

Operating RCE system at SLAC

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Experts

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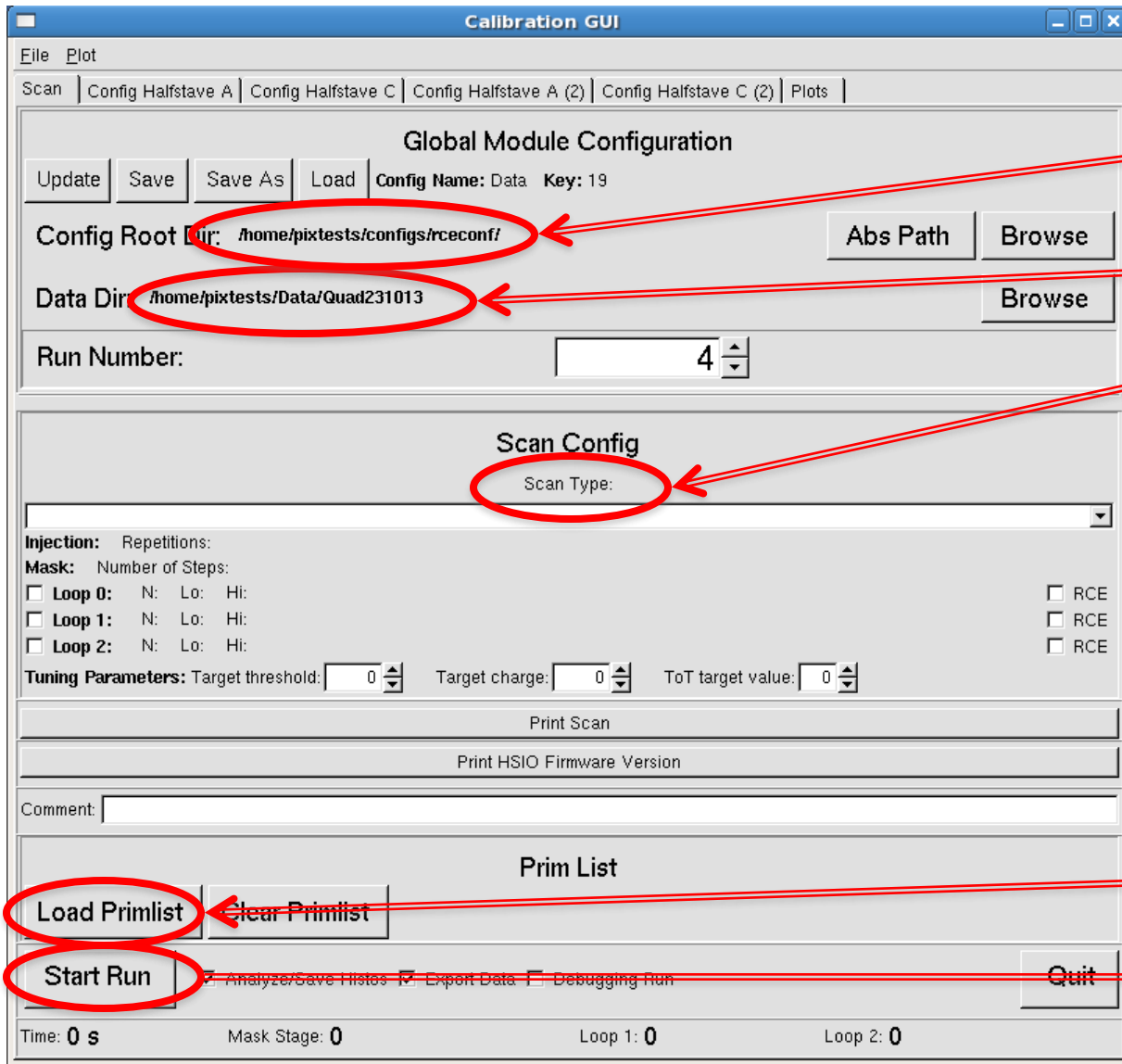
Documentation

- <https://twiki.cern.ch/twiki/bin/viewauth/Atlas/RCEPixelLab>
- LBNL Wiki

Running RCE

- IP address of rce PC: **172.27.104.28**
- You can check the system standalone by running calibGui or cosmicGui.
- On the RCE PC, log in as tbslac (tb2014)
 - > Make sure you have a tcsh shell
 - > cd daq/rce
 - > source scripts/setup_rce-04-00-01.csh
 - > rce_killall (to make sure nothing is already running)
 - > ipc_server &
 - > rce_ipc_server &
 - > rce_is_server &
 - > rce_load rce20 (or rce IP address)
 - > cosmicGui (or calibGui)

