12.02 | 4.91 | -5.09 | 22.51 | 21.92 | 21.44 | 22.22 | 22.71 | 22.71 | 17.82 | 22.12 | 22.61 | 19.58 | 0x0 |
| CALN_CMCR_10_5 | 6.81 | -2.91 | 12.94 | -12.02 | 4.90 | -5.08 | 20.36 | 21.73 | 21.34 | 22.71 | 23.49 | 21.73 | 17.43 | 23.88 | 22.71 | 17.63 | 0x0 |
| ECN NE | | | | | | | | | | | | | | | | | |
| CALN_CMCR_11_0 | 6.82 | -2.92 | 12.79 | -12.09 | 4.81 | -5.11 | 28.42 | 29.20 | 28.86 | 28.03 | 29.39 | 29.69 | 24.71 | 29.98 | 31.54 | 22.17 | 0x0 |
| CALN_CMCR_11_1 | 6.82 | -2.94 | 12.83 | -12.09 | 4.85 | -5.11 | 26.66 | 27.64 | 28.22 | 27.83 | 28.03 | 27.44 | 23.73 | 29.39 | 28.22 | 23.54 | 0x0 |
| CALN_CMCR_11_2 | 6.82 | -2.94 | 12.84 | -12.09 | 4.83 | -5.17 | 26.27 | 26.95 | 25.88 | 26.86 | 27.25 | 26.66 | 24.12 | 26.27 | 26.27 | 23.14 | 0x0 |
| CALN_CMCR_11_3 | 6.88 | -2.93 | 12.80 | -12.10 | 4.83 | -5.11 | 21.73 | 23.68 | 23.78 | 23.88 | 23.49 | 23.88 | 18.60 | 22.61 | 22.80 | 17.33 | 0x0 |
| CALN_CMCR_11_4 | 6.83 | -2.93 | 12.82 | -12.06 | 4.85 | -5.11 | 20.65 | 22.31 | 21.73 | 23.10 | 22.90 | 23.00 | 19.38 | 22.31 | 22.71 | 17.43 | 0x0 |
| CALN_CMCR_11_5 | 6.85 | -2.93 | 12.80 | -12.10 | 4.83 | -5.12 | 20.95 | 22.12 | 21.53 | 23.00 | 22.31 | 22.51 | 18.99 | 23.29 | 23.00 | 17.33 | 0x0 |

Status: Reconnect Archiver Sun Mar 16 13:32:19 2003 Exit



Shifter's task

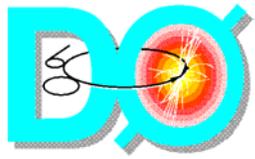
Calorimeter Power Supply Monitor Display - Help

File View

Preamp BLS N BLS C BLS S BLS BCK N BLS BCK C BLS BCK S ADC Temp PA Temp Fanout ADC LAr Temp Pulser PLS Mode Mode Mode Shift

| Device | LB Tmp | LT Tmp | LF Tmp | RB Tmp | RT Tmp | RF Tmp | FTP Tmp | FTB Tmp | RM 1 | RM 2 | LeMi | RMI |
|----------------|--------|--------|--------|--------|---------|--------|---------|---------|------|------|---------|---------|
| EC North | | | | | | | | | | | | |
| CALN_CMCP_PA00 | 44.23 | 13.47 | 28.61 | 13.47 | 36.42 | 22.75 | 18.84 | 14.94 | 0x0 | 0x0 | | |
| CALN_CMCP_PA01 | 38.37 | 42.77 | 24.70 | 40.81 | 44.23 | 28.61 | 18.84 | 16.89 | 0x0 | 0x0 | | |
| CALN_CMCP_PA10 | 35.44 | 44.23 | 22.26 | 44.23 | 32.03 | 31.05 | 12.01 | 15.42 | 0x0 | 0x0 | | |
| CALN_CMCP_PA11 | 23.24 | 42.28 | 15.42 | 36.42 | 42.77 | 19.33 | 15.42 | 13.47 | 0x0 | 0x0 | | |
| CC | | | | | | | | | | | | |
| CALC_CMCP_PA02 | 34.96 | 36.42 | 26.17 | 19.33 | 34.96 | 32.03 | 16.40 | 16.40 | 0x0 | 0x0 | -85.16 | -96.88 |
| CALC_CMCP_PA03 | 58.39 | 56.44 | 30.07 | 38.86 | 44.72 | 23.24 | 15.42 | 17.38 | 0x0 | 0x0 | -108.60 | -120.32 |
| CALC_CMCP_PA08 | 36.91 | 47.16 | 28.12 | 45.70 | 36.91 | 24.21 | 11.52 | 15.42 | 0x0 | 0x0 | 52.53 | 47.65 |
| CALC_CMCP_PA09 | 37.89 | 36.91 | 23.24 | 39.84 | -275.59 | 24.21 | 14.45 | 16.40 | 0x0 | 0x0 | -275.59 | 55.46 |
| EC South | | | | | | | | | | | | |
| CALS_CMCP_PA04 | 49.60 | 42.28 | 24.21 | 43.26 | 33.98 | 22.26 | 12.49 | 8.59 | 0x0 | 0x0 | | |
| CALS_CMCP_PA05 | 49.12 | 39.84 | 24.21 | 41.30 | 49.60 | 22.26 | 16.40 | 24.21 | 0x0 | 0x0 | | |
| CALS_CMCP_PA06 | 35.93 | 44.23 | 29.10 | 35.93 | 46.67 | 34.96 | 19.82 | 14.94 | 0x0 | 0x0 | | |
| CALS_CMCP_PA07 | 51.56 | 50.09 | 34.96 | 47.16 | 37.89 | 28.61 | 9.08 | 16.89 | 0x0 | 0x0 | | |

Status: Sun Mar 16 13:35:28 2003



Shifter's task

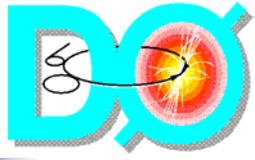
Calorimeter Power Supply Monitor Display |

