



- **Configuration at DAB:**

- ◆ Hybrid - 0.5 m Jumper Cable - Junction Card - Twisted Pair Cable - Adapter Card - Interface Board - SASEQ

- **Status**

- ◆ Setup works since 11/14/2002
- ◆ Studied
 - Terminations for single ended signals
 - Clock bypassing
- ◆ Read 50k events without corrupted data

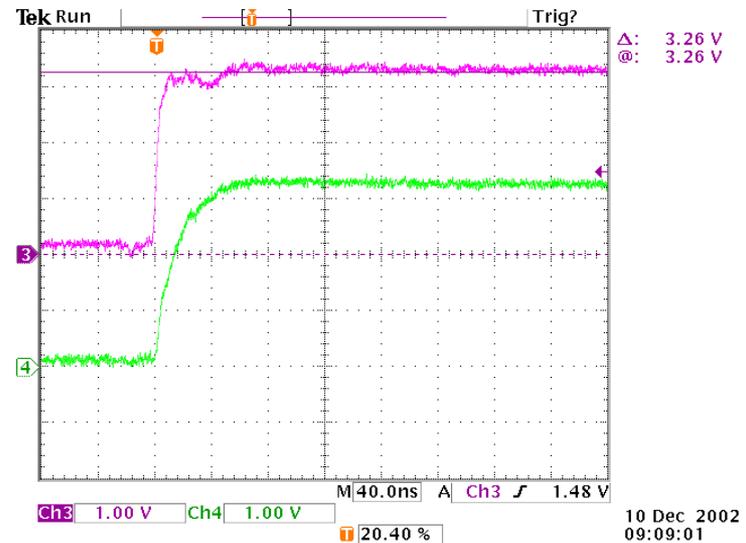
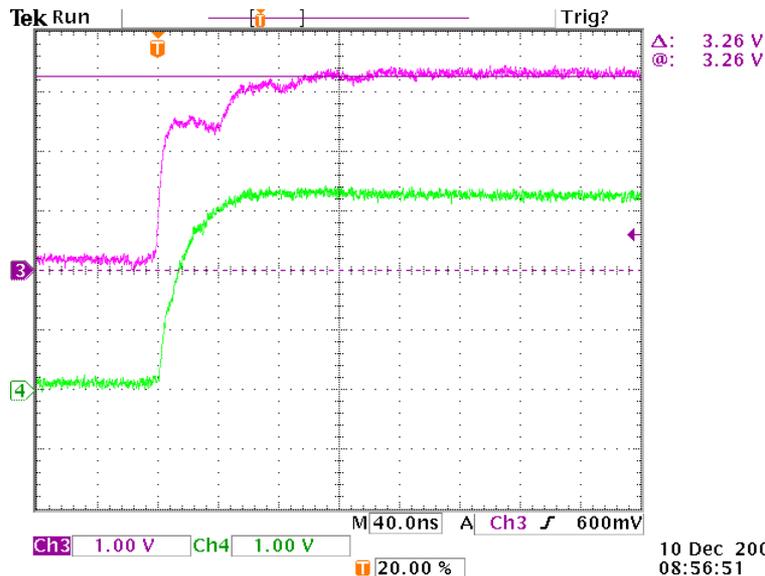


Full chain : terminations

- Termination of FEMOD, BEMOD, PRI_IN

- Everything below measured at the hybrid
- Double twisted pair vs. single twisted pair
- Open on the hybrid
- 90 Ohm at AC

