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High Density Digitizers with 1G and 10G Ethernet Readout and GRETA Compatibility

SkuTek Instrumentation excels in development of multichannel, high performance digitizers for Nuclear Physics, Particle Physics, and related fields. Our digitizers feature up to 32 channels with low noise and high sampling rates of 100 MSPS @ 14 bits. The data readout is performed individually from each digitizer with a front end 1 G Ethernet connector. The optional back end optical fiber provides for 10 G readout. A separate optical fiber provides for compatibility with GRETA (GTCL) and Gammasphere (TTCL) trigger system communication protocols. Multiple firmware algorithms to process the ADC data may be loaded into the on-board Kintex-7 FPGA to extract the energy, pulse shape, and timing information from the stream of digital samples including the same firmware used at Gammasphere. The NIM and TTL logic inputs and outputs can be used for interfacing with legacy NIM logic modules. The front panel proprietary differential link can be used for interfacing with SkuTek's Logic Modules. A previous version of the digitizers was used for LUX-Zeplin Dark Matter Search Digital Data Acquisition system at Lead, SD.

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