BCM1F
Status of DAQ Software

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- Introduction
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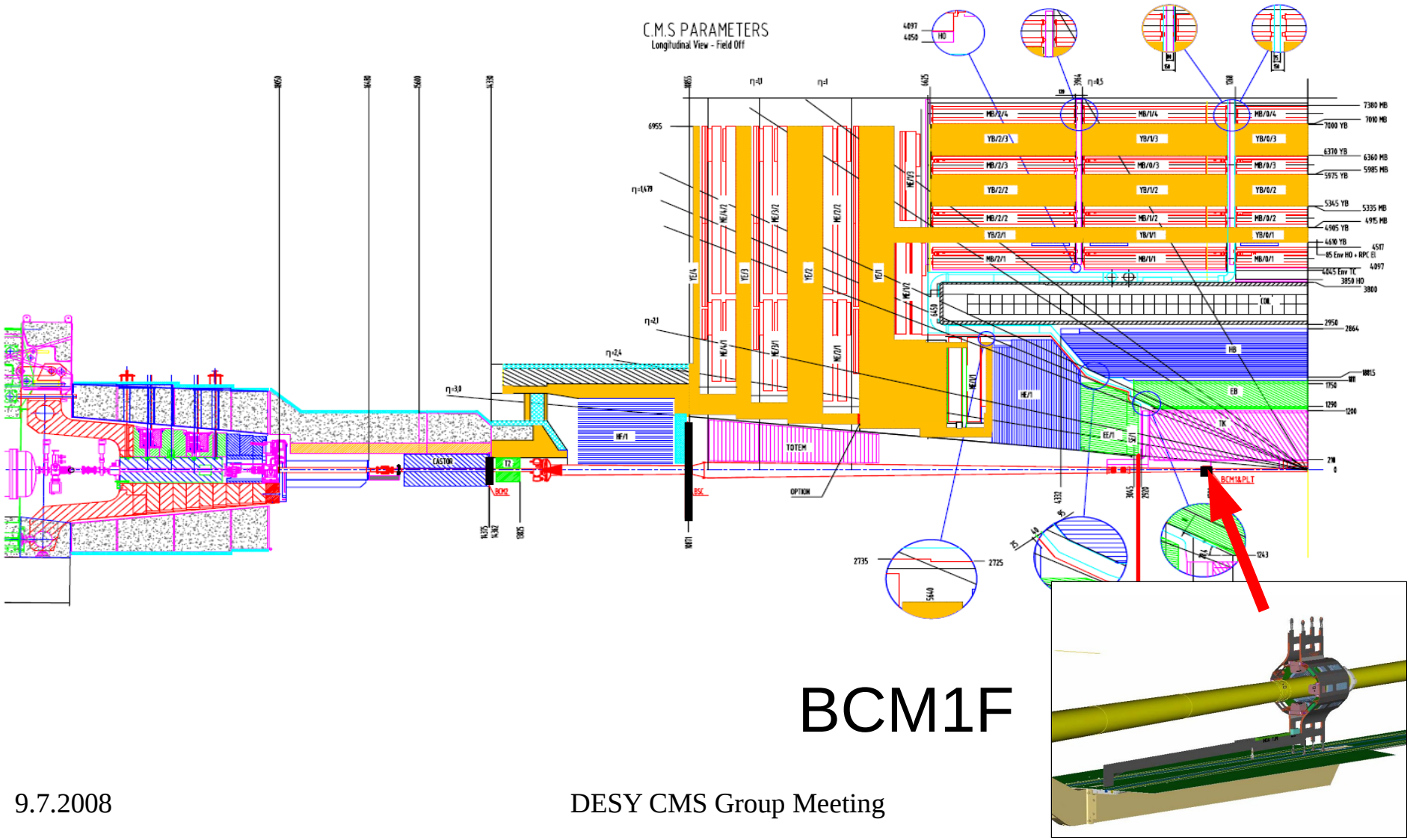
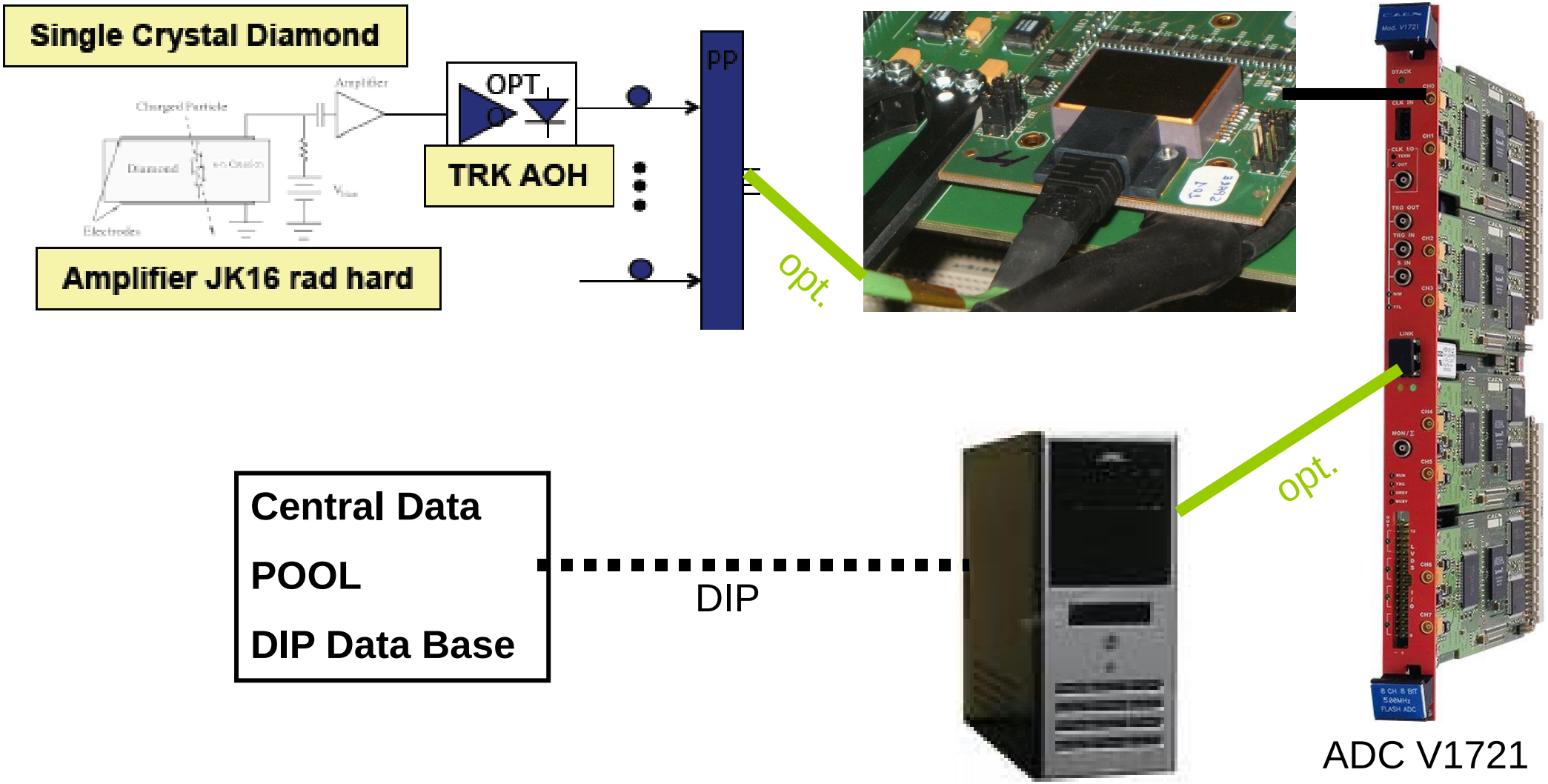
- BCM1F DAQ Software – Design Principles

