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The AMC 13 Project

The AMC13 provides clock, timing and DAQ service for many subdetectors in the CMS experiment at CERN, as well as the muon g-2 experiment at Fermilab. The module hardware was recently upgraded to support 10 gigabit optical fiber and backplane interfaces. New firmware is now under development to support arbitrarily large event fragments from 12 AMC cards with up to 3 simultaneous output links operating at 10 gigabits. In addition, standard TCP/IP protocol over 10 gigabit Ethernet may be used in addition to the CMS S-Link express proprietary protocol. Many of these modules are now being installed in the CMS experiment during the current LHC shutdown. We describe the implementation using Xilinx Kintex-7 FPGAs, commissioning, production testing and integration in the CMS HCAL and other subsystems.

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