50 Ohm at AC



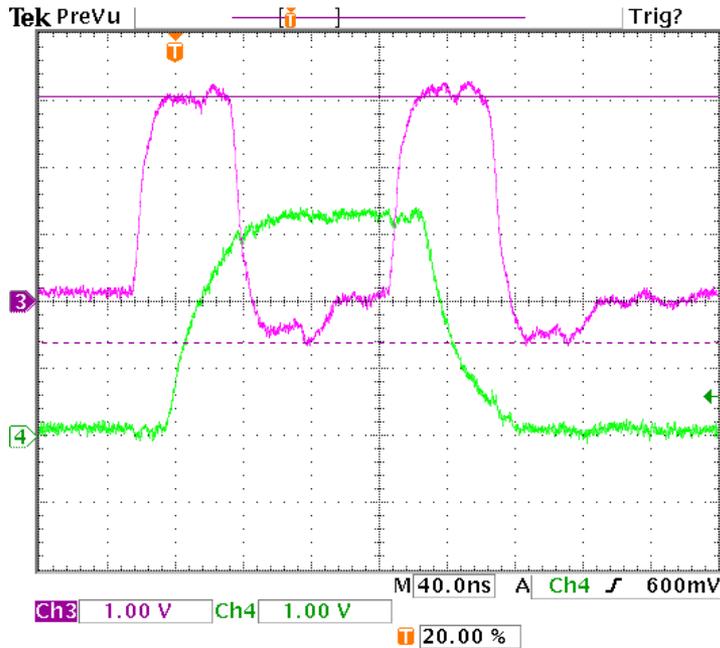
- Note : Amplitude 3.2 V – too high



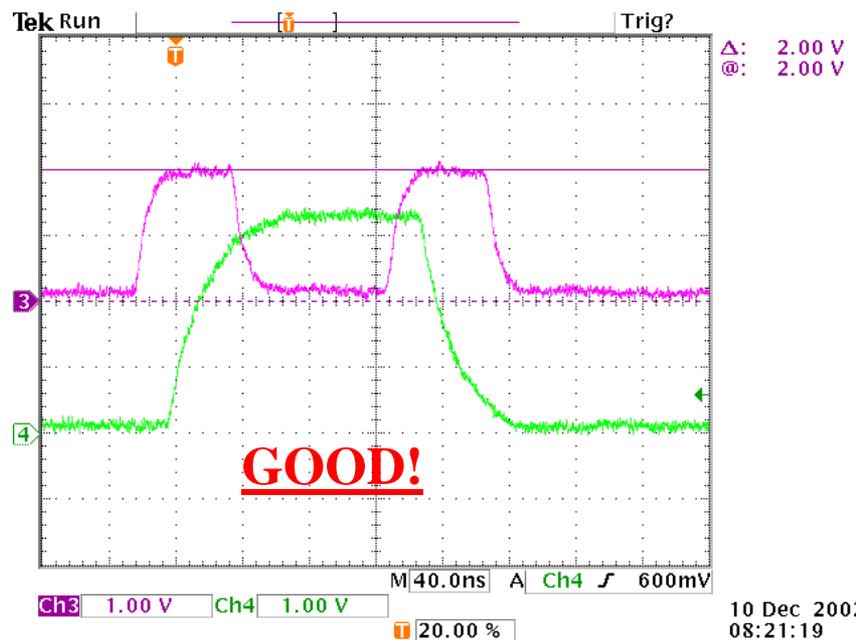
Full chain : terminations

- Termination of CH_MOD

 - Has double twisted pair



110 ohm @ hybrid
0 ohm @ AC

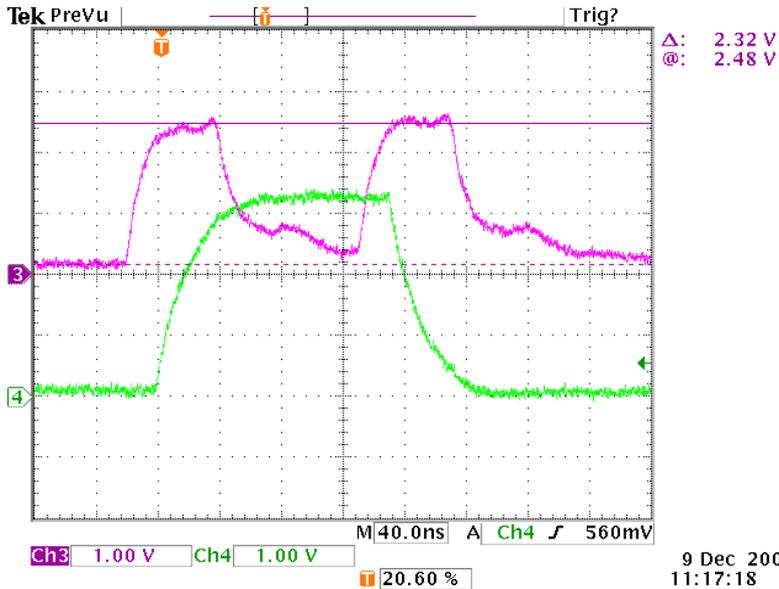


