

July 12, 2010

Procedure to Power Up and Reconfigure the L1Cal System

Power up the L1Cal System:

- 1) If the switches to the racks and the systems on them are off, turn them on by flipping them up. Start with the Main Breaker Switch (double switch). Their locations are shown on the Figure 1. If the alarm is set off in any system, push the reset button (you may have to hold pressed for a few seconds) on the panel below the switches to clear the alarm.



Crate, Water, Fan and Main Breaker Switches to turn on/off power to the crates and the alarm systems.

Figure 1) Switches on each rack to use to turn on/off the power to the racks and the systems on the racks.

- 2) Turn on the ADF, Control and TAB/GAB crates using the red switches on each crate by holding them up for couple of seconds. Figure 2 shows where the switches are and Table 1 shows the location of each crate.

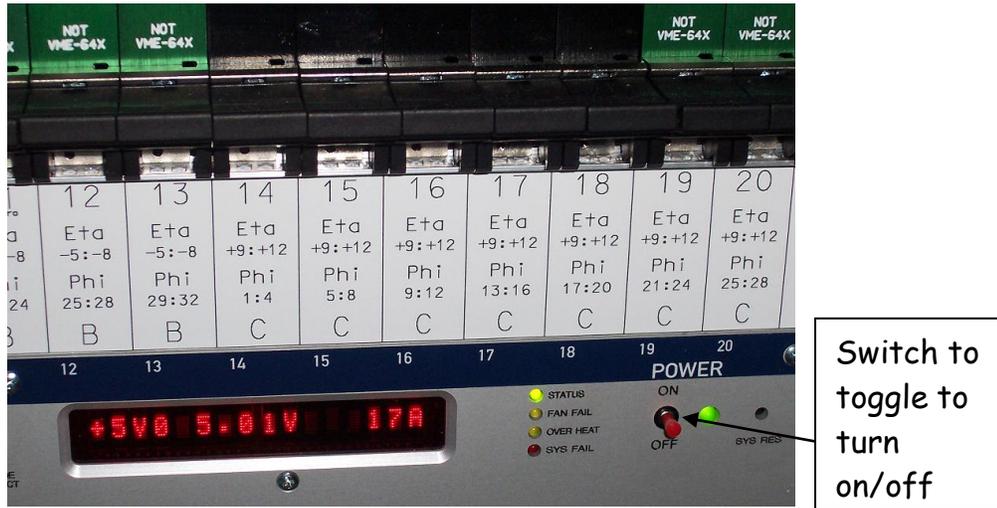


Figure 2) Toggle switch on each crate to use to turn on/off the crates.

Crate ID	Rack ID
ADF - A	M104
ADF - B	M106
ADF - C	M109
ADF - D	M111
TAB/GAB	M107
Control	M108

Table 1) MCH1 Crates and their locations

- 3) Turn on the L1Cal Trig TCC by reaching for the front switch on rack M103; it is the black Dell PC. It boots.
- 4) Press "L1Cal Trig" on the box at the top of Rack M102 (see Figure 3 below) to choose L1Cal Trig TCC.

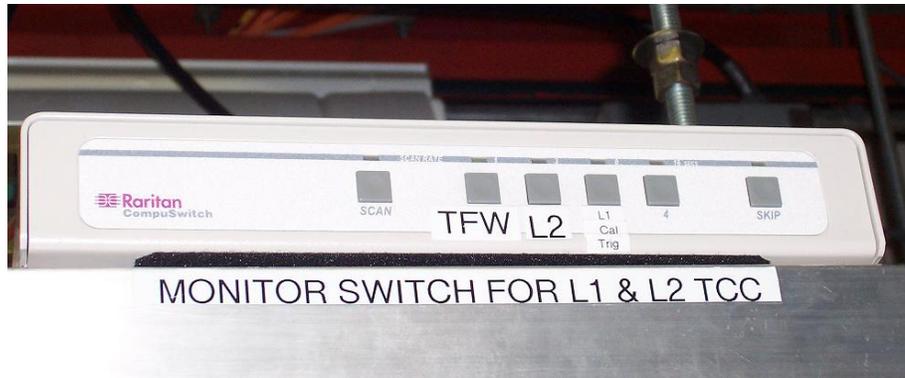


Figure 3) Box to select to monitor for L1Cal Trig TCC.

