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The CMS Central Hadron Calorimeter DAQ System Upgrade

The CMS central hadron calorimeters will undergo a complete replacement of their data acquisition system electronics. The replacement is phased, with portions of the replacement starting in 2014 and continuing through LHC Long Shutdown 2 in 2018. The existing VME electronics will be replaced with a μ TCA based system. New on-detector QIE electronics cards will be transmit data at 4.8 GHz to the new μ HTR cards residing in μ TCA crates in the CMS electronics cavern. The μ TCA crates are controlled by the AMC13, which accepts system clock and trigger throttling control from the CMS global DAQ system. The AMC13 distributes the clock to the μ HTR and reads out data buffers from the μ HTR into the CMS data acquisition system. The AMC 13 also provides the clock for in-crate GLIBs which in turn distribute the clock to the on-detector front end electronics. We report on the design, development status, and schedule of the DAQ system.

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