Introduction ...



Readout-Chain



Digitizer's Main Properties

40MHz clock
(machine clock sync)

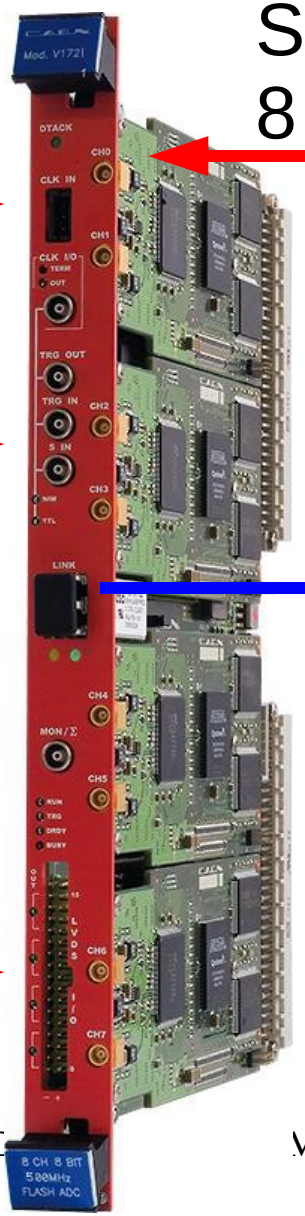
Signal from
8 BCM1F sc CVD diamonds

External Trigger
(Orbit clock ~12kHz)

Optical Link to
Readout PC

LVDS
Orbit number

LVDS pattern will be
in Event Header



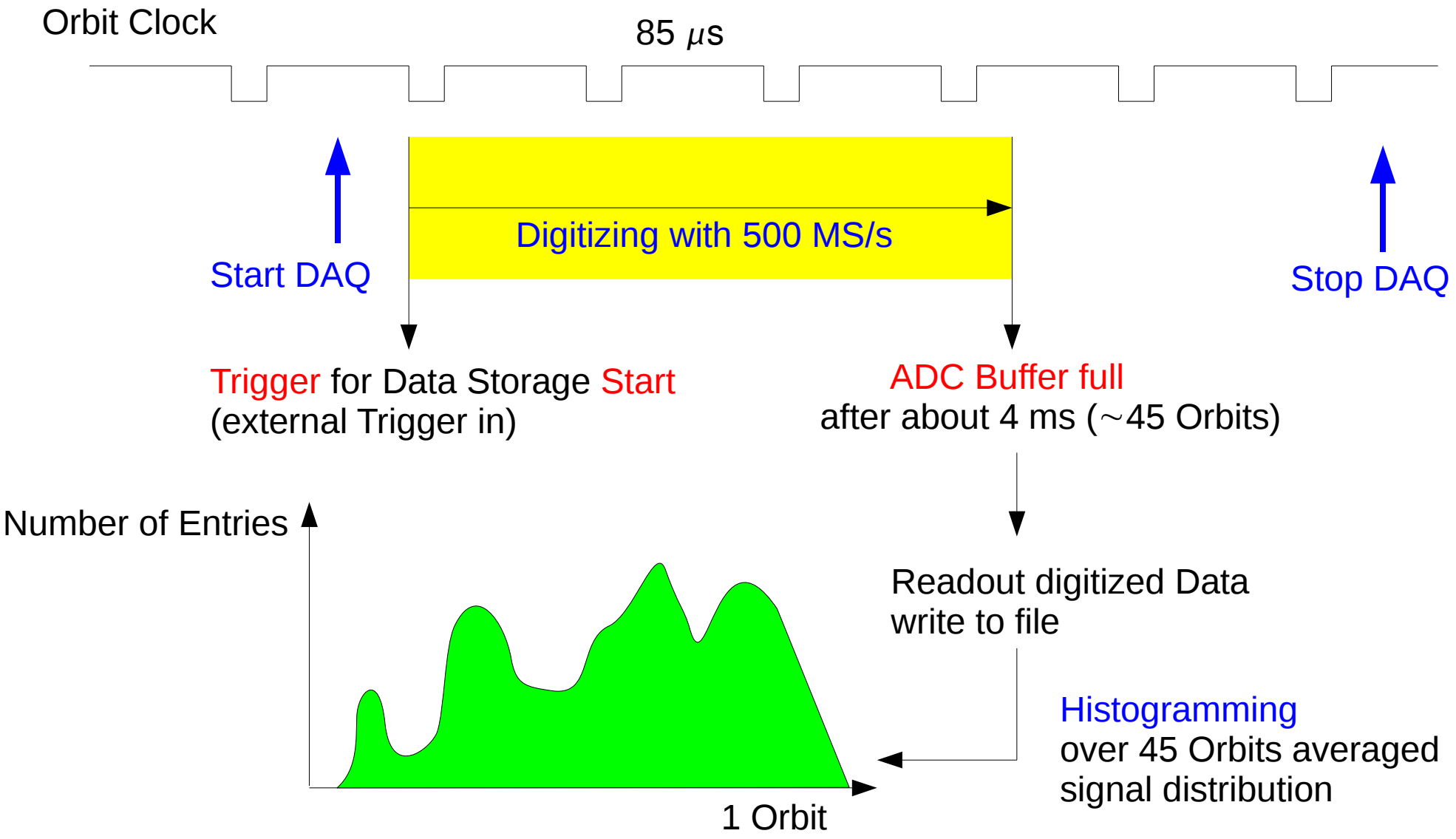
Further properties ...

