



Status of the ARC Software

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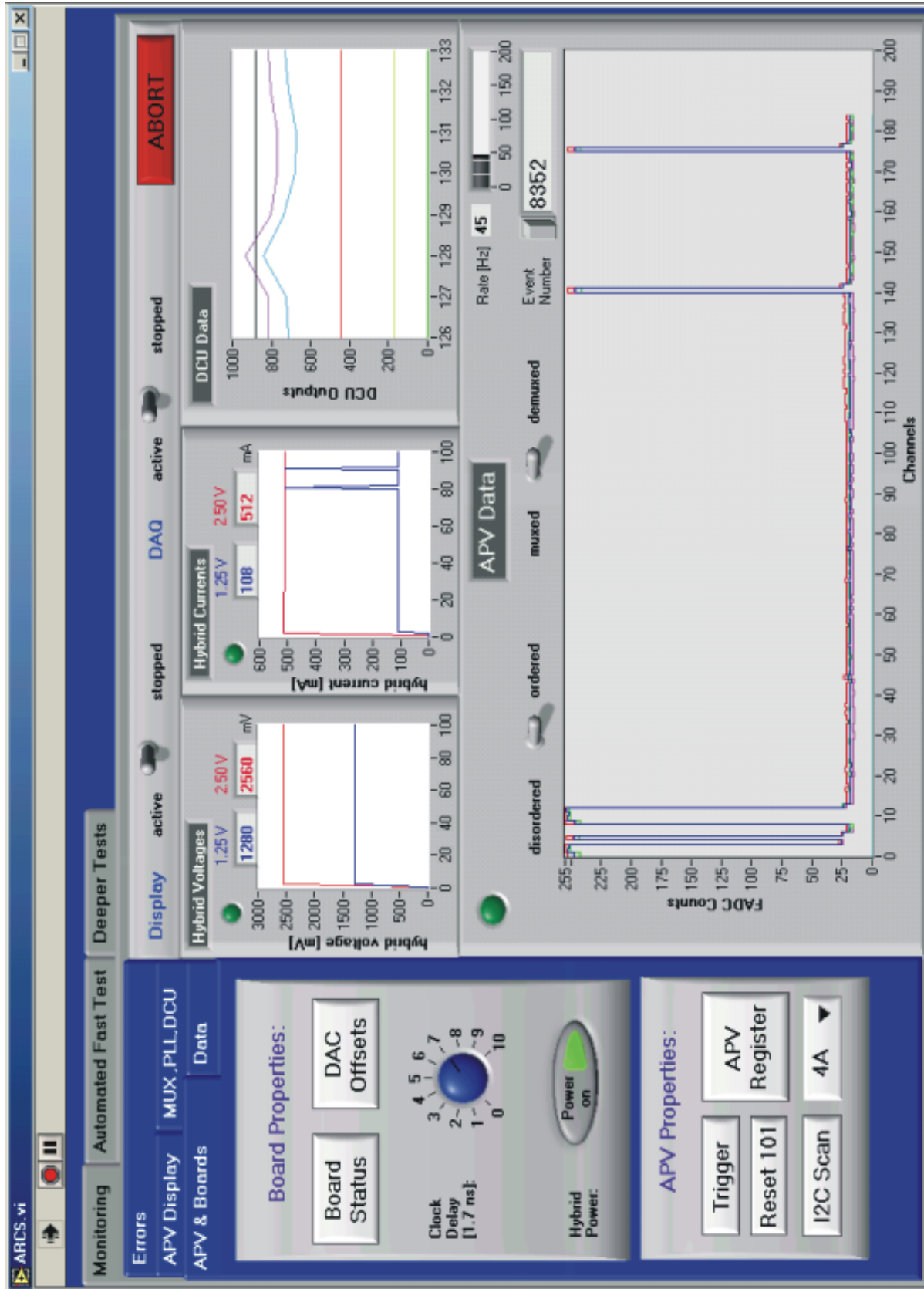
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ARCS Version 3.1

- Version 3.1 (plus manual) available on the institute's homepage:

<http://www.physik.rwth-aachen.de/group/IIIphys/CMS/tracker/index.htm>

- Downloaded package consists of
 - ARCS application
 - Libraries (e.g. for drivers)
 - Configuration files (APV register settings, pre definitions)
- ARCS applications are usable without LabVIEW license: *Runtime Engine* (National Instruments)



Provided Features

ARCS is the software package for the **ARC System** providing:

- Full control of APVs, MUX, PLL, DCU, LV
- Data readout & simple data analysis
 - Pedestal, rms noise calculation
 - Column and header errors
 - Monitoring of APV frames, DCU and LV output
 - Data storage

Provided Features

- **Automated fast tests**
 - ARC board selfstest
 - I2C communication test (address scan, read/write cycles)
 - Header and column errors of APV output
- **Additional (deep) tests**
 - (Online) channel pedestal and noise calculation

Provided Features

⇒ ARCS 3.1 has been used *successfully* for

- Tests and characterization of hybrids
 - The system is tuned for **Expressline Hybrids**
 - Talk of M. Axer on the Hybrid Meeting
- Tests and readout of silicon detector modules
 - Including LED and Laser measurements
 - **TEC Module** built in Aachen → Talk of J. Olzem

Under Development

- Implementation of further automated tests, e.g.
 - Pulse Shapes per channel and APV
 - MUX resistor tests
 - DCU tests
- Integration of some ROOT features (creation of ps files, use of fitting routines etc.)
- Additional implementation of pedestal and noise calculations written by L. Mirabito for comparison purposes