

Software for control and test of chamber FE boards

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Requirements: PC running Windows with serial port

Download: <http://www.pd.infn.it/~passaseo/FETest/FETest60.zip>

Main window

Chamber name

Active boards

Parameter setting

SL control and status box

SI Vcc, Vdd, Ave temp, Max temp Alarms

Command To SL

Threshold set

Manual control of I2C

Board readout status

Controls for chamber

MAD status box

Board status box

The screenshot displays the 'Front End Interface' software window. At the top, it shows 'Chamber type and number' as MB3 007 and 'Current Data Dir.' as D:\FEDData. The interface is divided into several sections:

- BOARDS SL PHI2:** Shows 24 channels with a status bar. Controls include 'Disable All SL Channels', 'I2C' (now enabled), 'scan for boards', and 'save status'. Readouts show a threshold of 14.9 mV, a temp check of 410.7 mV, and active SlowControl and FeedThru. Temperature gauges show Average Temperature at 25.6 °C and Max Temperature at 41.3 °C. Voltage gauges show Board Vcc and Board Vdd.
- BOARDS SL THETA:** Similar layout to PHI2, with a threshold of 14.9 mV and a temp check of 398.9 mV. Average Temperature is 25.6 °C and Max Temperature is 39.7 °C.
- BOARDS SL PHI1:** Similar layout to PHI2, with a threshold of 14.9 mV and a temp check of 398.9 mV. Average Temperature is 25.6 °C and Max Temperature is 41.3 °C.
- Chamber controls:** Includes 'Disable All Channels', 'Enable All Channels', 'display masks', and 'Temperature Chart'. It also has 'fast mask lines' and 'Vth PC' options.
- SL PHI 1 Board 1:** Shows MAD status for four boards: MAD 1 (25.6 °C), MAD 2 (24.1 °C), MAD 3 (22.5 °C), and MAD 4 (24.1 °C). Each has a status bar and control buttons.

Configuration file

- COM1 //serial port
- D:\CMS\ChFrontEnd\Bin //data dir
- 2 //index to chamber type
- 007 //chamber number
- 2.992 //Chamber VrefPIC
- 14.9 //SL 1 threshold
- 14.9 //SL 2 threshold
- 14.9 //SL 3 threshold

Saved status file

cmsdbheader version 200
cmsdbheader fileid SL_PHI_2

Fast Mask Lines: line 1 OFF - line 2 OFF

Board VCC 4.93 V
Board VDD 2.6 V
Threshold set 14.9 mV
Average Temperature 25.65 °C
Max Temperature 41.29 °C

Chips Temperature

Board 1	22.52	24.08	20.96	22.52
Board 2	24.08	25.65	22.52	24.08
Board 3	24.08	20.96	24.08	25.65
Board 4	25.65	25.65	24.08	22.52
Board 5	24.08	24.08	20.96	22.52
Board 6	20.96	22.52	24.08	22.52
Board 7	22.52	25.65	22.52	20.96
Board 8	22.52	25.65	27.21	27.21
Board 9	24.08	25.65	20.96	24.08
Board 10	24.08	28.78	24.08	24.08
Board 11	22.52	22.52	25.65	24.08

