

# DASY Datasheet

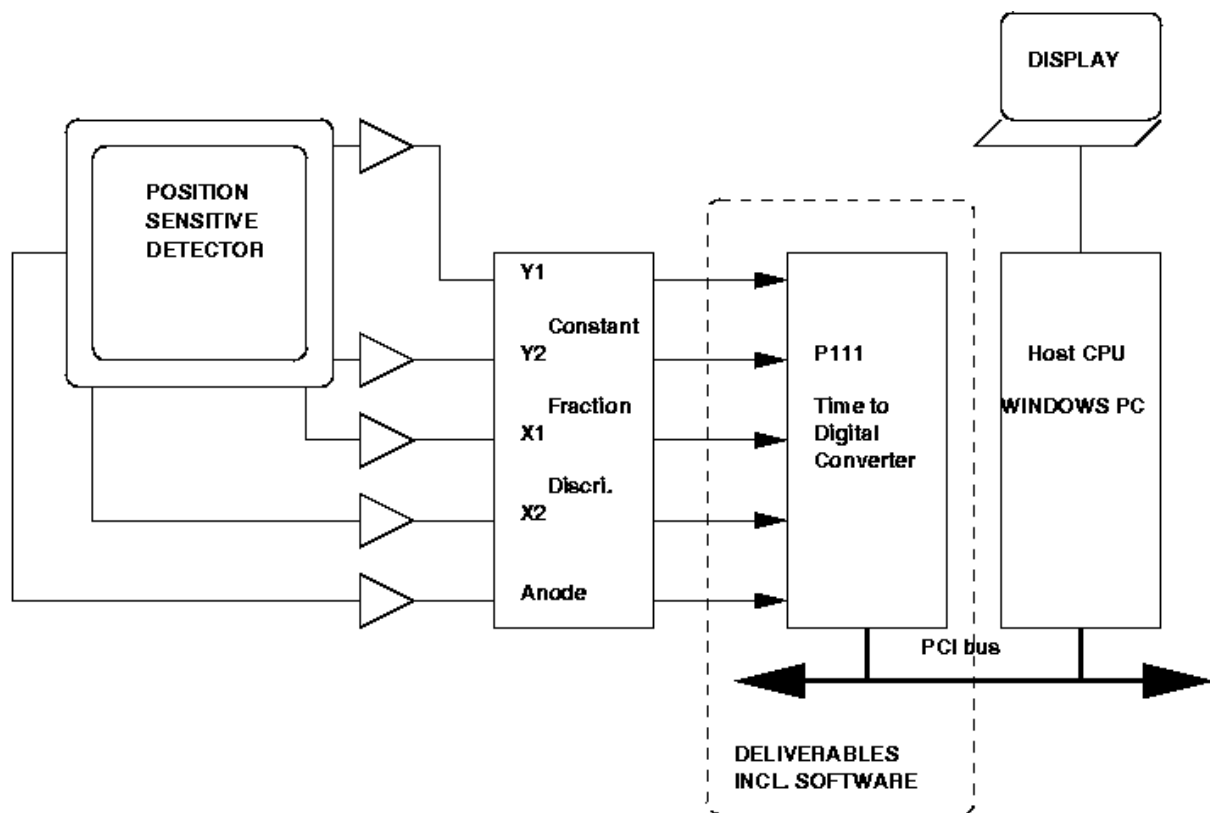
Updated 06/12/07

DASY (**D**elay line detector **A**cquisition **S**ystem) is a simple yet efficient readout system for delay line based position sensitive detectors.

