

The DAQ Gui

MAPS Group Meeting, RAL

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Starting the Gui

- ▶ Gui will be distributed with DAQ code release from Paul
- ▶ Requires java version 1.5 or above - highly recommend Sun's JRE

```
$ java -version
```

```
java version "1.6.0_03"
```

```
Java(TM) SE Runtime Environment (build 1.6.0_03-b05)
```

```
Java HotSpot(TM) Server VM (build 1.6.0_03-b05, mixed mode
```

This is NOT the default on the calicedaqX machines

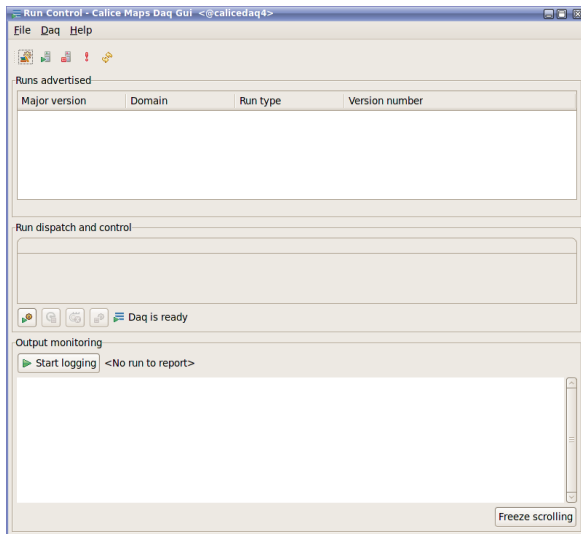
- ▶ To start it:

```
$ cd
```

```
$ cd online
```

```
$ startGui
```

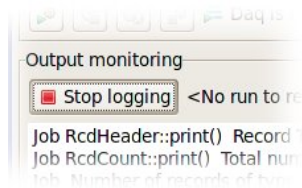
Starting the DAQ



- ▶ DAQ Startup, Shutdown, Status Refresh at the top
 - ▶ A table of runs the DAQ can perform
 - ▶ Run dispatch and control
 - ▶ Logging
- All buttons have tool tips

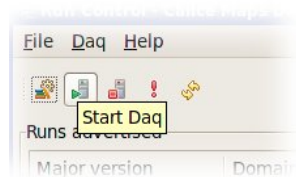
Start the DAQ

Start Logging system: press “Start Logging”



(Just pipes output of `runMonitor` command to window)

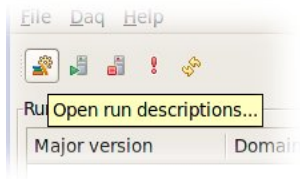
If `runMonitor` reports *shutDown* then press “Start Daq”



`runMonitor` then reports *slowReadout*

Configure a run

Open run descriptions



Open RunControlTypes.txt in
the online directory

Double click on a run in the table, it
will load in *Run dispatch and
control*

The screenshot shows the 'Run Control - Calice Maps Daq Gui' window. The 'Runs advertised' table is visible, with the row for 'Major version 50, Domain mps, Run type mpsNoise, Version number 0' selected. Below the table is the 'Run dispatch and control' panel, which is currently configured for 'mps/mpsNoise 0'. The panel includes fields for 'Version number' (0), 'Number of runs' (1), 'Print level' (9), 'Max run time (seconds)' (2147483647), 'Max number of configs' (2147483647), and 'Max number of bunches' (2147483647). There are also checkboxes for 'Create output file', 'Displays on', and 'Interrupt runner'. The 'Output monitoring' section shows 'Start logging' and '<No run to report>'. The bottom of the panel displays log output: 'Last RcdHeader:print() Record Time = 10:31:46.388-349 Sun Nov 18 2007, Type = 17 = slowReadout' and 'Last RcdHeader:print() Record Time = 10:31:46.388-349 Sun Nov 18 2007, Type = 17 = slowReadout'. A 'Freeze scrolling' button is located at the bottom right of the panel.

Major version	Domain	Run type	Version number
48	mps	mpsTest	0
49	mps	mpsExpert	0
50	mps	mpsNoise	0
51	mps	mpsPcbConfiguration: 0	0
52	mps	mpsThreshold	0

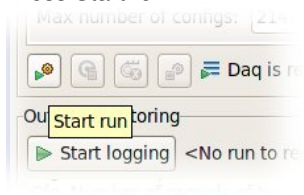
Configure a run

Important Options

- ▶ `Create output file`: Writes file to disk.
- ▶ `Interrupt runner`: Stops current run if true, otherwise queues this run up.
- ▶ `Create output file`: Writes file to disk
- ▶ `Print level`: Debug output, vary between 0 and 100 – logs are not currently displayed; I expect to implement these in the next release.
- ▶ `Create output file`: Writes file to disk

Start a run

Press **Start run**



Run Control - Calice Maps Daq Gui <@calicedaq4>

File Daq Help

Runs advertised

Major version	Domain	Run type	Version number
48	mps	mpsTest	0
49	mps	mpsExpert	0
50	mps	mpsNoise	0
51	mps	mpsPcbConfiguration	0
52	mps	mpsThreshold	0

Run dispatch and control

mps/mpsNoise

Create output file Displays on Interrupt runner

Version number: 0 Number of runs: 1

Print level: 9 Max run time (seconds): 2147483647

Max number of configs: 2147483647 Max number of bunches: 2147483647

Daq is busy

Output monitoring

Stop logging Run:470193

```
Job RcdHeader::print() Record Time = 16:27:41:681:724 Sat Nov 17 2007, Type = 0 = startUp
Job RcdCount::print() Total number of records = 258785
Job Number of records of type 0 = startUp = 1
Job Number of records of type 15 = sequenceStart = 7
Job Number of records of type 1 = runStart = 7
Job Number of records of type 2 = configurationStart = 274
```

Freeze scrolling

During a run

Controls

- ▶ *Start run*
- ▶ *End configuration*
- ▶ *End sequence*
- ▶ *Stop run*

Status

- ▶ Daq status is shown on the right of the run control buttons
 - ▶ Daq is unavailable
 - ▶ Daq is ready
 - ▶ Daq is busy
- ▶ The run number of a run being written to disk is shown on the right of *Start logging*

Shutting down

- ▶ The Gui is detached from the Daq programmatically - closing the Gui won't stop the Daq and v.v. (I hope!)
- ▶ To shut down the Daq, press *Shut down* at the top - the run monitor should report `shutDown` after a few moment, and the Daq status should change to *Daq not available*
- ▶ **Close gui with button at top right.**

Technical notes

- ▶ **Gui sends its own log output to console:** If it crashes, freezes and/or misbehaves, I'll need to see this.
- ▶ **Daq commands are executed as system processes:** The gui is detached from Paul's code - neither cares for the other. It is possible that a state will arise where the Gui closes, but system processes linger; this may need an eye kept on it.
- ▶ **Documentation:** A side of A4 with a summary of the operation is on its way. Code is javadoc'd and the API is on my work website, <http://www.hep.ph.ic.ac.uk/~jballin/DAQControl>
- ▶ **Future:** Call Daq code with JNI, rather than system processes