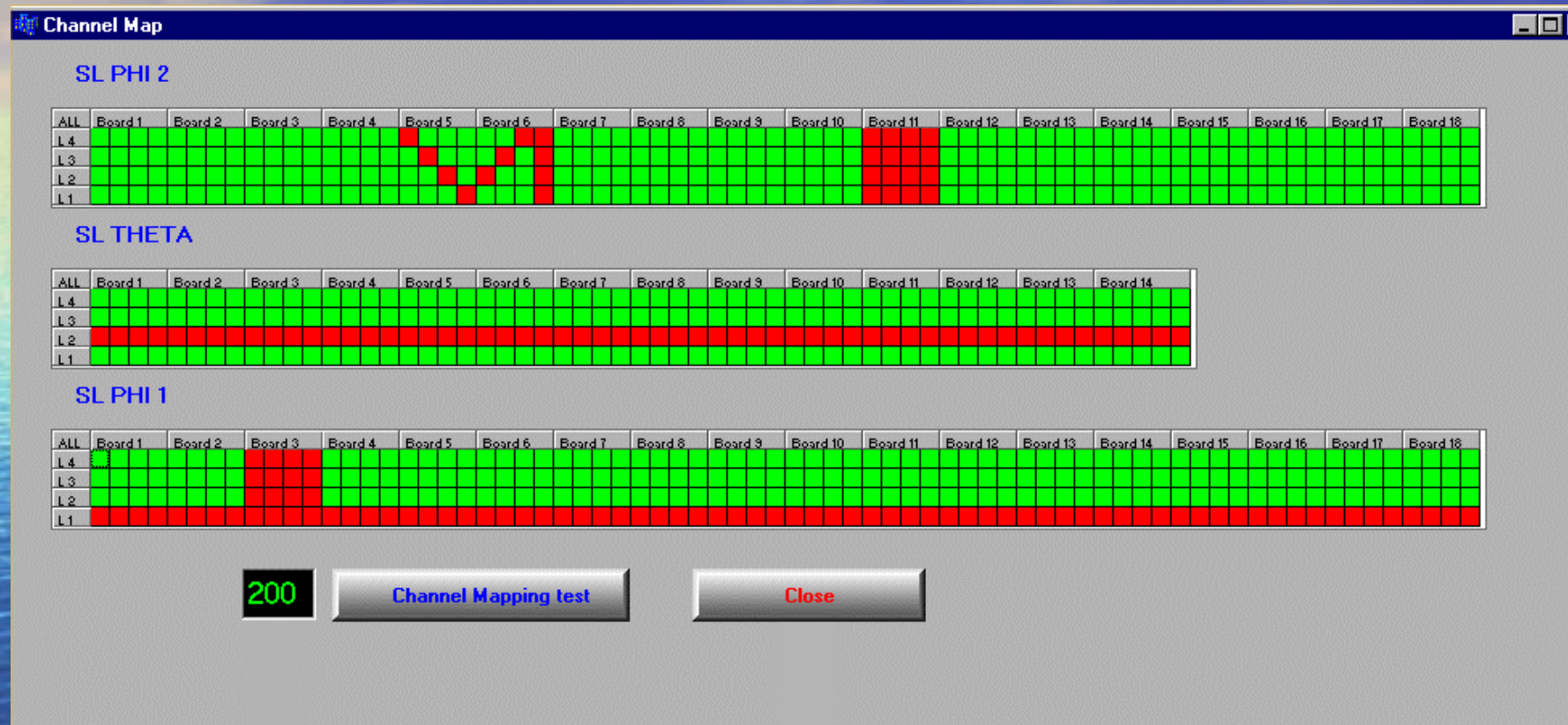
Saved status file

Board 12	24.08	25.65	30.34	25.65
Board 13	24.08	27.21	27.21	27.21
Board 14	25.65	25.65	25.65	24.08
Board 15	27.21	24.08	24.08	27.21
Board 16	25.65	24.08	25.65	24.08
Board 17	27.21	25.65	25.65	24.08
Board 18	27.21	25.65	25.65	25.65

Boards channel masks

Board 1	0
Board 2	0
Board 3	0
Board 4	0
Board 5	FFFF
Board 6	0
Board 7	0
Board 8	0
Board 9	0
Board 10	0
Board 11	AAAA
Board 12	0
Board 13	0
Board 14	0
Board 15	0
Board 16	0
Board 17	0
Board 18	0

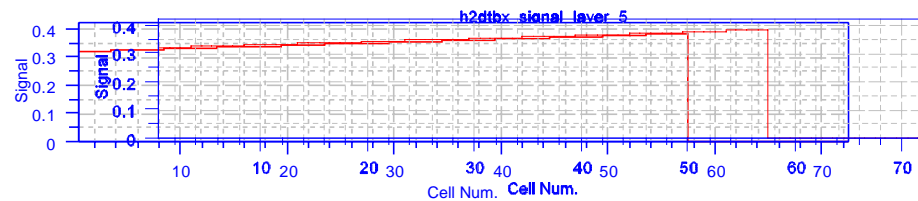
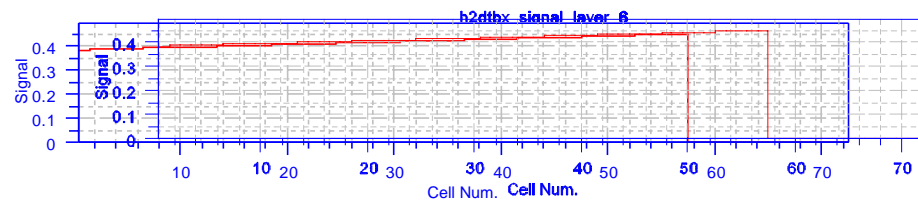
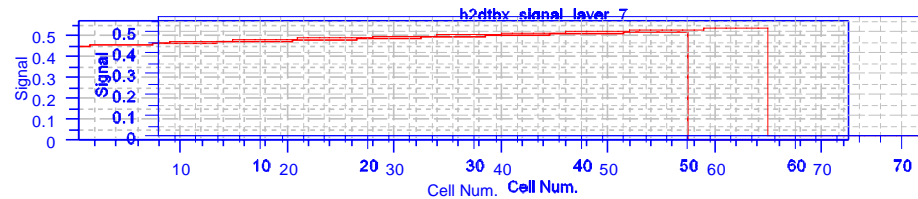
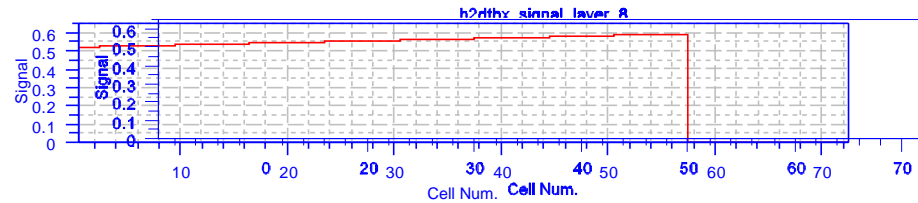
Mask grid