Login/password: d0l1/Level1

Type on the command line: startx
The windows with icons appear.

Start the procedures by clicking on the "Chip" icon (TCC), wait until L1Cal Trig TCC is finished, and then the "?? in a box" icon (L1Cal_IIb_GUI).

Reconfigure the L1Cal system:

1) On L1Cal Trig TCC, do:

```
cd ~d0cal/l1cal2b/tablib/run  
./bin/power_up --verbose --all
```

```
ls firmware (to list the versions of firmware. Use the last version,  
which is 3.00)  
./bin/configure --all version_3.00
```

On the TAB modules, the lights -LED3, 4, 3.3V and cycleone- are on,
on the GAB module the lights -3.3V and cycleone- are on.

2) You already have the L1Cal_IIb_GUI on the L1Cal Trig TCC console (rack M102) from step 4 above. The GUI is shown below in Figure 4).

a) On the GUI's Main page (click on Main button to get there), click on the following boxes in order:

Simu COOR Msg

(on the next window) Configure all FPGA's

Send Request

This takes about 5 minutes. You can see the LED lights on the ADF cards coming on in sequence, starting with the Crate-A. While waiting, do the Step 3 below.

Note: This command configures the ADFs but not the TAB/GABs. TAB/GABs are configured by the command line described above in step 1.

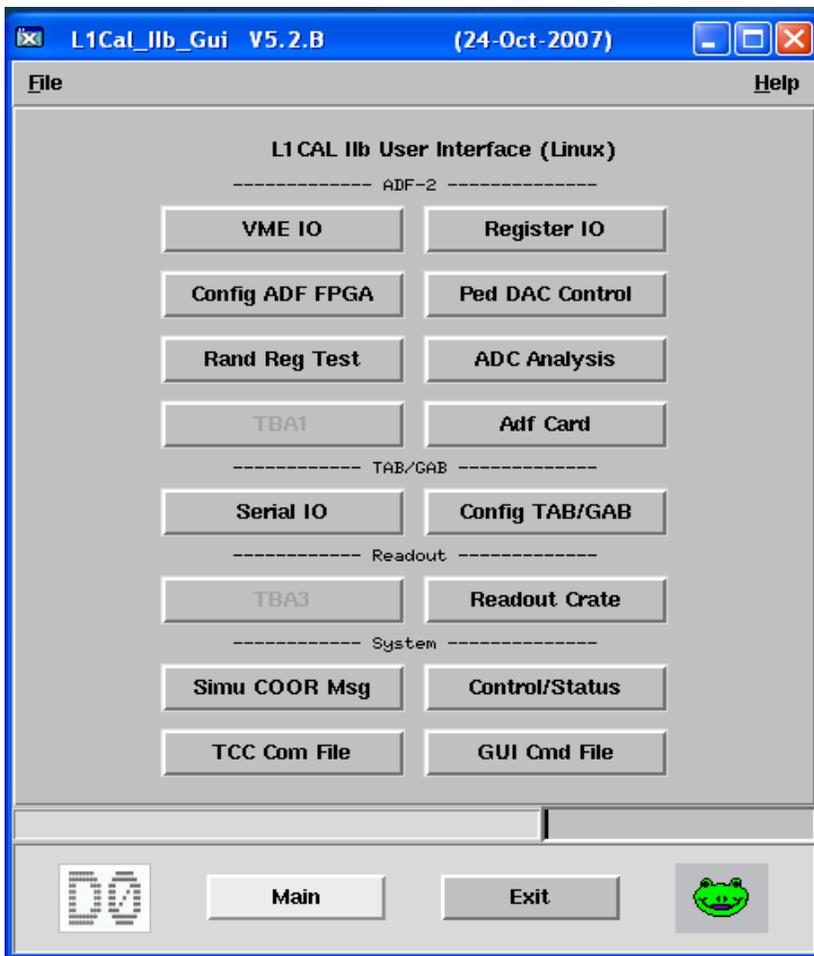


Figure 4) L1Cal_IIb_GUI

b) On the GUI's Main page (click on Main button to get there), click on the following boxes in order:

