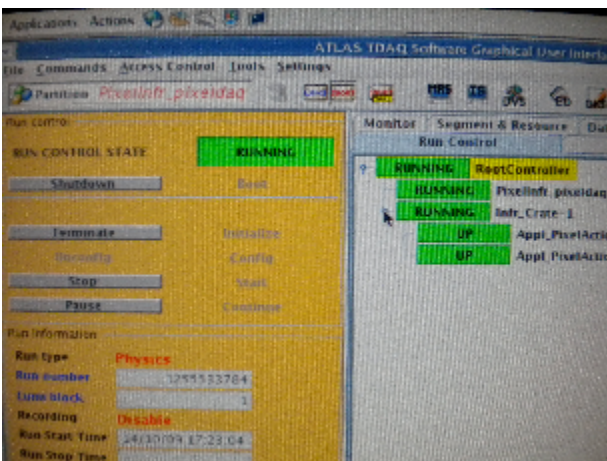
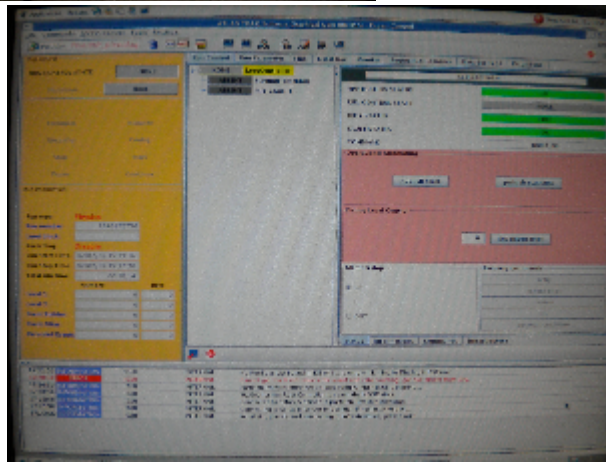
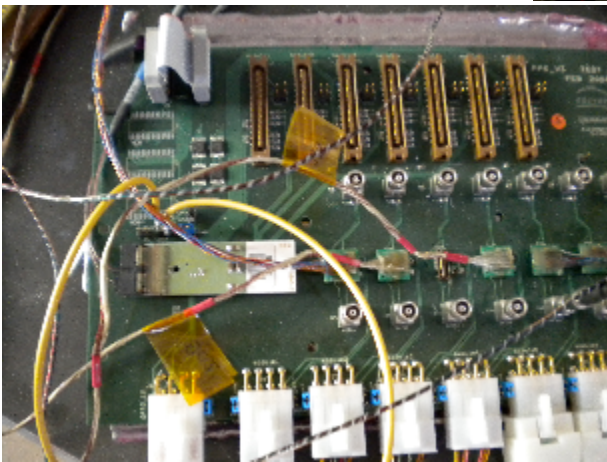


# Stand-Alone Pixel Teststands

Page to describe the setup and use of the teststand. Furthermore to provide documentation for all external teststands.

## CERN teststand

I include a few images of the setup of the CERN test stand to serve as a useful guide to those reading through the documentation to familiarize themselves with these setups, or to those interested in making a similar setup at their home institute.



Click any of the images above to expand the thumbnail

The teststand provides experienced users with a way to perform quick tests of software using a standalone infrastructure without relying on large scaling testing in the PIT or the TOOTHPIX setup. We provide the same infrastructure to setup the partition as with the PIT and SR1 and this can be brought up with minimal overhead as compared to the other systems. The teststand is meant to be updated with each new, validated release of the PixelDAQ code such that any tests that need to be done with the newest version can be performed immediately on this setup. It is further meant to serve as a way to develop code without recourse to using the PIT for the purpose of testing. Once the code is deemed validated and improved it can then be easily ported to the SR1 or PIT setup from the LabDb infrastructure where it will remain.

### **Example start up procedure - Start Infrastructure.**

There are a number of steps necessary to start up the teststand at CERN. Herein I outline how a user can login as pixeldaq, start the partition and prepare to run a simple scan. This should serve as a manual for any user who is fresh to this setup, but experienced with doing similar work in SR1, and wishes to use the teststand to perform simple calibration tests.

login to the machine as pixeldaq:

```
> ssh pixeldaq@pixdaq02 (ask your administrator for the password)
```

```
> daq_setup
```

```
> The test stand Db's are in this directory: /home/pixeldaq/daq/Applications/Pixel/LabDb
```

```
> ssh pixrcc01
```

```
> source /home/pixeldaq/daq/Applications/Pixel/LabDb/setup.sh
```

```
> pmgserver
```

```
> ....back on pixdaq02
```

```
> source /home/pixeldaq/daq/Applications/Pixel/LabDb/setup.sh
```

```
> start_infr
```

```
> This should bring up the PixelInfr_pixeldaq partition as shown in the image above. You can then BOOT->CONFIG->INITIALIZE->START the partition.
```

### **Some expert operations**

To change SLAVE image path (when partition is initialized)

```
$PIX_LIB/Examples/ChangeCfg --dbPart PixelInfr_pixeldaq --idTag LAB --save --setBinPref /home/pixeldaq/DSP --connTag LAB_1 --cfgTag LAB_1 --pendTag OnDb****
```

This should write it permanently to DB, but doesn't work for unknown reasons.

Conventionally DSP images are linked from this directory: /home/pixeldaq/DSP/

```
master.bin -> ../daq/RodDaq/NewDsp/MASTER/master.bin  
sdsp6713_xcode.bin -> ../daq/RodDaq/NewDsp/SLAVE/slave.dld
```

On pixrcc01 VME drivers are not loaded after reboot (needs fix)

As root:

Load Linux modules from /lib/modules/daq

insmod cmem\_rcc-2.6.9-55.0.2.EL.cernsbc.ko io\_rcc-2.6.9-55.0.2.EL.cernsbc.ko vme\_rcc-2.6.9-55.0.2.EL.cernsbc.ko

Run vme\_config to setup VME window size, etc.

/daq/slc4/tdaq/daq-02-00-01/installed/i686-slc4-gcc34-opt/bin/vmeconfig -a /lib/modules/daq/vmetab

Correct VME config can be changes with vmeconfig -i filename

Master map decoder 0 Decoder number = 0

Master map decoder 0 Enabled = Yes

Master map decoder 0 VME base address= 0x00000000

Master map decoder 0 PCI base address= 0x90000000

Master map decoder 0 Window size = 0x20000000

Master map decoder 0 Write posting = No

Master map decoder 0 VME space = A32

Master map decoder 0 AM code = User / Data

for a new release one needs to check out the HEAD of

Applications/Pixel/PixRCD/PixRCD-00-01-00/PixRCDConfiguration/LAB and

Applications/Pixel/LabDb

Paolo doesn't include the correct tag of these packages in a new release

For PixelDaq-1-3-2:

cvs co -r CERN-teststand-1-3-2 Applications/Pixel/PixRCD/PixRCD-00-01-00/PixRCDConfiguration/LAB

cvs co -r CERN-teststand-1-3-2 Applications/Pixel/LabDb

The teststand setup.sh is now sourced for pixeldaq.

To run pmgserver on pixrcc01:

\*\*\*\*

ssh pixrcc01 pmgserver

After a reboot the VME isn't configured. The drivers are loaded.

Run

/daq/slc4/tdaq/daq-02-00-01/installed/i686-slc4-gcc34-opt/bin/vmeconfig -a /lib/modules/daq/vmetab is sufficient.

\*\*\*\*