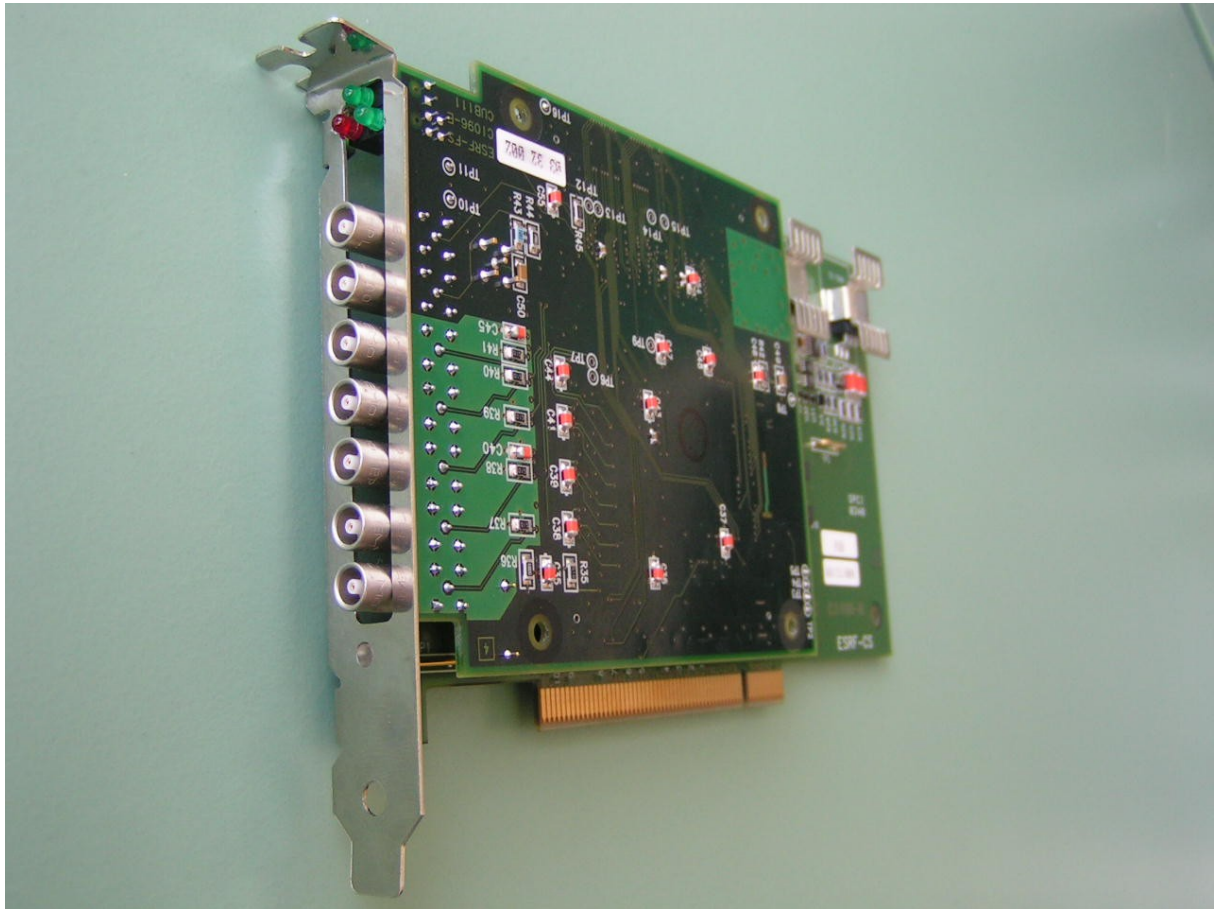
It is based on the P111 (ESRF design) PCI Time to Digital Converter (TDC) with built-in fast histogramming memory.

A comprehensive software support is running under the WINDOWS® operating system.

