Enhanced Test Feature of Version 4 of the MTCxx

The enhanced MTCxx which is being completed has added numerous test features to make the checkout of this board faster and more reliable. The most significant change has been the incorporation of 3 JTAG chains on the board that will allow us to test most of the interconnects on the board. We've replaced the backplane drivers with devices that have JTAG test capabilities so that when installed in the VME-JTAG Test Backplane that was developed over the summer we can test virtually every integrated circuit and connector on the board for proper wiring, the only connections that cannot be tested this way are the signals that go to the front panel. The JTAG chains go not only to chips on the board but are also directed to the 16 receivers mounted on the board and to the Flavor board so that we have maximum coverage of interconnections.

A program has been developed that combines the schematics for the Receivers, Flavor Board, MTCxx and VME-JTAG Test Backplane into a single netlist that will be entered into the JTAG test system software to develop a test program that will detect and locate any interconnection errors on the board. The VME-JTAG test board has circuits that go to every usable pin on both VME connectors so the coverage through the connectors is 100% for all signal pins on the connectors.