File View Help

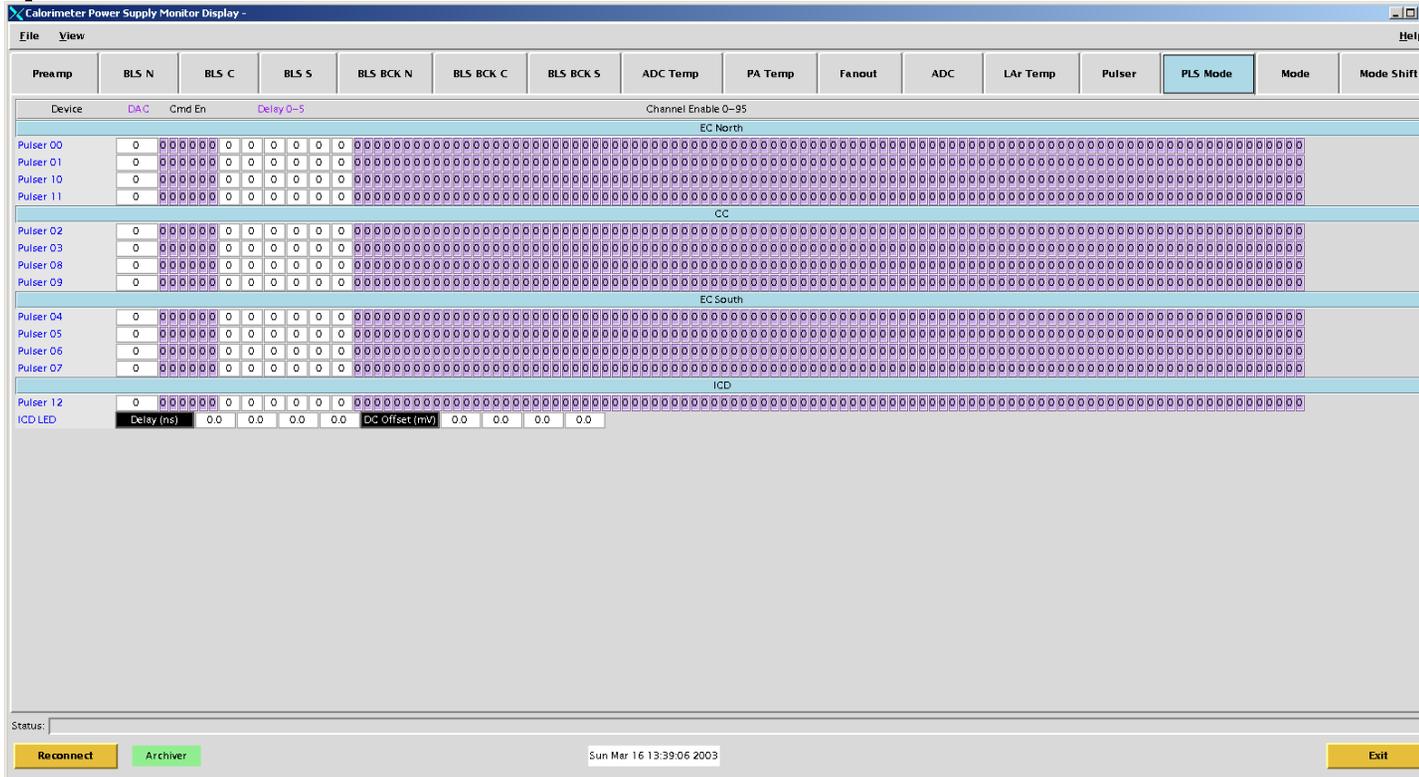
Preamp BLS N BLS C BLS S BLS BCK N BLS BCK C BLS BCK S ADC Temp PA Temp Fanout ADC LAr Temp Pulser PLS Mode Mode Mode Shift

| Device | +12VA V | +12VA I | +5.8VB V | +5.8VB I | -5.2VC V | -5.2VC I | +5VDV | +5VD I | SPTmp | MF | STAT | RM | | | | | |
|----------------|-------------|---------|----------|--------------|----------|----------|-----------|--------|-------|--------|------|-----|----|-----|-------|--------|---------|
| EC North | | | | | | | | | | | | | | | | | |
| CALN_LVCC_00 | 11.90 | -0.13 | 5.64 | 0.51 | -5.11 | 1.20 | 4.93 | 2.37 | 48.14 | 4.39 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALN_LVCC_01 | 11.88 | -0.01 | 5.62 | 0.67 | -5.07 | 1.57 | 4.93 | 2.59 | 53.86 | 7.32 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALN_LVCC_10 | 11.89 | 0.26 | 5.72 | 0.52 | -5.02 | 1.16 | 4.91 | 2.38 | 49.46 | -8.06 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALN_LVCC_11 | 11.90 | 0.38 | 5.66 | 0.84 | -5.16 | 1.06 | 4.97 | 3.09 | 48.19 | -7.08 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CC | | | | | | | | | | | | | | | | | |
| CALC_LVCC_02 | 12.05 | 0.55 | 5.85 | 0.72 | -5.16 | 1.01 | 5.00 | 2.80 | 51.71 | 16.36 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALC_LVCC_03 | 11.78 | 0.40 | 5.70 | 0.67 | -5.07 | 1.16 | 4.92 | 2.19 | 50.44 | -9.03 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALC_LVCC_08 | 11.84 | -0.04 | 5.74 | 0.92 | -5.10 | 1.11 | 4.88 | 2.31 | 53.08 | -11.96 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALC_LVCC_09 | 11.94 | 0.09 | 5.75 | 0.96 | -5.09 | 1.11 | 4.93 | 2.36 | 53.37 | -4.15 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| EC South | | | | | | | | | | | | | | | | | |
| CALS_LVCC_04 | 11.91 | 0.22 | 5.71 | 1.05 | -5.07 | 1.10 | 4.89 | 2.17 | 51.07 | -38.57 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALS_LVCC_05 | 11.88 | 0.42 | 5.67 | 0.71 | -5.17 | 0.82 | 4.91 | 2.61 | 50.15 | 10.25 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALS_LVCC_06 | 11.88 | 0.33 | 5.63 | 1.06 | -5.12 | 1.14 | 4.92 | 2.60 | -0.24 | -15.87 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| CALS_LVCC_07 | 11.83 | 0.52 | 5.65 | 0.43 | -5.09 | 1.23 | 4.89 | 2.14 | 53.86 | -11.96 | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| ICD | | | | | | | | | | | | | | | | | |
| ICD_LVCC_12 | 11.88 | 0.45 | 5.78 | 1.11 | -5.15 | 1.35 | 4.94 | 2.14 | 49.37 | | 0x3 | 0x0 | On | Off | Reset | Enable | Disable |
| Global Buttons | | | | | | | | | | | | | | | | | |
| Global | Turn ON All | | | Turn OFF All | | | Reset All | | | | | | | | | | |