- Mask control at single channel, board, layer, superlayer level
- Automatic test of single channel mask

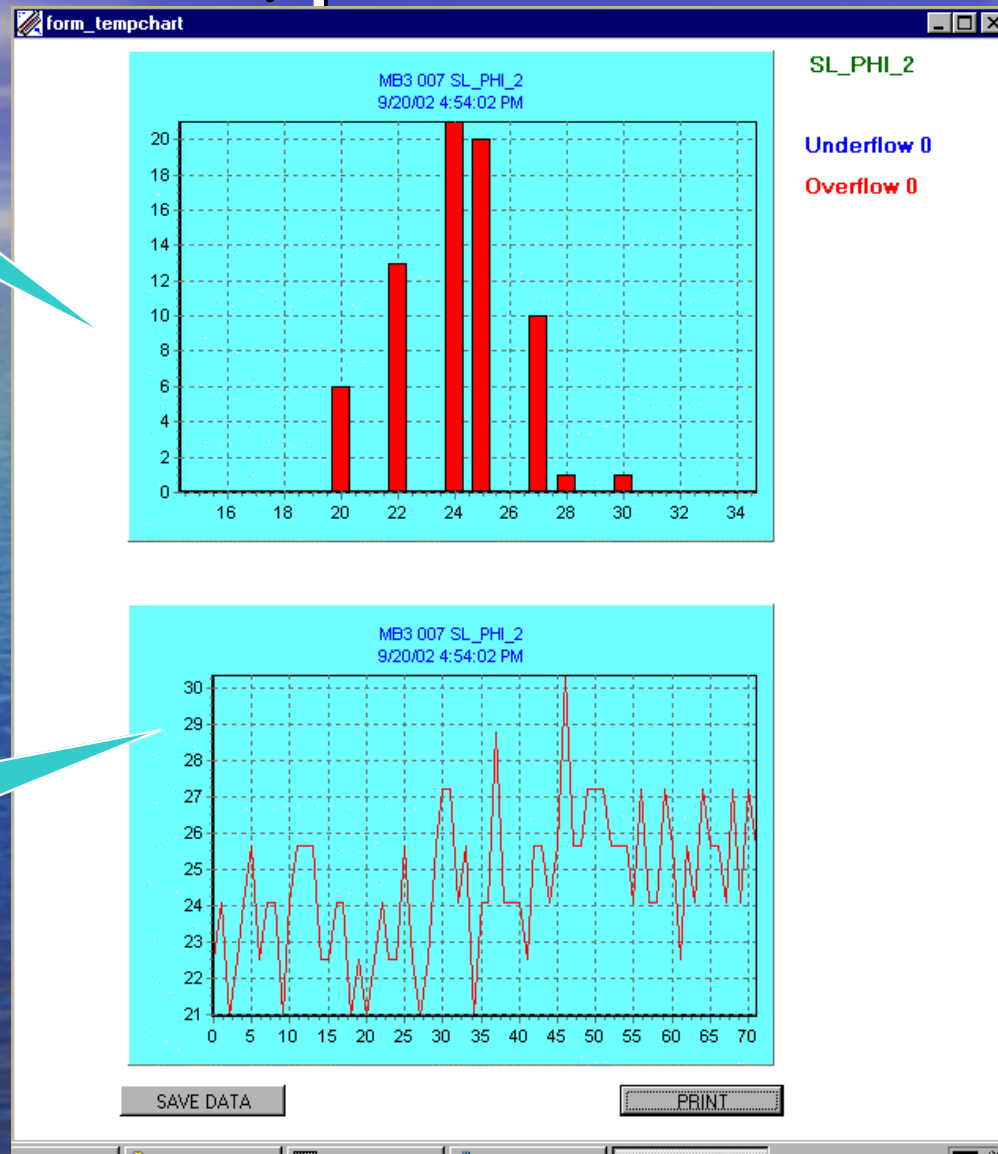
Channel mask test

RUN=2633 Event Type=Cosmic Events=2093/2 Date=09/08/02 17:05:34:837290
Chamber Num=7 Strip=Phi12 Phi1=12 Phi2=13
Anode HV (V)=3700 Cathode HV (V)=1200 Strip HV (V)=1800 ThV(mV)=14.9
Flux(%)=16.0 (ppm)=130 (ppm)=1300 (ppm)=1020.0



SI temperature charts

MAD
temperature
distribution



MAD
temperature
trend