Quantum DETECTORS

Zebra

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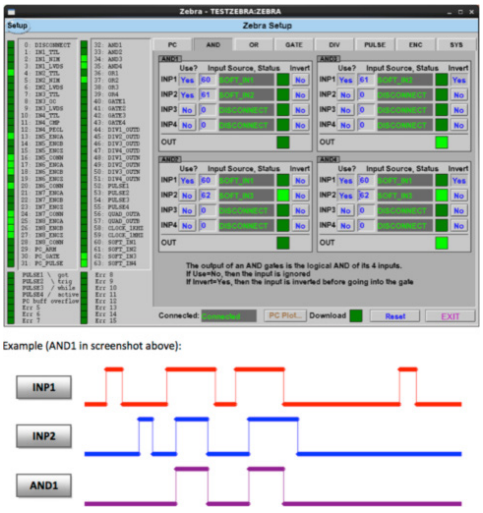
Technical Datasheet

Zebra is a digital signal level converter and position capture unit. The front panel takes signals from multiple single channel inputs in TTL, LVDS, PECL, NIM or Open Collector format, converts the levels to LVTTL and passes the signals to an FPGA. The rear panel passes encoder signals to the FPGA. The FPGA implements logic gates and position capture circuitry, then signals are translated to be output in the same format as their respective input.

Software

Zebra is controlled via the industry standard EPICS interface, ensuring integration with existing beamline equipment. Users are able to control the FPGA from a GUI, where they can set AND/OR, GATE, DIV, PULSE blocks, as well as configuring QUAD blocks and encoders. The configuration can be saved to internal flash memory. A TANGO interface is currently under testing.



Specifications

- **Supports TTL, LVDS, PECL, NIM and Open collector inputs**
- **Encoder signals via RS422 quadrature with Z-channel**
- **Configured using EPICS, communication via RS232 and serial port**
- **2-10ms per sample, on-the-fly readout time**
- **Continuous scanning**
- **Level conversion**

Application

Diamond Light Source is currently implementing a synchrotron-wide deployment of Zebra units for a variety of applications, from EXAFS double crystal monochromator/Xspress 3 triggering to position capture/compare on MX beamlines and fast/continuous scanning on tomography beamlines.