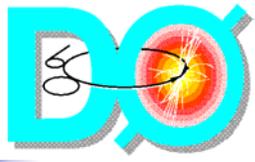
Status: [Reconnect] [Archiver] Sun Mar 16 13:37:55 2003 [Exit]



Shifter's task



Everything should be 0 during data taking.

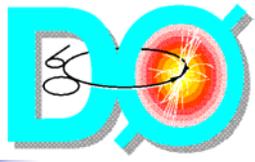


Shifter's task

Calorimeter Power Supply Monitor Display

File View Help

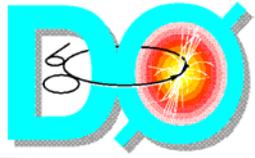
| Proamp | BLS N | BLS C | BLS S | BLS BCK N | BLS BCK C | BLS BCK S | ADC Temp | PA Temp | Fanout | ADC | LAr Temp | Pulsar | PLS Mode | Mode | Mode Shift |
|---------------------|------------------|------------------|--------------------------|----------------|-----------|------------|----------|------------|--------|----------------|-----------|-----------|----------|------|------------|
| Crte | TC MODE | STATUS | LSTRAN | ADC ERR | BLS MODE | ADC MODE | PED VERS | PULSER | OCC | | | | | | |
| EC North | | | | | | | | | | | | | | | |
| CRATE 0x40 | Normal | 0x10 | 0x3c7b | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.08 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x41 | Normal | 0x10 | 0x3c7c | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.10 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x44 | Normal | 0x10 | 0x3c7c | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.07 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x4b | Normal | 0x10 | 0x3c7e | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.08 | Reset T&C | Reset ADC | Reset VBD | | | |
| CC | | | | | | | | | | | | | | | |
| CRATE 0x42 | Normal | 0x10 | 0x3c7e | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.08 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x43 | Normal | 0x10 | 0x3c7e | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.08 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x48 | Normal | 0x10 | 0x3c7e | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.08 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x49 | Normal | 0x10 | 0x3c7f | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.08 | Reset T&C | Reset ADC | Reset VBD | | | |
| EC South | | | | | | | | | | | | | | | |
| CRATE 0x44 | Normal | 0x10 | 0x3c7f | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.12 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x45 | Normal | 0x10 | 0x3c7f | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.08 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x46 | Normal | 0x10 | 0x3c80 | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.10 | Reset T&C | Reset ADC | Reset VBD | | | |
| CRATE 0x47 | Normal | 0x10 | 0x3c80 | 0x0 | Normal | 0 Sign Sup | 0xdc | Pulsar Off | 0.09 | Reset T&C | Reset ADC | Reset VBD | | | |
| T & C Control Board | | | | | | | | | | | | | | | |
| T&C CTRL 0x4c | Master | 0x10 | 0x3c81 | | | | | | | Reset T&C CTRL | | | | | |
| Global Buttons | | | | | | | | | | | | | | | |
| Global | Global T&C Reset | Global ADC Reset | Global VBD Reset | Reset VBD CTRL | | | | | | | | | | | |
| Status: | Reconnect | Archiver | Sun Mar 16 13:41:36 2003 | | | | | | | | | | Exit | | |



Shifter's task

>start_cal tandc

The screenshot displays the 'Crate Monitoring' software interface. At the top, there are buttons for 'Hex', 'Update Rate', 'Global T&C Reset', 'Global ADC Reset', 'Set BLS Mode', and 'Set ADC Mode'. Below these are dropdown menus for 'Global T&C Mode', 'Global BLS Mode', and 'Global ADC Mode', with 'Normal' selected for all. A 'Mode' dropdown is set to '0' and 'Sin/Mul' is selected. The main area is divided into three sections: 'CENTRAL', 'EC NORTH', and 'EC SOUTH'. Each section contains a list of crates with their IDs and associated control buttons like 'VBD', 'ADC', and 'Pulser'. A central menu is open, showing options like 'Normal', 'Master', 'Si Buff Normal', 'CELL', 'TICK', 'ADC', 'Pedestal', 'NoSub', 'Unsup', 'PedSub', '0Suppres', '0SignSup', 'Self0Suppres', 'Self0SignSup', 'Comparat', 'x1 -1tick', 'x8 -1tick', 'x1 -2tick', 'x8 -2tick', 'x1 x8', 'Dual L1', 'Dual L2', and 'Triple'. At the bottom, there is a 'CONTROL' section with 'CONTROL BOARDS', 'VBD CTRL', 'T&C CTRL', and 'PIB' buttons. A footer contains the text '----> Time and Control GUI, v1.10, August 17 2002' and '... here is some space for your advertisement ...'.



Shifter's task

>start_cal pulser

Set Calorimeter Pulsers

Pulser Address: 0 1 2 3 4 5 6 7 8 9 10 11 12 All

DAC Value: 0

PIB Clock: 212255041

Request: 0

Channel Enable: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95

Delays: 0 0 0 0 0

Cmd: 0 0 0 0 0

Ramp: Steps: 12, Step size: 500, Ew/Steps: 50

Global Set Buttons: Select All, Enable All, Delay All, Cmd All

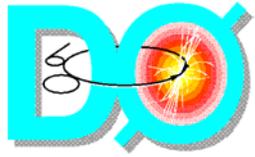
Pattern: Enable, Pattern (0-31), Pattern Ramp

DAC and Delay Offsets: Apply DAC, Reset DAC, Apply Delay, Reset Delay, Show Offsets

Trigger Bits: Fixed Bunch (0-7), Fixed Cell (8-15)

-----> Welcome to the DO Pulser Configuration GUI Version 2.4 Date 1/23/2002

PickleFile, Save File, Read File, Shutdown, Update, Undo, Exit, Reset, Check Errors, DOWNLOAD!