Data (signal voltage levels) are digitized

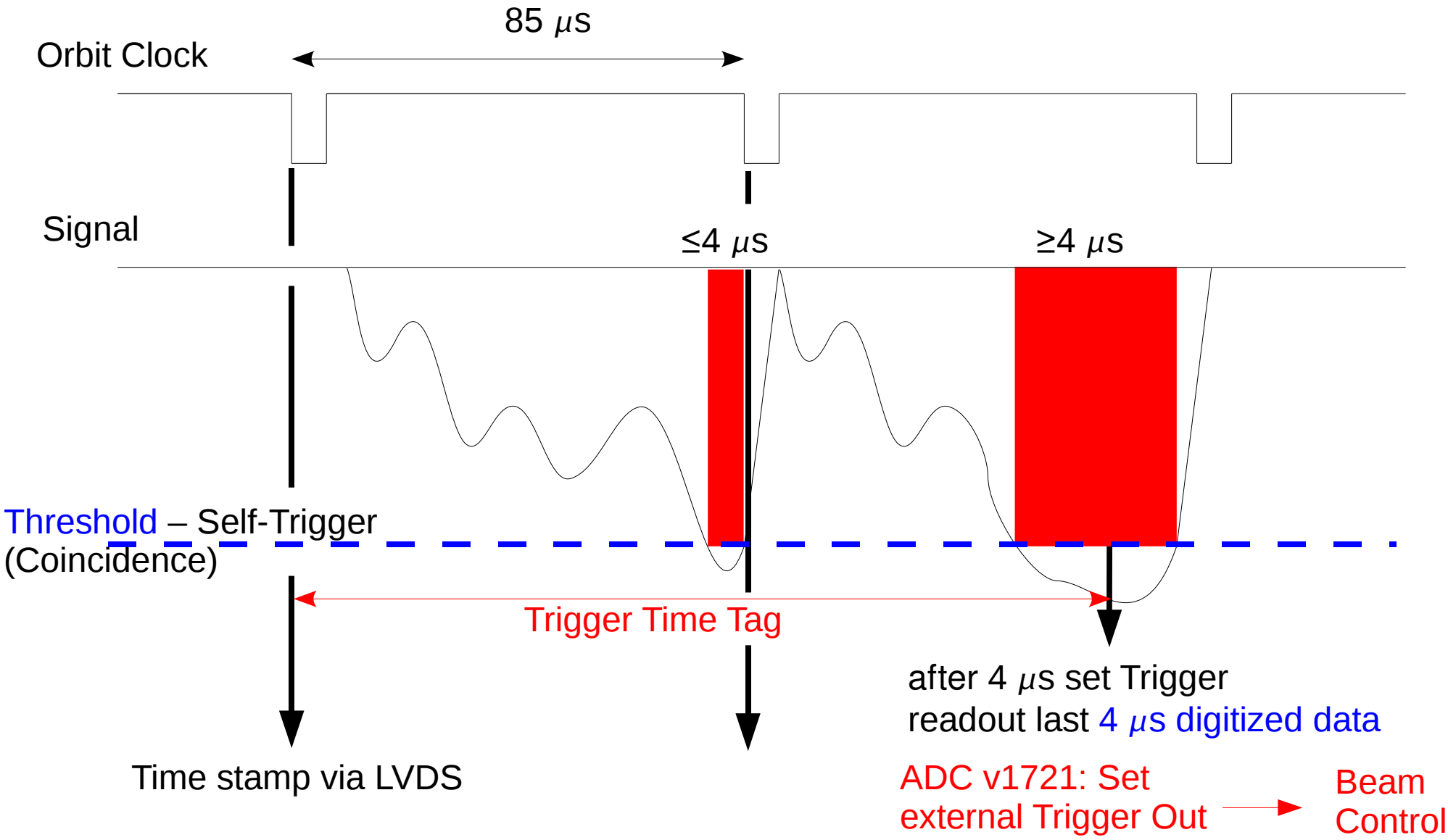
Sampling : 500 MB/s , i.e. one 8-Bit sample each 2ns
Readout : max 60-80 MB/s (VME)