110 ohm @ hybrid
50 ohm @ AC

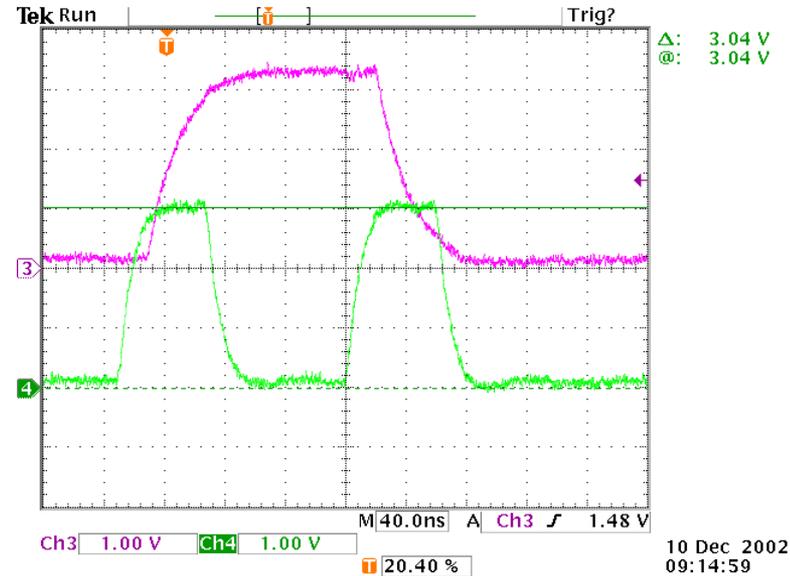


Full chain : terminations

- Termination of CH_MOD - another option



open @ hybrid
90 ohm @ AC



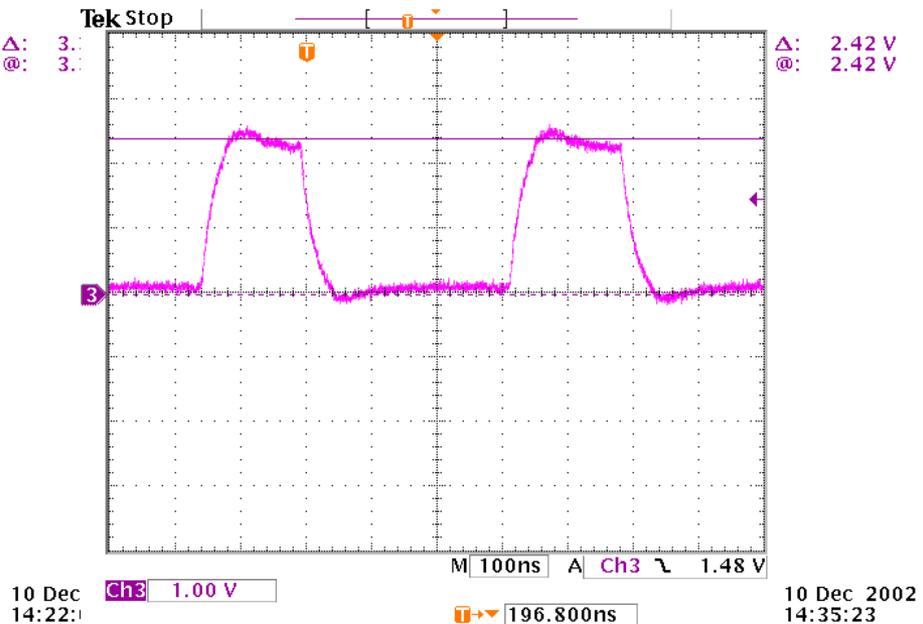
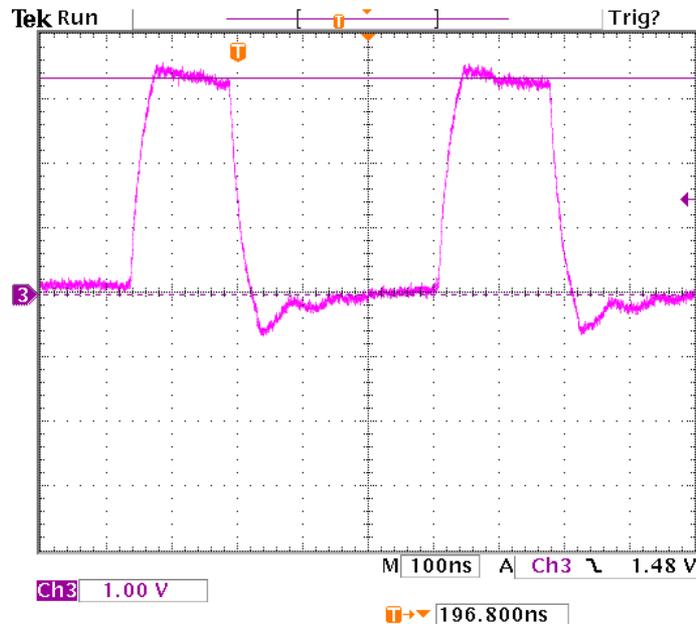
open @ hybrid
50 ohm @ AC

