HOT PLUGGING ON ULTRA 3 BUSSES

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FIGURE 1 - LVD HOT PLUG ON 8 METER MULTI DROP CABLE
(NOMINAL 45 CM SPACING; TWISTED FLAT CABLE)
Left side is fast frame (multi trigger) display; right side expansion of worst pulse.
Chan 1 is signal on bus at adjacent load; Chan 2 is signal on plugged load.
1ghz differential probes; Bus is biased, signals quiesced,

FIGURE 2 - HOT PLUG same conditions as above.

FIGURE 3 - PHOTOGRAPH OF CABLING FOR MULTI DROP TESTS ABOVE.

FIGURE 4 - PHOTOGRAPH OF 4 DROP BACKPLANE SET UP (NO DATA YET)

FIGURE 5 - EQUIVALENT CIRCUIT USED FOR LOSSY DIFFERENTIAL CABLE SIMULATION FOR HOT PLUG TRANSIENT RESPONSE.

FIGURE 6 - SIMULATED TRANSIENT RESPONSE FOR SINGLE EVENT
Top trace: Response of adjacent (- Ack) line to transient on (+Ack) line.
2nd trace: Response of hot plugged line (+Ack) to simulated Hot plug load
3rd trace: Differential response (simple sum) of top two traces.

FIGURE 7 - HARDWARE SIMULATION OF HOT PLUG-LIKE TRANSIENT INJECTED INTO +ACK LINE.
(This bench simulation set up described in previous SPI presentation showing pulse effect on eye closure- see doct.....xxxxxx)
Note: 
$T = 100 \, \Omega$  resistive termination

“Figure 1: LVD Hot Plug on 8 meter, Multi-Drop Cable”
Note:
\[ T = 100 \, \Omega \] resistive termination

"Figure 2: Hot Plug on 8 meter, Multi-Drop Cable"
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(H) L=16', inj at 2.4', Cinj=20pF, Linj=50nH, sw=20ns, C's to gnd at 2.4" & 4.8" from inj, diff at 9.6

1.5V

1.0V

0.5V

0V

@ 9.6" from Injection

Differential Signal
(9.6" from injection)

@Termination

+ACK

-ACK

Figure 6

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