Self-Triggering,
coincidence logic,
Zero-Suppression, ... similar to a oscilloscope

First Proposal – Learn Mode



Second Proposal – Warning Mode



Current Status - patchy Monitoring

Comparable to Learn Mode, but with DAQ accessories

More complex / complicated due to User controls, Interfaces, ...

Necessary Hardware:

- 1 CAEN PCI card a2818

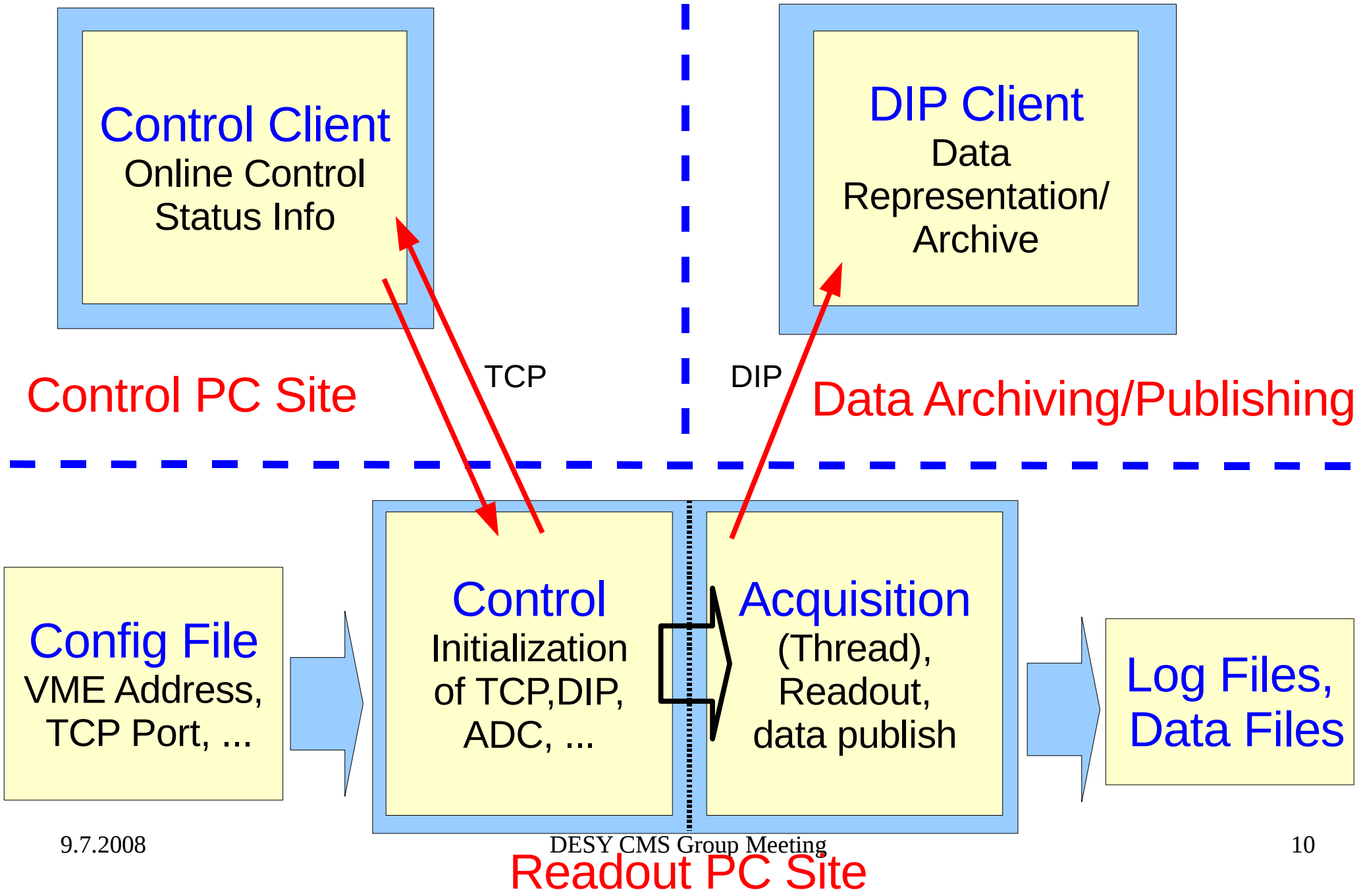
Necessary Software:

