

MTF7MEZ Mezzanine Board for the MTF7 Modular Track Finder

The MTF7MEZ is a custom mezzanine card built for the MTF7 Processor to provide an electrical interface to the TCDS system at CMS. The card performs the following basic functions:

- Receives 12 LVDS signals through the 24-pin front panel connector from 12 sources (active “low”); they represent L1A requests from individual MTF7 Sector Processors;
- These 12 signals after conversion to 1.2V LVTTTL levels are provided to the FPGA inputs;
- Produces hardwired 12OR function of these 12 inputs and provides the resulting product (or its inverted copy) to two outputs on the front panel: one in LVTTTL level (LEMO connector) and another in LVDS levels to 10-pin connector. This resulting signal can be multiplexed with the programmable output of the FPGA.

Simplified block diagram of the card is shown in Fig.1. The mezzanine connector is a Samtec **SEAF-30-05.0-L-2-A-K-TR** 10-row 300-pin surface mounted part. The +12V power is provided from the base MTF7 board and is reduced to +3.3V and +1.2V using two Micrel voltage converters.