Shifter's task

>start_cal hv

Global Monitor Display - V2.1.7

Rack - M116

| |
|------------------|
| B ICD North-East |
| 0 1 2 3 4 5 |

Rack - M118

| |
|-------------|
| B CAL North |
| 0 1 2 3 4 5 |

| |
|------------------|
| C ICD South-East |
| 0 1 2 3 4 5 |

| |
|-------------|
| C CAL South |
| 0 1 2 3 4 5 |

| |
|------------------|
| D ICD South-West |
| 0 1 2 3 4 5 |

| |
|---------------|
| D CAL Central |
| 0 1 2 3 4 5 |

| |
|--------------|
| E Unassigned |
| 0 1 2 3 4 5 |

| |
|-----------------|
| E CAL Argon Mon |
| 0 1 2 3 4 5 |

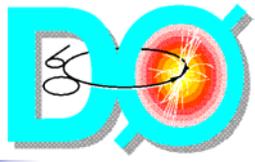
Status: GUI initialization complete

Reconnect Off On Reset Lock Unlock Full Standby

HV Channel Monitor Display - V1.15.7

| CAL North | | CAL Central | | CAL South | | CAL Argon Mon | | Channel | V_Trip | I_Max | V_Max | V_Set | V_Read | I_Read | State |
|-----------|------|-------------|------|-----------|--------|---------------|----------|---------|--------|-------|-------|--------|--------|--------|--------|
| 005 | 3264 | 500 | 2000 | 2000.0 | 1999.3 | 13.9 | Locked | 015 | 3267 | 500 | 2000 | 2000.0 | 1999.9 | 8.1 | Locked |
| 025 | 3363 | 500 | 2000 | 2000.0 | 2000.3 | 50.0 | Locked | 035 | 3267 | 500 | 2000 | 2000.0 | 2000.3 | 1.5 | Locked |
| 045 | 3270 | 500 | 2000 | 2000.0 | 1999.8 | -0.0 | Locked | 055 | 3271 | 500 | 2000 | 2000.0 | 1999.8 | -0.0 | Locked |
| 065 | 3271 | 500 | 2000 | 2000.0 | 2000.3 | -0.2 | Locked | 075 | 3271 | 500 | 2000 | 2000.0 | 1999.8 | 178.2 | Locked |
| 085 | 3248 | 500 | 2000 | 2000.0 | 1999.8 | 1.2 | Locked | 095 | 3245 | 500 | 2000 | 2000.0 | 2000.1 | 1.0 | Locked |
| 105 | 3248 | 500 | 2000 | 2000.0 | 1999.4 | 7.7 | Locked | 115 | 3248 | 500 | 2000 | 2000.0 | 2000.6 | 23.2 | Locked |
| 125 | 3236 | 500 | 2000 | 2000.0 | 1999.6 | 8.0 | Locked | 135 | 3248 | 500 | 2000 | 2000.0 | 1999.6 | 1.2 | Locked |
| 145 | 3244 | 500 | 2000 | 2000.0 | 1999.4 | 1.2 | Locked | 155 | 3250 | 500 | 2000 | 2000.0 | 2000.1 | 1.5 | Locked |
| 165 | 3252 | 500 | 2000 | 2000.0 | 2000.1 | 0.4 | Locked | 175 | 3250 | 500 | 2000 | 2000.0 | 1999.1 | 0.8 | Locked |
| 185 | 3242 | 500 | 2000 | 2000.0 | 2000.3 | 0.5 | Locked | 195 | 3252 | 500 | 2000 | 2000.0 | 2000.4 | 0.0 | Locked |
| 205 | 3250 | 500 | 2000 | 2000.0 | 1999.8 | -0.0 | Locked | 215 | 3250 | 500 | 2000 | 2000.0 | 1999.1 | 1.3 | Locked |
| 225 | 3249 | 500 | 2000 | 2000.0 | 2000.4 | 1.3 | Locked | 235 | 3237 | 500 | 2000 | 2000.0 | 2000.3 | 0.9 | Locked |
| 245 | 3276 | 500 | 2000 | 2000.0 | 1999.8 | 1.4 | Locked | 255 | 3277 | 500 | 2000 | 2000.0 | 2000.1 | 9.7 | Locked |
| 265 | 3279 | 500 | 2000 | 2000.0 | 1999.4 | 1.3 | Locked | 275 | 3284 | 500 | 2000 | 2000.0 | 2000.9 | 8.3 | Locked |
| 285 | 3284 | 500 | 2000 | 2000.0 | 2000.9 | -0.2 | Locked | 295 | 3284 | 500 | 2000 | 2000.0 | 2000.1 | 14.1 | Locked |
| 305 | 3283 | 500 | 2000 | 2000.0 | 2000.4 | 12.4 | Locked | 315 | 3282 | 500 | 2000 | 2000.0 | 1999.8 | 99.9 | Locked |
| 325 | 3269 | 500 | 2000 | 2000.0 | 1999.4 | 9.3 | Locked | 335 | 3258 | 500 | 2000 | 2000.0 | 1999.6 | 5.7 | Locked |
| 345 | 3260 | 500 | 2000 | 2000.0 | 1999.9 | -0.0 | Locked | 355 | 3262 | 500 | 2000 | 2000.0 | 1999.6 | 50.3 | Locked |
| 365 | 3257 | 500 | 2000 | 2000.0 | 1999.3 | 8.6 | Locked | 375 | 3257 | 500 | 2000 | 2000.0 | 1999.3 | 1.4 | Locked |
| 385 | 3263 | 500 | 2000 | 2000.0 | 1999.3 | 1.3 | Locked | 395 | 3261 | 500 | 2000 | 2000.0 | 1999.3 | 5.9 | Locked |
| 405 | 0 | 0 | 2000 | 0.0 | 0.0 | 0.0 | Disabled | 415 | 3250 | 500 | 2000 | 2000.0 | 1999.9 | 30.1 | Locked |
| 425 | 3250 | 500 | 2000 | 2000.0 | 1999.6 | 0.0 | Locked | 435 | 3249 | 500 | 2000 | 2000.0 | 1999.6 | -0.1 | Locked |
| 445 | 3252 | 500 | 2000 | 2000.0 | 1999.1 | -0.1 | Locked | 455 | 3251 | 500 | 2000 | 2000.0 | 1999.4 | 11.8 | Locked |
| 465 | 3250 | 500 | 2000 | 2000.0 | 2000.3 | 11.2 | Locked | 475 | 3248 | 500 | 2000 | 2000.0 | 1999.6 | 1.0 | Locked |

