STANDALONE TESTS OF THE ANALOG SPLITTER CARD (PROTOTYPE)

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D0 L1 Calorimeter Trigger upgrade Run IIb

TESTBENCH AND ANALOG SPLITTER

Testbench

Input: sinus / square / arbitrary waveform generator Stanford Research DS345 Source: made one differential source with 2 AD 829; one voltage follower, one inverter Load: assembled adapted loads 470 nF + 79 ohms Visualization: 800 Msps - 100 MHz digital storage oscilloscope Gould 4084

Analog Splitter

One board assembled and tested All channels functional and operating as designed Board powered during 100 hours; stable performance Power requirement: +5 V 3 A



Signals on other channels look very similar to these Unity gain when loaded - Over 6V differential voltage swing on outputs



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SHORT TERM PLANS

2ND VERSION OF PCB: LIST OF MODIFICATIONS

Add heat sink below each amplifier Correct DC/DC converter CAD information to put device on PCB component side Increase width of power supply trace Use bigger fonts for labels and move some of them Place label for +5V, GND and LEDs (+12 V -12 V) Place label with name of board and origin Use surface mount tantalum capacitor instead of through hole type

SCHEDULE FOR TEST, INSTALLATION AND NEW VERSION

Ship board to Fermilab (December 2002) Tests at Fermilab, yes/no for plugging board in D0 If yes, plug splitter during January 2003 shutdown; if no, modifications Check no perturbation introduced by splitter (January 2003) Make all corrections/modifications for 2nd version of PCB (February 2003) Produce 3-4 new boards (Spring 2003)