Simu COOR Msg
Initialize
Send Request

The initialization could take a couple of minutes (see Step 4 below)

- 3) If you have not done it already during Step 2a while waiting, start the L1Cal TT Monitor GUI and L1Cal TAB_GAB Monitor GUI on an online machine. See the appropriate procedure for them with these titles. They are shown below in Figure 5 and Figure 6 for a normal condition. They may look different (pink sections) at this stage.
- 4) When the Initialization is finished, you should see the L1Cal TT Monitor GUI (titled "IIB L1 TT Energies") and L1Cal TAB_GAB Monitor GUI (titled "L1CalIIB Status Register Readouts from TABs and GAB") in the control room look as they should (**no pink boxes**), as shown below Figure 5 and 6.
- 5) Sometimes, the "L1CalIIB Status Register Readouts from TABs and GAB" displays errors on the second right-most column (S-30) where the box is purple. That means a bit setup error when GAB communicates with the TABs. In this case do the following:
 - a) On the L1Cal_IIB_GUI, choose on the MAIN page Control/Status and then L1Cal Non-Operational.
 - b) On the command line, power down and up the GAB only:

```
./bin/power_down --verbose 8  
./bin/power_up --verbose 8
```
 - c) Back on the L1Cal_IIB_GUI on the MAIN page, choose ConfigTAB/GAB, and on that window click on the GAB radio button only. Then click Send Request. You will see "timeout"

on the message box with red background and some error messages on the shell window. Ignore all these.

- d) Wait about 3 minutes, or see that GAB unit on the rack has two status lights are on, then Initialize the system on the L1Cal_IIb_GUI (as Step 2b).