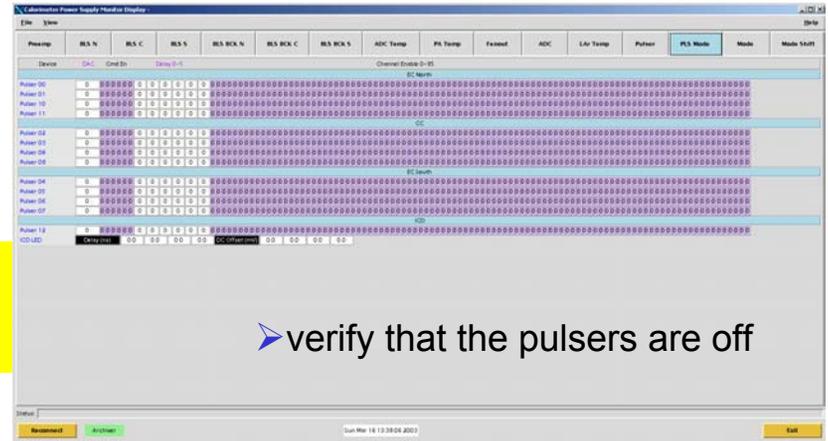
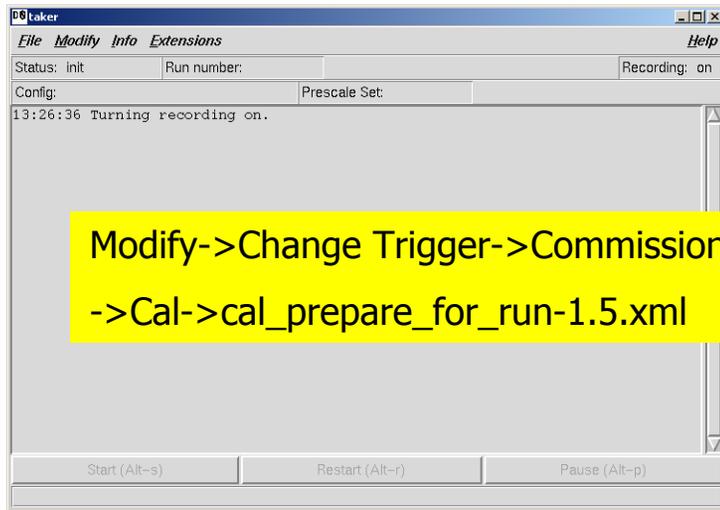
Status: Reconnect Offline Online Off On Ramp Pause Resume Lock Unlock Reset



Shifter's task

At the beginning of the Store

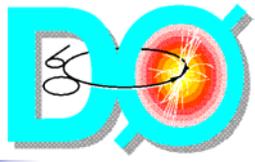
➤ Download **cal_prepare_for_run** trigger, then free the trigger and tell the captain and the DAQ shifter that the calorimeter can be included in the global run



➤ verify that there are no major alarms

| Group Name | MAJOR | MINOR | INVALID | ACKED | DISABLED | GOOD |
|-------------------------|-------|-------|---------|-------|----------|------|
| CAL Preamp | 0 | 10 | 0 | 0 | 3 | 1 |
| CAL BLS | 0 | 7 | 0 | 0 | 5 | 2 |
| CAL ADC | 0 | 1 | 0 | 0 | 0 | 0 |
| CAL HV | 0 | 0 | 0 | 0 | 27 | 0 |
| CAL MCH Protection | 0 | 0 | 0 | 0 | 0 | 0 |
| CAL Platform Protection | 0 | 0 | 0 | 0 | 4 | 0 |
| CAL Controls | 0 | 0 | 1 | 0 | 0 | 0 |

Status: Connection to server started



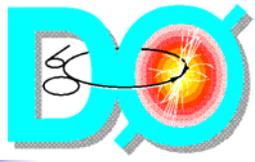
Shifter's task

At the beginning of a new Run

- check on the "COORMON" window that the run has started and is collecting events
- start to fill out the run checklist for the new run

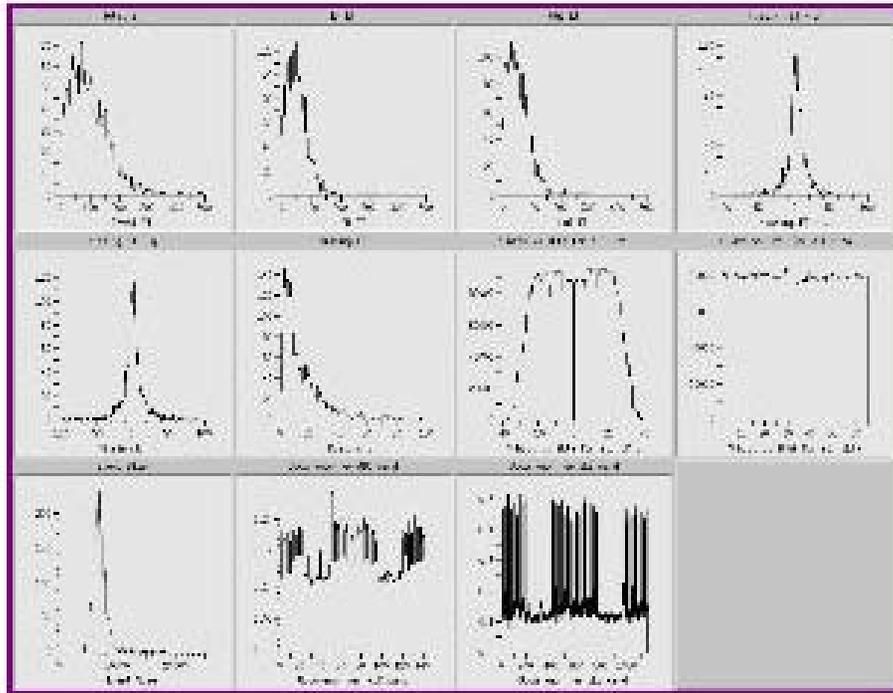
- start "cal_examine" and the "histo" program
- start L1Cal_examine and the "histo" program

