Population of VME Fast Shut Down Boards

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This note presents the steps taken to populate VME fast shut down (FSD) boards for the machine protection system (MPS).

VME FSD boards are used in accelerator's MPS. There are currently seventeen boards used in various locations. Five of these boards were populated by DSG.

This VME FSD board is two-sided, Figs. 1 and 2, with nearly 300 components. The majority of the components are surface-mount, such as resistors, capacitors, diodes, switches, IC inverters, and an Altera microchip, Fig. 1. Through-hole parts include two 96-pin connectors, 12 fiber optic receivers, and test points.

The lower profile surface-mount components were populated first, using a microscope and a 1.2 mm chisel soldering tip, then the taller profile components. After all surface-mount components were soldered, the through-hole components were soldered using a 1.5 mm chisel tip.

All five boards have been populated and are awaiting testing.

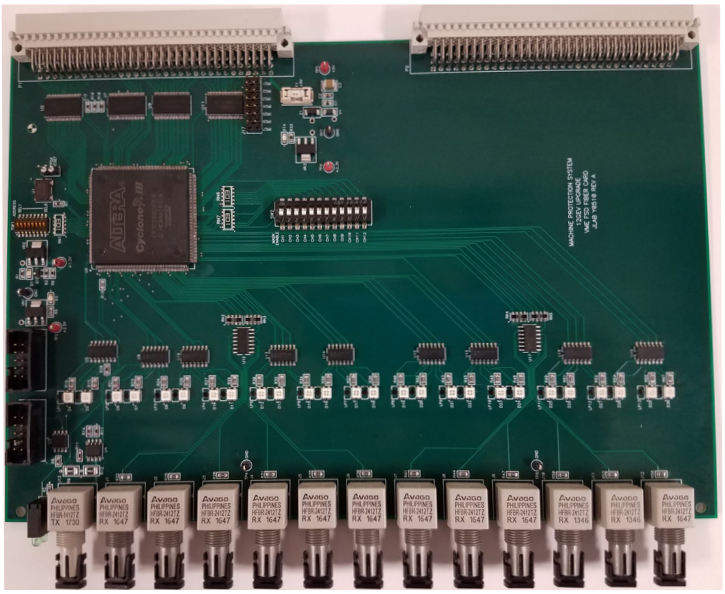

FIG. 1. VME FSD board front.

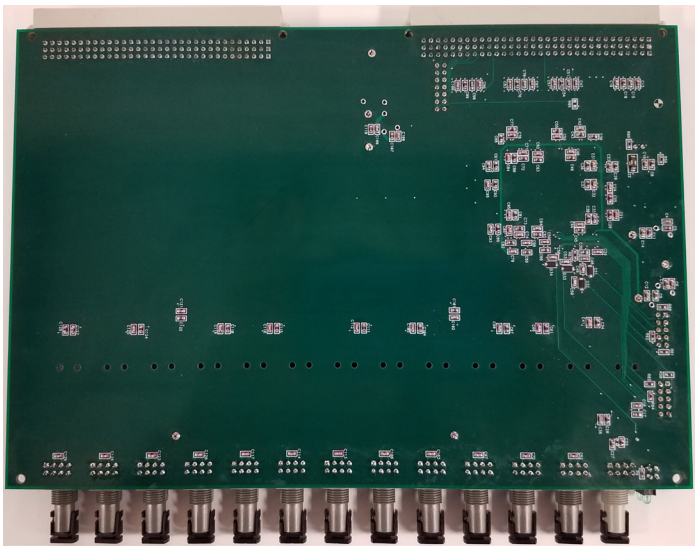

FIG. 2. VME FSD board back.