Note : Amplitude too high 3.0 V



Full chain : terminations

- How to decrease amplitude ?
 - Done for FEMOD
 - Had single twisted pair
 - Open at the hybrid, 50 ohm in series at AC



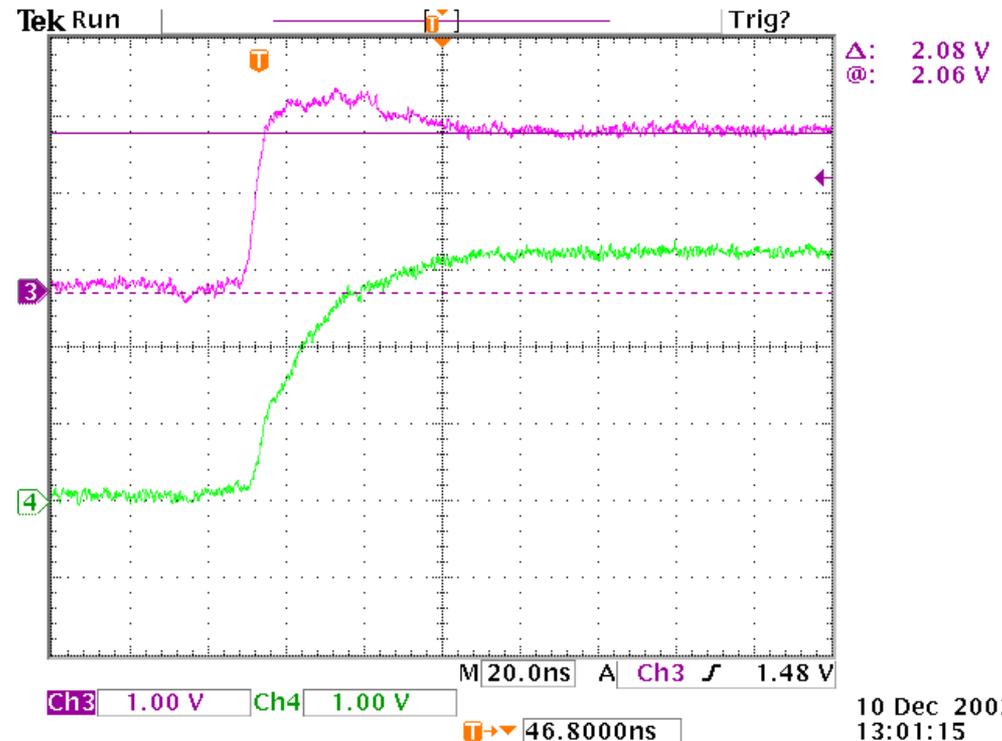
divider 33 + 120 ohm

what about double twisted pair?