- Kill hotcells if necessary
- Monitor alarm display and take actions accordingly
- Put all observations in the logbook (elog)



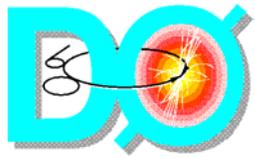
Running examines

```
>setup d0online  
>d0ssh d0ol23  
>setup histo  
>histo &  
>setup d0online  
>cd /online/examines/scripts  
./cal_examine.sh  
    init  
    strat  
To stop examine do  
    stop  
    quit
```



Hot Cell informations are written on the file after 1000 events (takes about 30-40 minutes)

`/home/d0cal/Hot_Cells/Hot_Cells_“Run_number”`



Killing HotCells

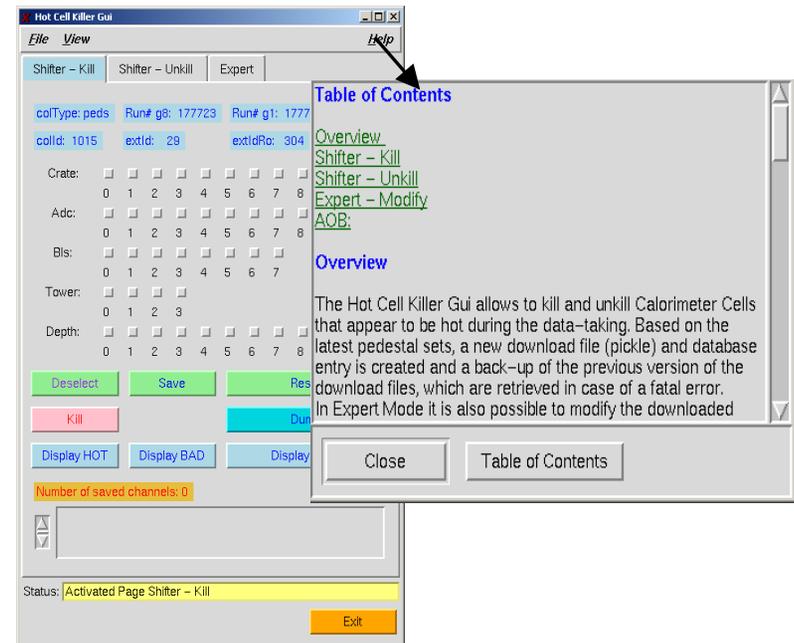
```
>cd /online/comics/cal  
>NEW_HotCellKiller.py
```

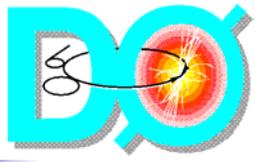
If the hotcells are isoalted in eta/phi and has $E_T/\text{events} < 5$ GeV do not kill these cells.

Note this information in the logbook

If more than one adjacent cells have $E_t/\text{events} > 2$ GeV Kill the cells using hot cell killer

- Cells are not killed untill downloaded using `cal_prepare_for_run`.
- This requires the DAQ shifter to stop the run and free the trigger.
- Talk to the captain about the hotcells and ask him when you should download new pedestals to kill those.
- In doubt call the on-call expert