Calib GUI Scan



Config directory
(home/tbslac/configs/rceconf)

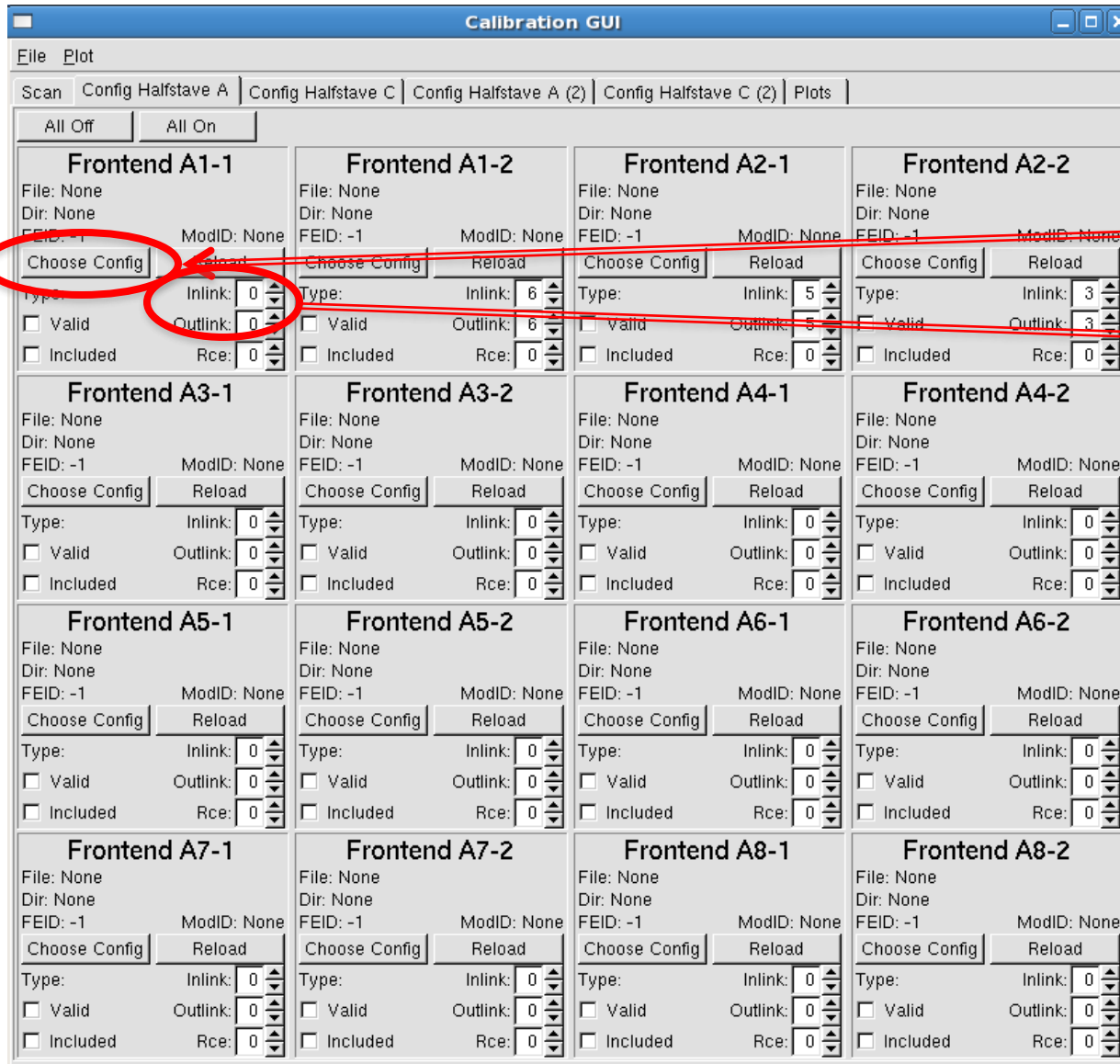
Data output

Choose scan type

Load primlist here

Start scan

Calib GUI – Config Halfstave

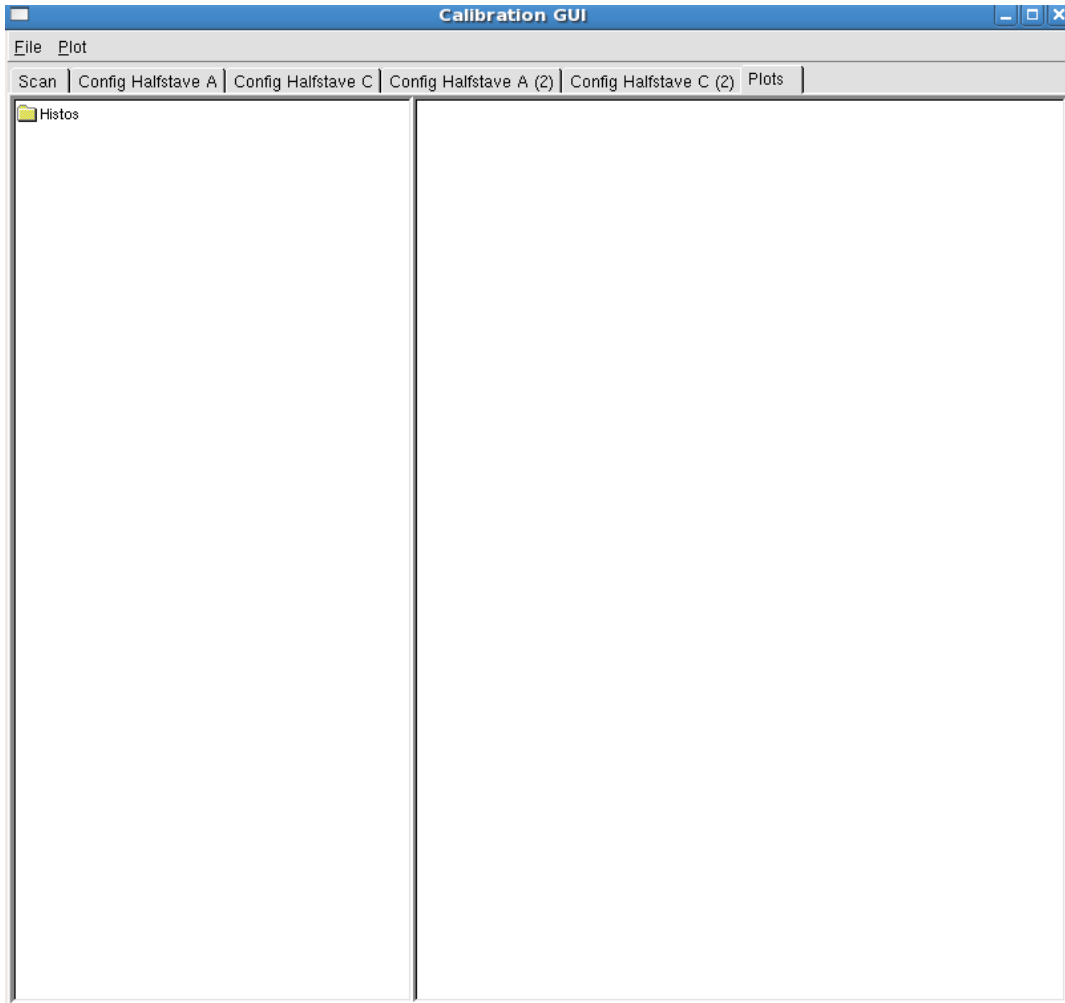


Choose Config

Enter In/Outlink

Important:
Rce: 0

Calib GUI - Plots



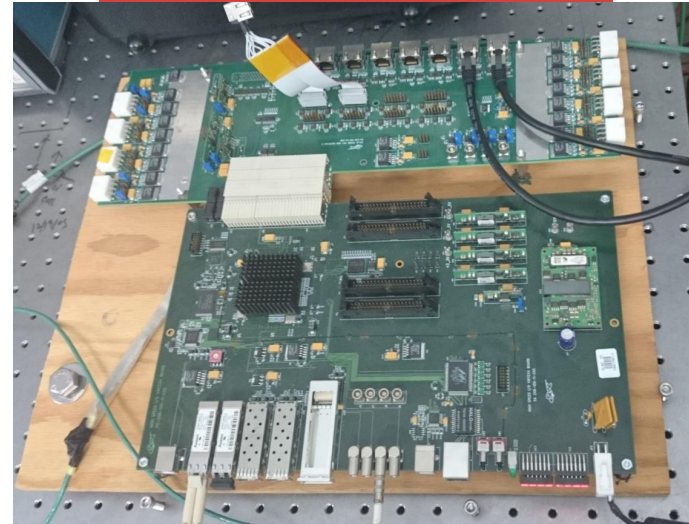
See results here

Hardware

ACTA crate and CIM



HSIO board



The PC

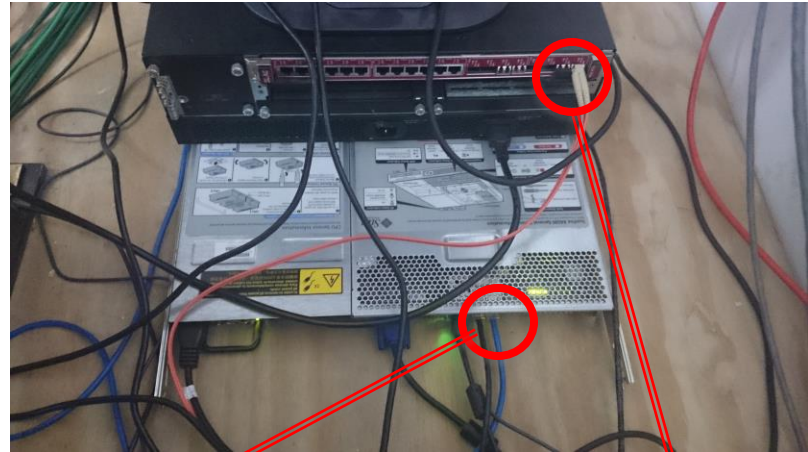


The switch



