THRESHOLD settings

Log on: **lx-pool.gsi.de**
user: **s371**
From lx-pool log on the RIO VME CPU: **r2f-37** (ssh s371@r2f-37)
Directory: **/bio/usr/s371/mbsrun/jul_2011/vme_trig/M26-JTAG-lynxos**
The program **readconfigM26** (it takes about 30 seconds) is called at start run to initialize the vertex thresholds.

The files to initialize the 8 M26 pixel sensors through JTAG are listed in the text file:
(Edit from lx-pool machines)
/lynx/Lynx/bio/usr/s371/mbsrun/jul_2011/vme_trig/M26-JTAG-lynxos/configM26.dat
In this file line starting with **//** are comments. Each line list the file used to initialize the specific M26 pixel sensor, T0,T1,T2,T3 are the labels for the 4 sensors on one side (T=Top) while B0,B1,B2,B3 are the labels for the sensor on the other side (B=Bottom).
Example:

……
……
//
// Config for TEST!!!!
//
T0 M26_config_files/daq_test_2x80Mhz_TEST_8001.TXT
T1 M26_config_files/daq_test_2x80Mhz_TEST_8002.TXT
T2 M26_config_files/daq_test_2x80Mhz_TEST_8003.TXT
T3 M26_config_files/daq_test_2x80Mhz_TEST_8004.TXT
//
B0 M26_config_files/daq_test_2x80Mhz_TEST_8005.TXT
B1 M26_config_files/daq_test_2x80Mhz_TEST_8006.TXT
B2 M26_config_files/daq_test_2x80Mhz_TEST_8007.TXT
B3 M26_config_files/daq_test_2x80Mhz_TEST_8008.TXT
//
……
……

For each M26 pixel sensor there are 4 thresholds values (0 → 255). Their value can be set in the previous listed files:
Example:

……
……
177 ; :BIAS_DAC[0][10]
166 ; :BIAS_DAC[0][11]
192 ; :BIAS_DAC[0][12]
203 ; :BIAS_DAC[0][13]
……
……
Here the programmed values are (M26 has 576 rows ans 1152 columns of pixels):
Quadrant D (column 865-1152) 177
Quadrant C (column 577-864) 166
Quadrant B (column 289-576) 192
Quadrant A (column 1-288) 203

To disable one entire column (disabling a single pixel is not possible) we can set to **1** the relative value in the same file:
Example:
……
……
0 ; :DIS_DISCRI[0][573]
0 ; :DIS_DISCRI[0][574]
0 ; :DIS_DISCRI[0][575]
1 ; :DIS_DISCRI[0][576]
0 ; :DIS_DISCRI[0][577]
0 ; :DIS_DISCRI[0][578]
0 ; :DIS_DISCRI[0][579]
……
……
Here the column number 576 is disabled.

Two script:

sh threshold_settings 4 to show the the threshold values on sensor number 4 (..) (header 80048004)

Threshold (A=[13],B=[12],C=[11],D=[10]) values in 8004:

185 ; :BIAS_DAC[0][10]

240 ; :BIAS_DAC[0][11]

125 ; :BIAS_DAC[0][12]

220 ; :BIAS_DAC[0][13]

sh disabled_column 4 to show the column masked on sensor number 4 (..) (header 80048004)

Channel disabled in 8004:

1 ; :DIS_DISCRI[0][576]

DAQ and monitoring

Log on: **lx-pool.gsi.de**
user: **s371**
From lx-pool log on the RIO VME CPU: **r2f-37** (ssh s371@r2f-37)
Directory: **/bio/usr/s371/mbsrun/jul_2011/vme_trig/**

Reset the daq system: **resl**
Start the daq system: **mbs**
Start the server monitor: **sta task m_stream_serv** (is in the script: startup.scom)
Start the acquisition: **@startup**

To check the event size: **type ev –v**
This commands dump the interaction region last event (hex format)

On the **lx-0014** from the **lx-pool** machines: **mrevserv r2f-37**
This commans start the receiver of the monitoring data and tells the name of the lx-pool machine serving the data, this information is needed in the macro (**/u/s371/eleuterio/OnlineVtx_update.C**) to read and plot them.

To start the online monitor:
Log on: **ssh –X s371@lx-pool.gsi.de**
Directory: **/u/s371/eleuterio/**
Command: **. go4login 404-02**
Command: **tcsh**
Command: **source mylogin.csh**
Command: **root OnlineVtx_updade.C+**

Then the 2 Canvas windows should appear (remember –X at logon):

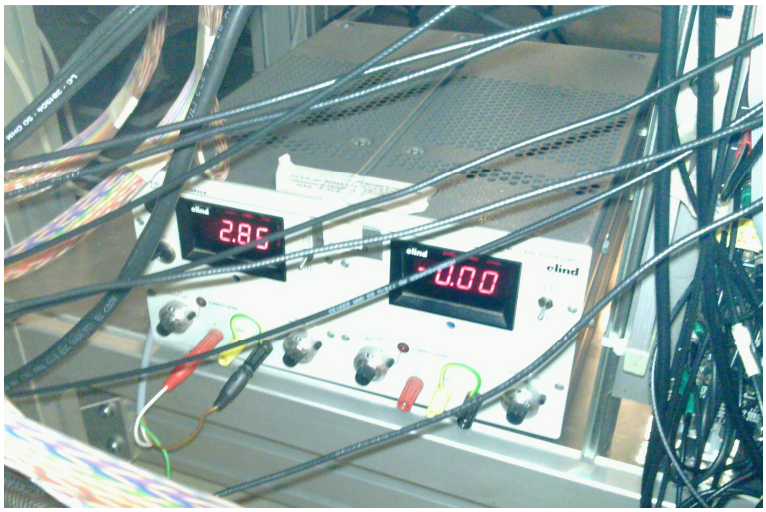
- On one windows thera are 8 plots (one for sensor) with the overall rate per column.
- On the second windows the data size (number of long words) per sensor versus trigger number.

Carbon (graphite) target position

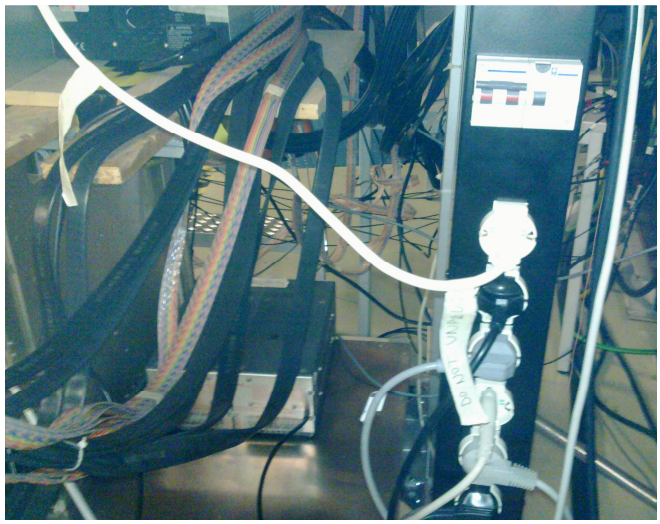
Looking to the Vertex from the beam pipe (Cave entrance on the left) the 3 targets are positioned as following:

5 mm	empty	empty	**8 mm**	**3 mm**	

Vertex power supply



Left channel: **Voltage 5.5 V - Current 2.80 A -3.05 A**



Vertex FAN power cord. **ALWAYS CONNECTED!!!!!**