Running L1CalExamine

setup histo

histo&

cd /online/examines/p12.04.00/l1calex

setup d0online

setup D0runII p12.04.00

d0setwa

cd l1cal_examine/online

./Runme.sh

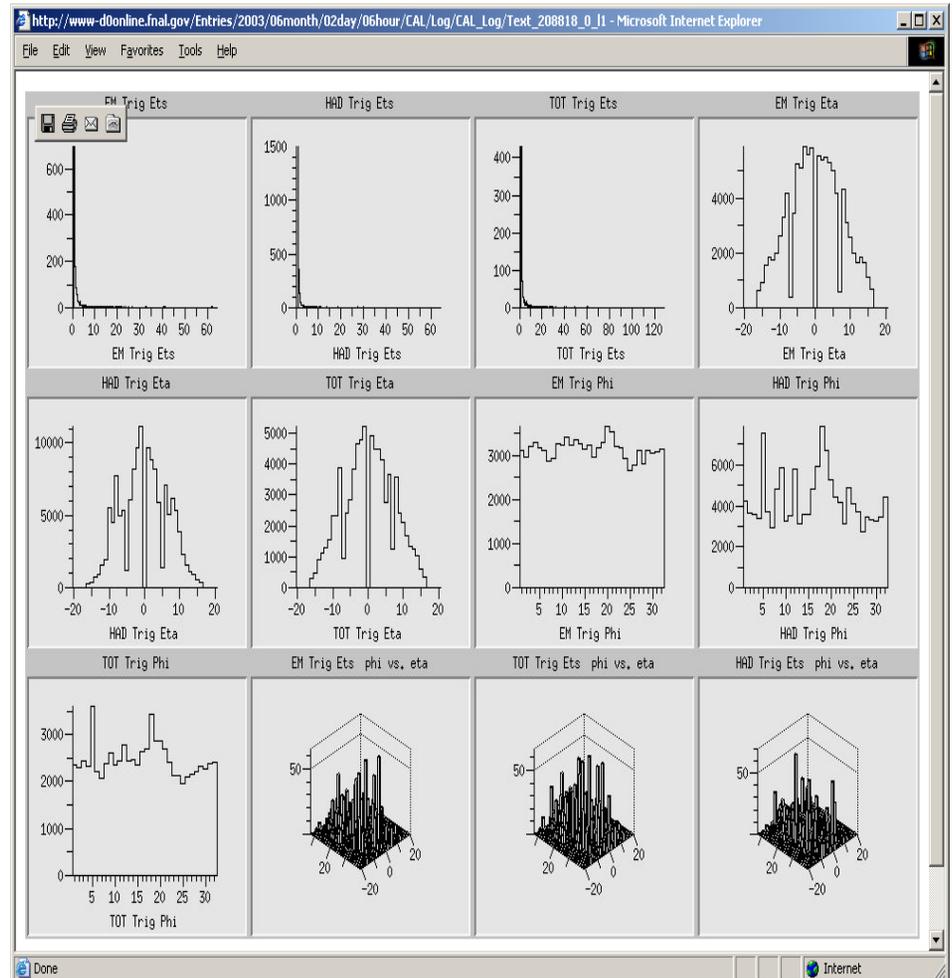
init

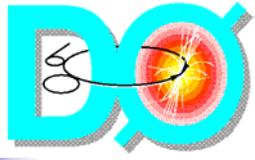
start

To stop the examine do

stop

quit





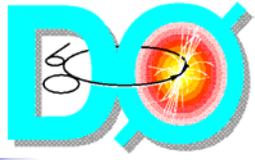
Shifter's task – after the run stops

Shifter's tasks after the run ends

Save the histograms and complete the run checklist in the logbook

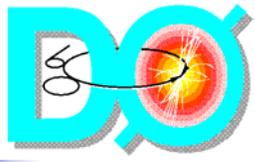
Stop cal_examine, l1cal_examine

After the store ends put the muon HV to standby (discussed by Markus), **DO NOT CHANGE THE CALORIMETER HV**



Shifter's task, between stores

- If there is no beam (not even beam studies, or shotsetup) and the last calibration run was taken more than 12 hours before Take a new calibration run
- Ask the captain about the quite time and duration
- Also if there were an access and calorimeter experts worked on the hardware you must take a calibration run (In that case the cal_expert should ask you for the calibration run)
- Download the pedestal and check for hot cells
- Keep the system running and monitor errors
- If there is a zero-bias run going on run all examines.



Taking pedestal Calib Run

Open a new xterm

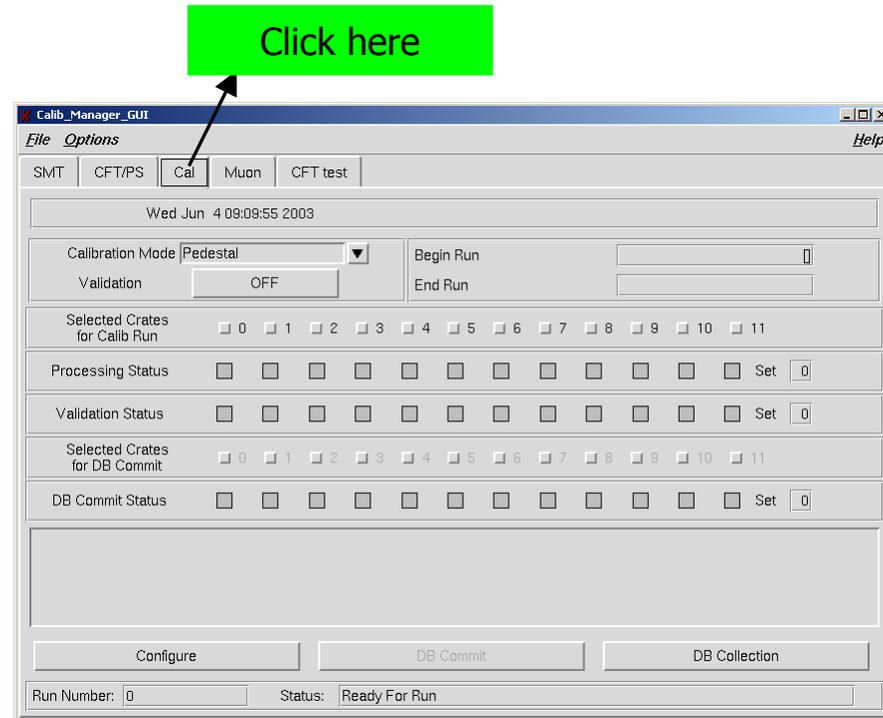
Login to d0run account

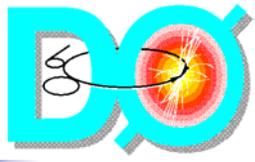
➤ `ssh -l d0run d0ol23`

Open the calib manager GUI

➤ `setup d0online`

➤ `start_calib_manager_gui &`





Taking Calib Run

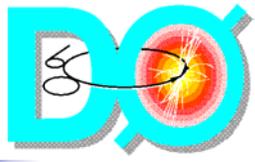
>taker

If you have about 45 minutes of quite time use the trigger file
calib_ref_x8-2.1 (For x8)
calib_ref_x1-2.1 (for x1)

If you have about 10-15 minutes of quite time use the trigger file
calib_all_x8-2.1 (For x8)
calib_all_x1-2.1 (for x1)

Note down the run numbers (both X8 and X1) in the logbook.