- Linux (SL)
- CAEN Library
- a2818 Kernel Module (PCI card)
- DIP Library

and

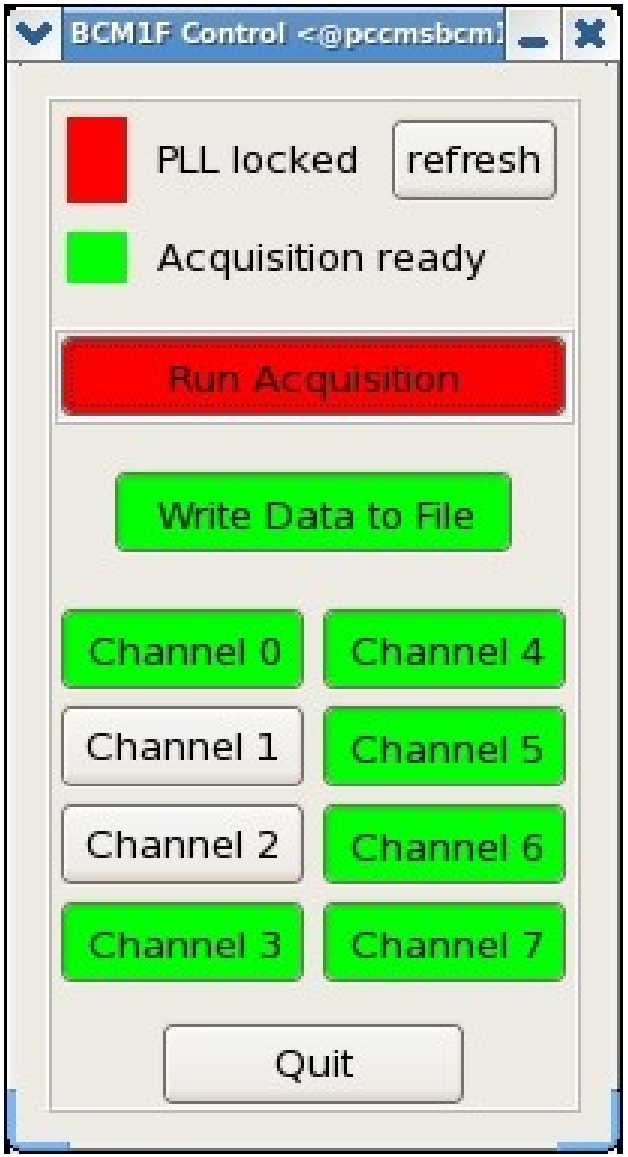
- BCM1F daemon

BCM1F Software Structure

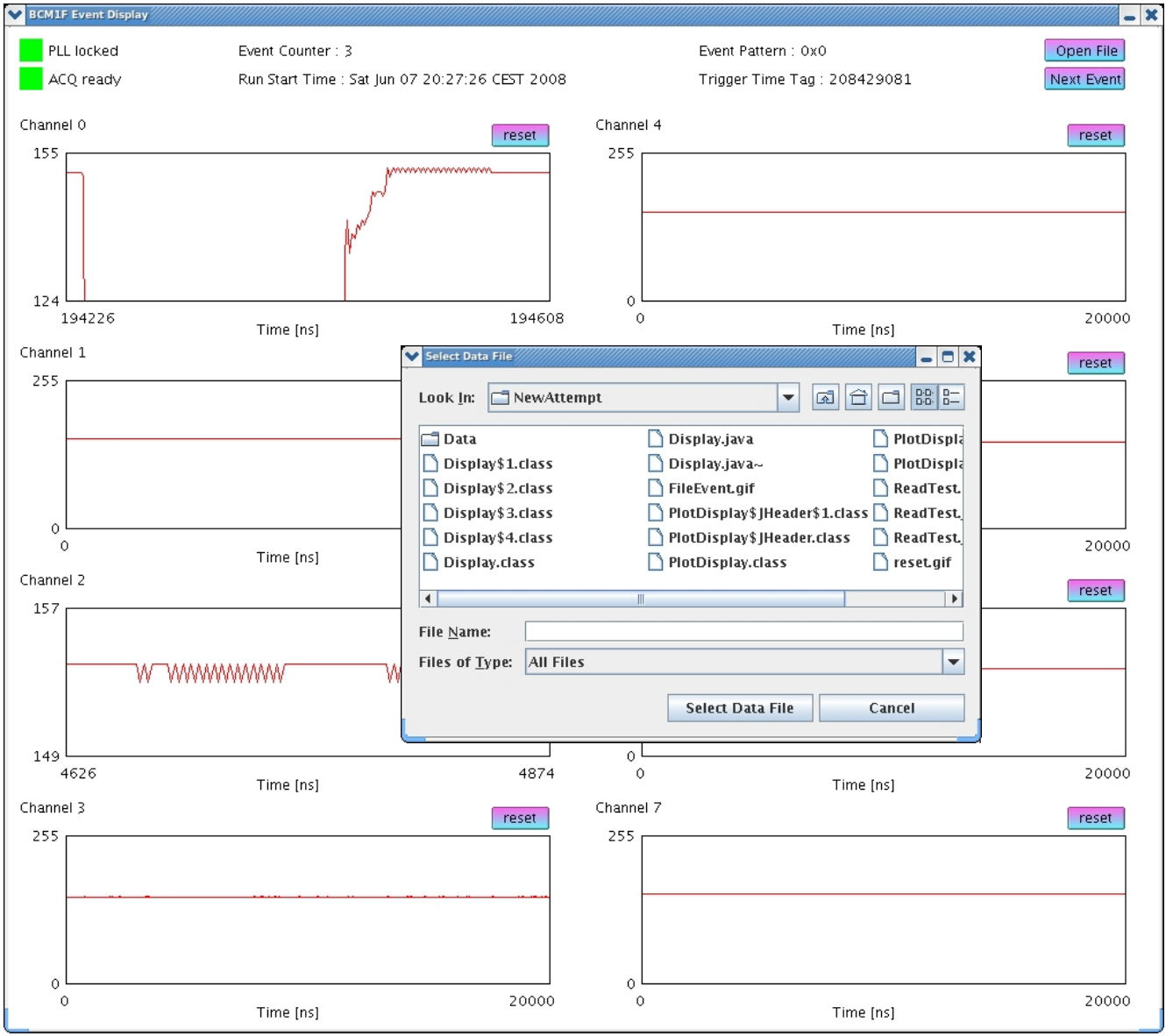


Surfaces – Python, Java, ...

Control Panel



On-/Offline Displays



Status ...

Must be further tested ...
(Test setup at DESY in Zeuthen)

Ringo Schmidt continues DSP ...

Must be integrated (Data → DQM, ...)