Hardware: ACTA crate and CIM

ACTA crate and CIM



Ethernet cable to NET1 on PC

Ethernet (blue) cable to CIM



Reset switch for RCE, requires small screwdriver



Fibre to HSIO XCVR1, CEM1

HSIO and cosmic board

TLU connector,
RJ45 to TLU

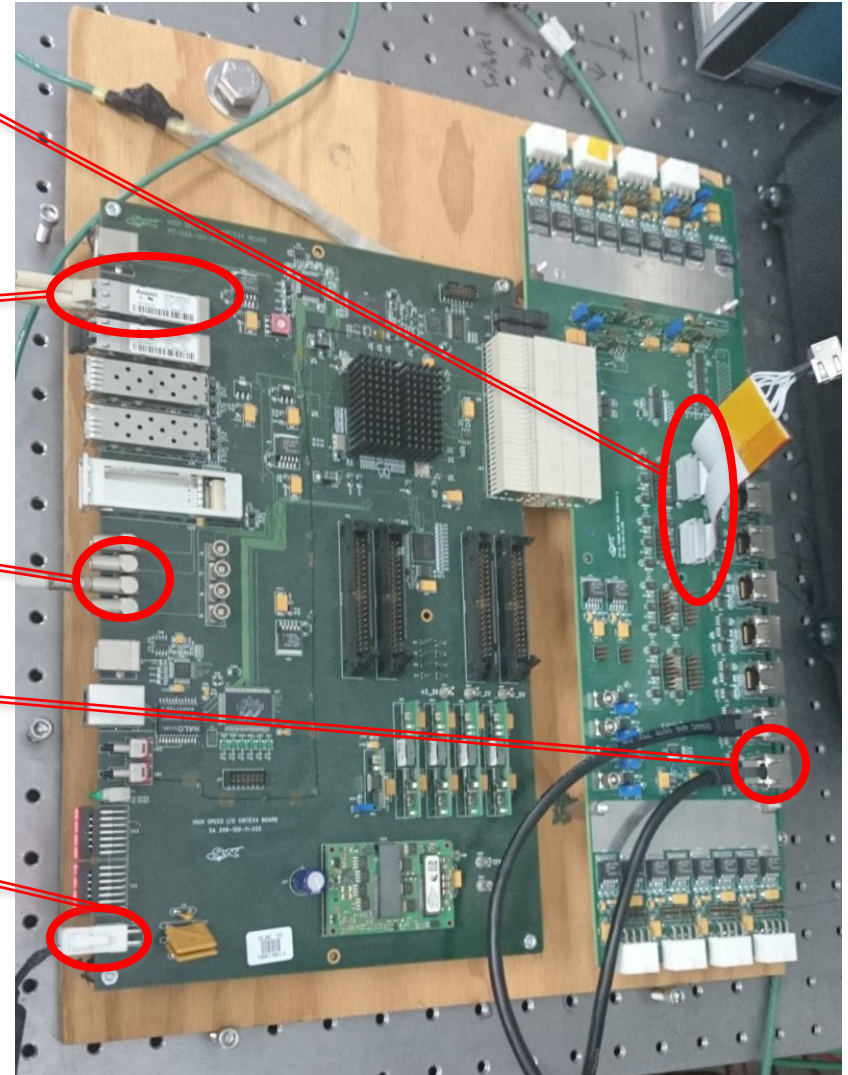
Fibre connection to RCE

Trigger Input

Data connection from DUT,
RJ45 (in/outlink 0)

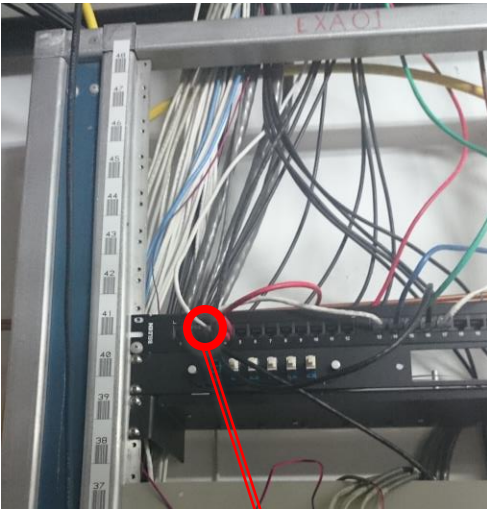
HSIO power

Power to DUT is provided separately

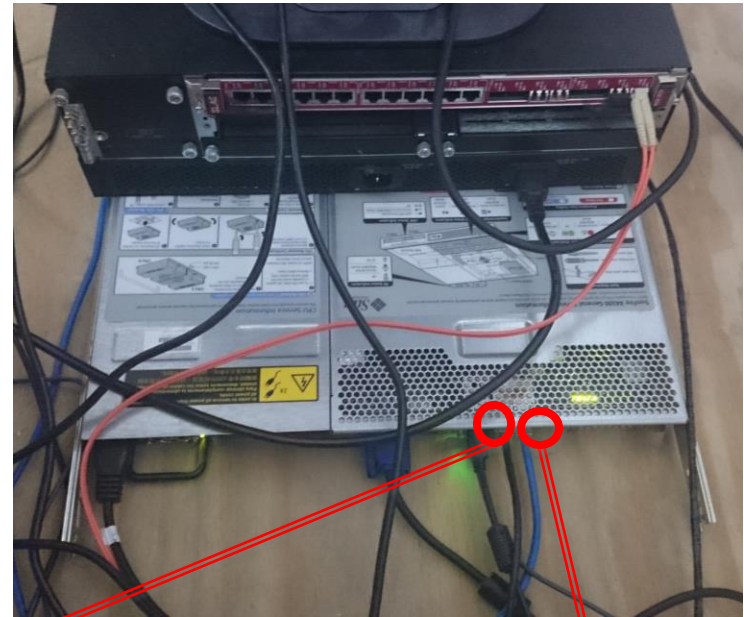


PC

- Connection to the outside SLAC world via eth0 (NET0), ip-address: 172.27.104.28



NET0
Ethernet connection
(black) to switch port
2 (SLAC network)



NET1
Ethernet connection
(blue) to CIM

Resetting the system

- If RCE crashes during a run to avoid hard reset (with screwdriver)



- In rce terminal window

- > rebootHSIO

- if this works then “> Rebooting HSIO on RCE 0”

- If it does not work “> No RCE in your partition”

- If it does not work

- Stop run to ensure there are no triggers
 - telnet to RCE, login in as root (no pwd), then type reboot in the shell
 - > rce_load rce20
 - > rebootHSIO
 - Restart run

Advanced information

- Sometimes you need to do:

`unsetenv LC_CTYPE` (← if you do not do this, RCE with crash at `rce_is_server` & step)

- Make sure that the IP to which the RCE is connected to is set right in the setup script

```
setenv ORBHOST ` /sbin/ifconfig | grep "inet addr:<IP address>" | head -1 | gawk -F: '{print $2}' | awk '{print $1}'`
```