

DAQ for JLAB Legacy Analog LLRF Systems

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The Computer Automated Measurement and Control (CAMAC) system is a modular instrumentation bus that was originally developed in the 1970s and is widely used for the LLRF control of C20/C50 Cryomodule at JLab. Due to the serial bus limitations, real time analysis of RF control signals is severely inhibited. To address this, a new Artix FPGA based Data Acquisition Chassis has been developed and can measure key RF controls signals up to a rate of 25k samples/sec. This allows users to analyze and debug problems in real time by viewing waveforms of RF signals (a real time virtual oscilloscope) which has the ability to freeze the buffer when a beam trip condition exists. This new DAQ makes it possible to collect and analyze data from these legacy RF systems, which helps troubleshoot problems in real time.

Keyword

DAQ, CAMAC, JLAB

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