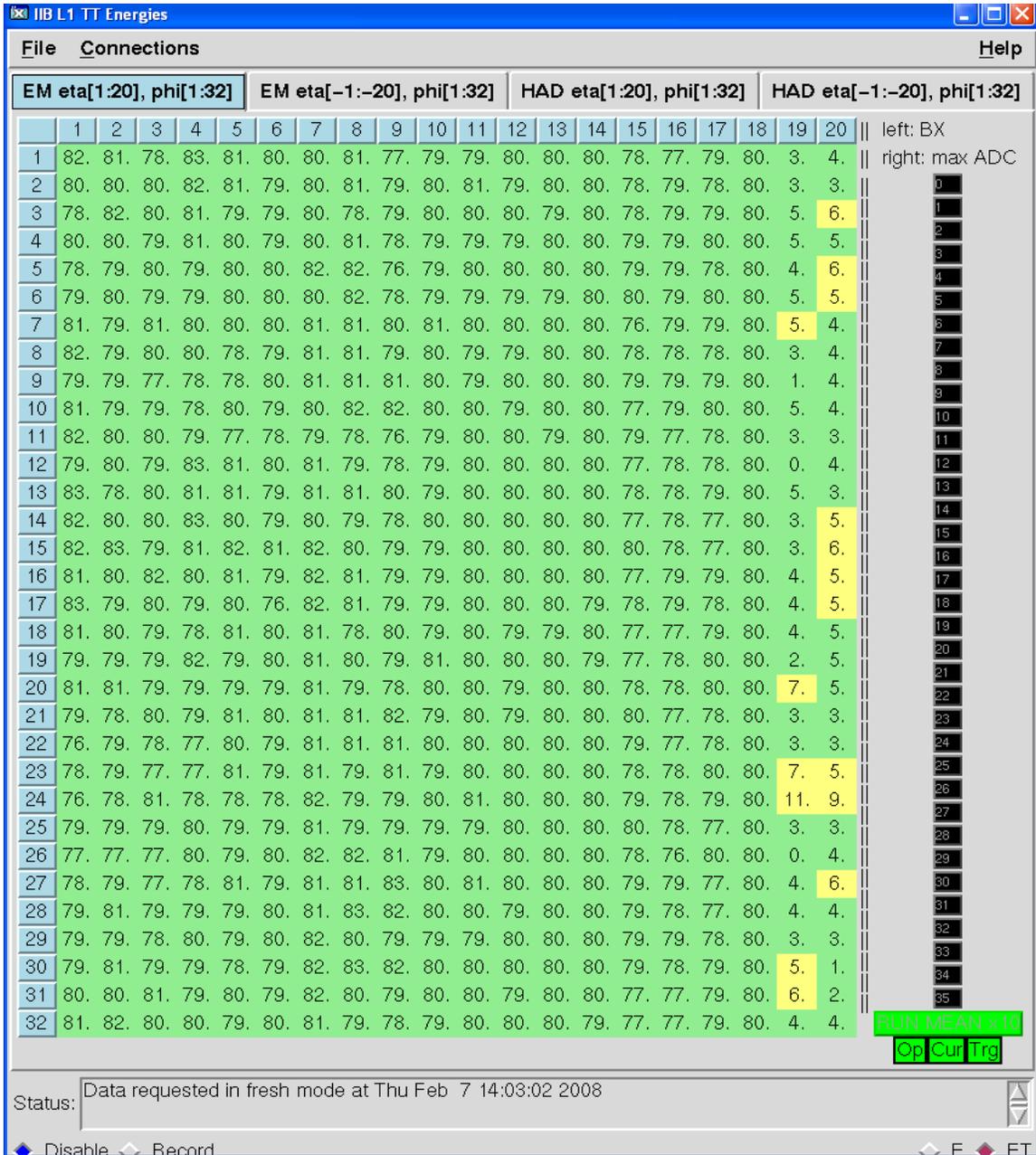


Figure 5) L1Cal TT Monitor GUI.

BIT: ERROR	OR of all corresponding bits (0-15) on a given TAB Board (0-7)								BIT: ERROR	output of each chip on GAB Board					BIT: ERROR
SWA BIT	0	1	2	3	4	5	6	7	LVDS BITS	LVDS 0	LVDS 1	LVDS 2	LVDS 3	S-30	S30 BITS
0: parity	2/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0: pulse	0/0	0/0	0/0	0/0	917/0	0: SCL init
1: parity	0/0	0/0	0/0	0/0	0/0	0/0	0/0	2/0	1: PLL lock	0/0	0/0	0/0	0/0	917/0	1: running
2: parity	0/0	0/0	0/0	0/0	0/0	0/0	2/0	76/0	2: parity	0/0	0/0	0/0	89/0	0/0	2: PLL
3: sync	84/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	3: parity	0/0	0/0	0/0	0/0	0/0	3: L1err
4: sync	0/0	0/0	0/0	0/0	0/0	0/0	0/0	2/0	4: parity	0/0	0/0	0/0	0/0	0/0	4: None
5: sync	0/0	0/0	0/0	0/0	0/0	0/0	90/0	0/0	5: parity	0/0	0/0	0/0	0/0	0/0	5: None
6: Bx	84/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	6: synch err	0/0	0/0	0/0	0/0	0/0	6: None
7: Bx	0/0	0/0	0/0	0/0	0/0	0/0	0/0	89/0	7: Bx err	0/0	0/0	0/0	0/0	0/0	7: None
8: Bx	0/0	0/0	0/0	0/0	0/0	0/0	90/0	0/0	8: valid err	0/0	0/0	0/0	0/0	0/0	8: None
9: PLL (latch)	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	9: slcbo err	0/0	0/0	0/0	0/0	0/0	9: None
10: mode	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	10: sclturn err	0/0	0/0	0/0	0/0	0/0	10: None
11: PRN data	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	11: PLL(latch)	0/0	0/0	0/0	0/0	0/0	11: None
12: PRN data	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	12: None	0/0	0/0	0/0	0/0	0/0	12: None
13: PRN data	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	13: None	0/0	0/0	0/0	0/0	0/0	13: None
14: Expert 1	0/0	0/0	0/0	0/0	0/0	0/0	0/0	2/0	14: None	0/0	0/0	0/0	0/0	0/0	14: None
15: Expert 2	28460/4	28460/4	28460/4	28460/4	28460/4	28460/4	28460/4	28460/4	15: None	33763/4	33763/4	33763/4	33763/4	0/0	15: None

Status: Connected to server at Thu Feb 7 14:04:55 2008

Clear Local Counter

Figure 6) L1Cal TAB_GAB Monitor GUI.