ICE High Level Overview

Integrated Control Electronics (ICE) is a digitally controlled array of low-noise, high bandwidth electronics for controlling the lasers and associated electronics in complex experiments. Each ICE Cube contains up to eight individual ICE boards that provide specific functionality such as four channels of temperature control or current control and laser servo. Additionally, each ICE Cube contains on Master Board for interfacing between individual ICE boards via an external serial interface. Communication with the Master Board is done using human-readable ASCII command via either TTL Serial or USB Serial (see Overview of ICE Commands for details). The Master Board communicates to individual ICE boards via an I2C bus architecture (in binary). A schematic of this architecture is shown below in figure 1.

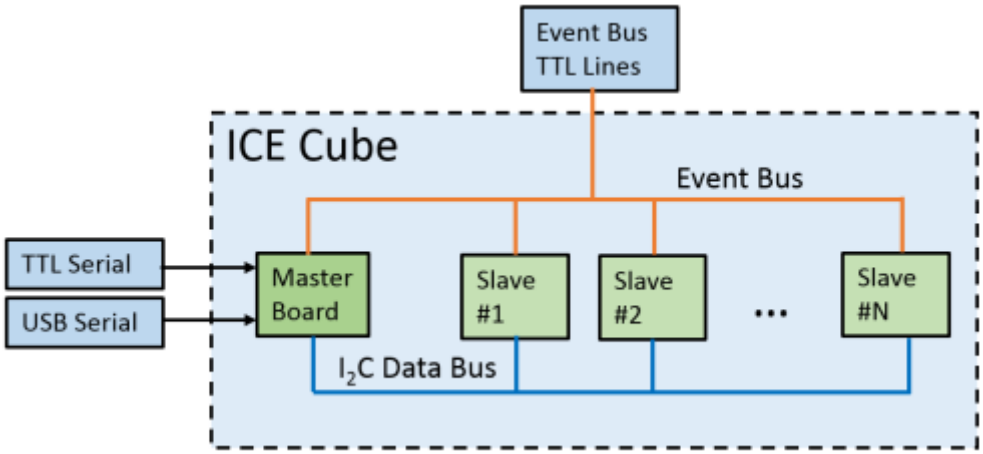


Fig. 1: Schematic overview of ICE Box.

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