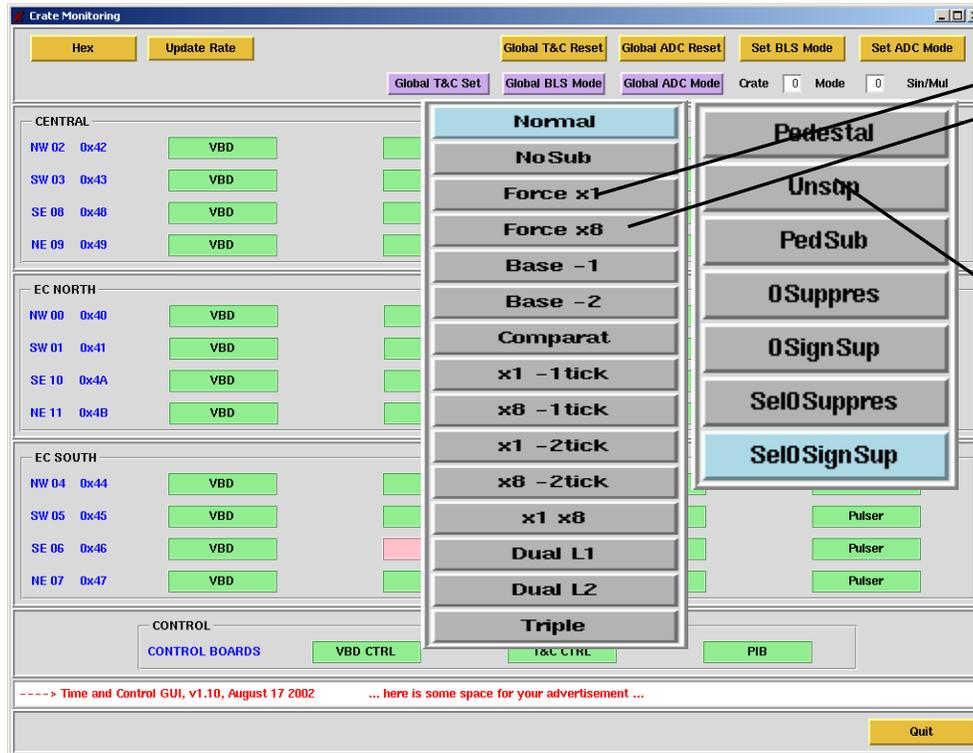
The screenshot shows the 'taker' application window with a menu bar (File, Modify, Info, Extensions, Help) and a status bar (Recording: on). A 'Configurations' dialog box is open, displaying a list of paths. An arrow points from the 'Change Trigger...' menu option to the dialog. Another arrow points from the 'cal/' path in the list to a second, smaller 'Configurations' dialog box. This second dialog shows a list of calibration files, with an arrow pointing to 'calib_ref_x8-2.1'. Buttons for 'OK', 'Up (LEFT)', and 'Cancel (ESC,)' are visible at the bottom of both dialog boxes.



Taking Calib run

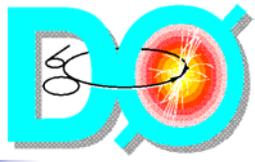
After Downloading the trigger, before starting the run, make sure all modes are right

If the modes are not right set them from the T&C GUI (crate monitor GUI)

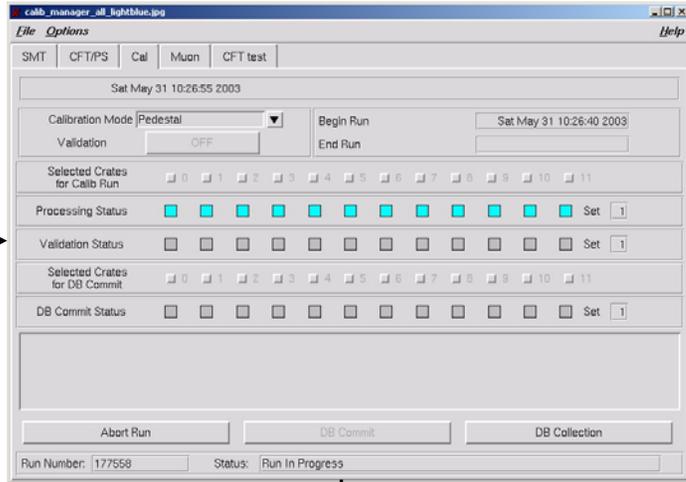
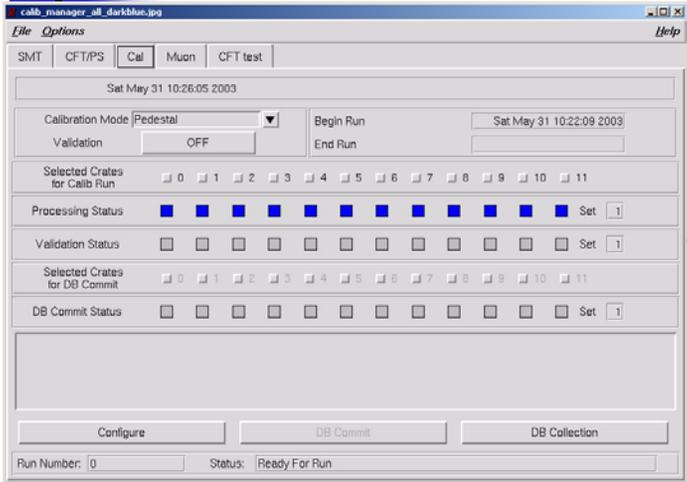


Select either mode depending on whether you are taking x8 or x1 gain runs

Select This mode

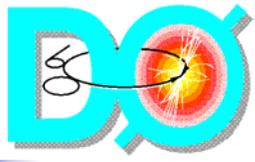


Taking Calib Runs



June 4, 2003

Nirmalya Parua



Taking Calib Runs

```
>cd /online/comics/cal
```

```
>NEW_MakePeds.py
```

Check the time stamp of the generated pickle file

```
>ll /online/comics/cal/pic/D0.CAL*
```

If you don't see the time stamp as the recent one, most likely you have not done NEW_MakePeds.py step correctly, redo it, if you still have problems call an expert

Make the plots

```
>cd /online/comics/cal
```

```
>setup cern
```

```
>paw
```

```
exec peds "run_number_gain8" "run_number_gain1"
```

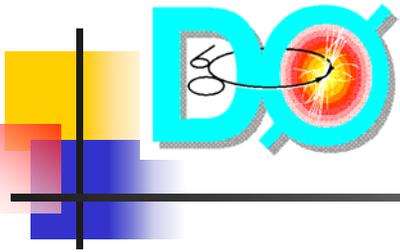
(you had already written the run numbers in the logbook)

Print the ps file and put it in the binder.

Check the number of bad cells by doing

```
>less peds_bad.txt
```

If this number is more than 10 notify an expert.



New video shifter's guide is being made that should orient the shifter and give them better feelings about the detector.

Preview can be seen at

http://vmsstreamer1.fnal.gov/VMS_Site_02/Training/DzeroShifter/DzeroShifter2.htm