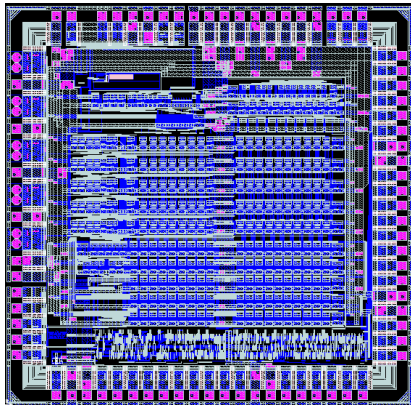
## System architecture overview



## Main hardware features (P111 TDC)

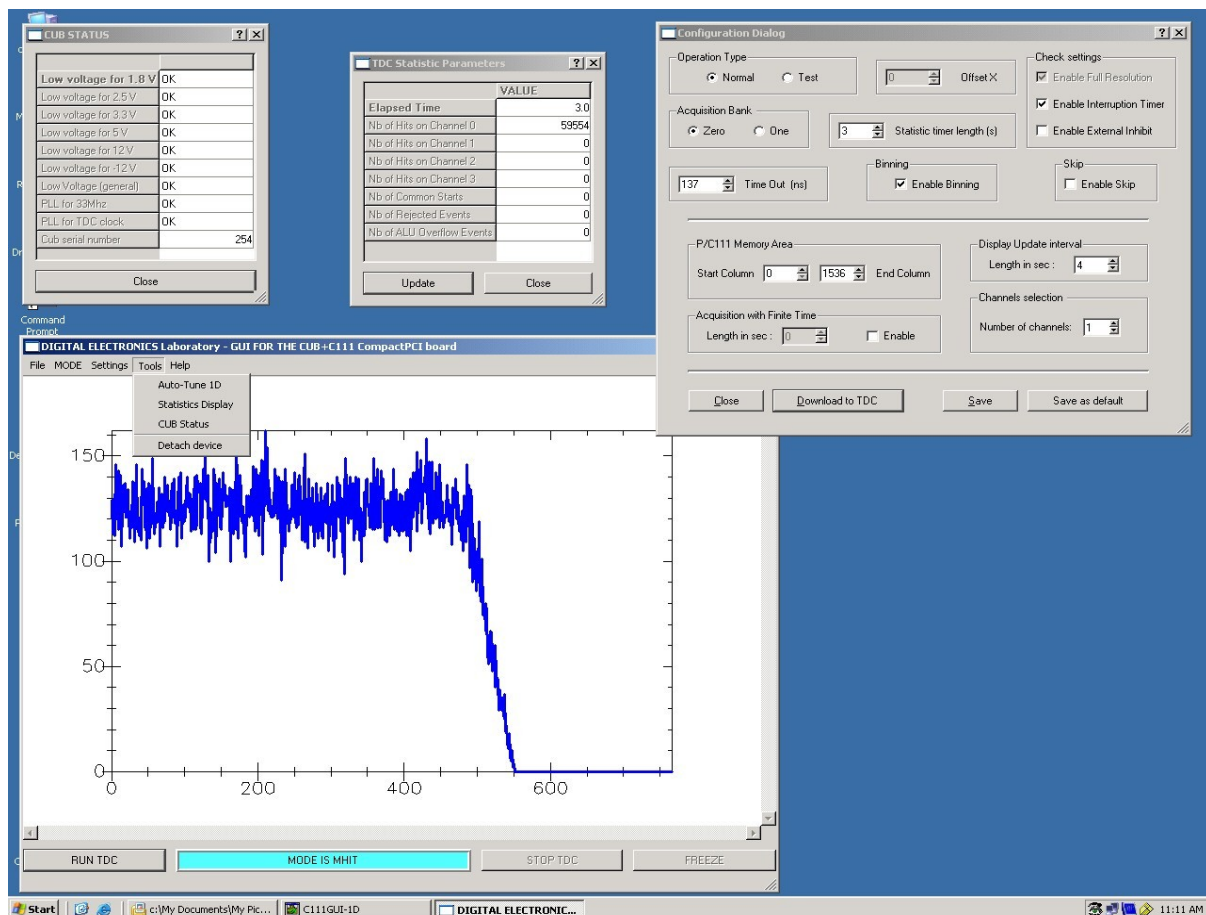


- 2D imaging (up to 4K square) or 1D spectrum (up to 16K) support
- 100 ps (RMS) resolution within  $\pm 1\%$  Differential Non Linearity
- 4 Mcps peak (1 Mcps sustained) acquisition rate.
- Built-in events piled up rejection logic
- Built-in fast ( $7 \cdot 10^6$  inc./s) histogramming memory
- “Sum mode” recording for detector delay line characterization
- Other than PSD acquisition styles, like multi-channel, multi-hit TOF measurements
- Based on proprietary AMS111 ASIC



AMS111 ASIC, BiCMOS process

## Main software features (C11gui)



- Running under WINDOWS®
- P111 TDC initialization and low level C-libraries
- Friendly graphical user interfaces for both 2D (C11gui-2D) and 1D (C11gui-1D) environments, Python language based
- Guaranteed event acquisition rate independent from the host CPU load, thanks to the P111 built-in memory
- Image archiving (ESRF Data Format)
- Remote control through a socket based client/server architecture
- Self-tune facility to help newcomer
- On-line documentation

## Deliverables

- P111 TDC
- P111 software installer including:
  - P111 system driver
  - C11magic self-tune and C111tst self-test utility
  - Python interpreter
  - P111gui-1D
  - P111gui-2D
  - Remote server (with basic client)