

TDA Readout ASIC, version 1

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1 Overview

The specifications of a future Application Specific Integrated Circuit (ASIC) that will meet the performance criteria of the TEDA application are documented. During initial years of testing, existing ASICs developed by the Instrumentation Development Laboratory at the University of Hawaii will be used and these are described. Given the demanding specifications of the final TEDA system, it is envisioned that evolution toward this final goal will occur in development phases, which build upon lessons learned at each stage.

2 Introduction

The baseline ASIC needs to be able to record single x- or γ -ray signals with high amplitude fidelity, to permit good (pico-second level) timing determination. Fig. 1 indicates the relationship of the ASIC to the overall x-ray readout.

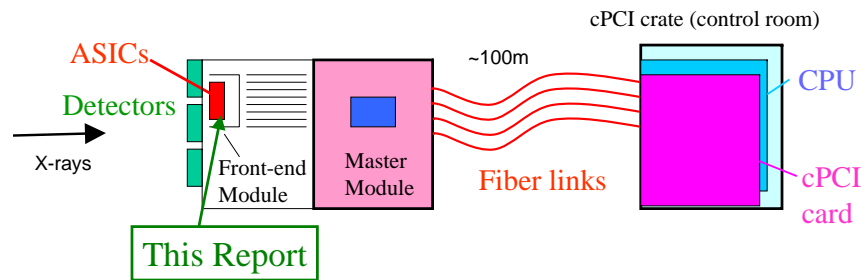


Figure 1: Relationship of the ASIC development effort within the overall Time Encoded Differential Absorption recording system.