Full chain : terminations

- Double twisted pair ?
 - Done for PRI_IN
 - Had double twisted pair
 - Open at the hybrid, 50 ohm in series at AC + divider
 - Amplitude 2.1 V - good!





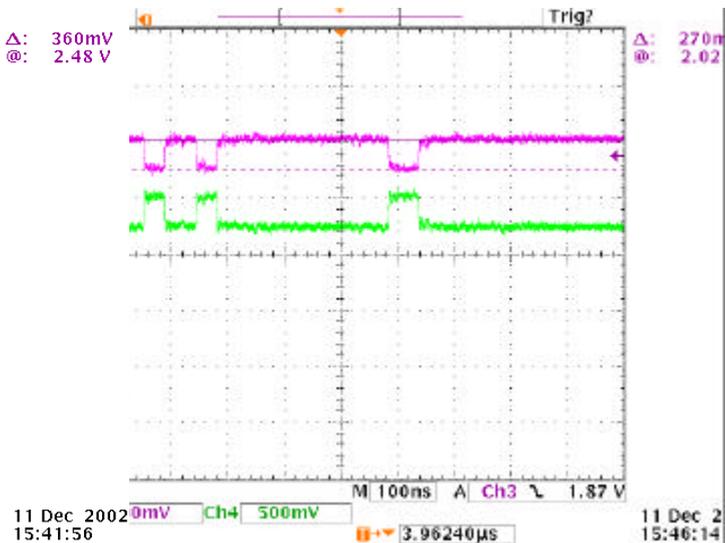
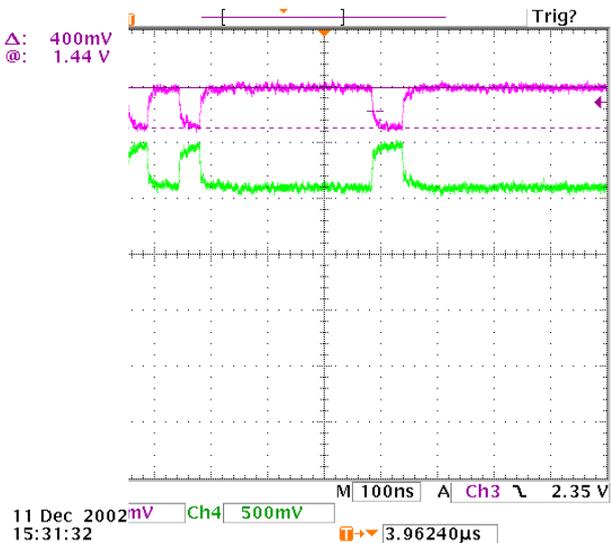
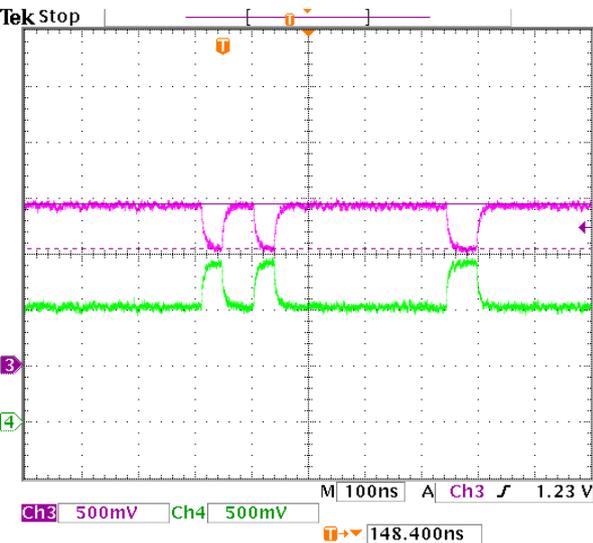
Full chain test

- Clock bypassing

- AC drive not bypassed

IB 43 Ohm bypassed

IB 75 Ohm bypassed





Bottom line so far

- Proof of principle done
- SVX4 behaving well with long control and data lines
 - ◆ Receivers & drivers OK
- Errors ~ 10^{-5} level
 - ◆ To continue at 1% test
- Noise does not look bad but need more studies
- Terminations of single ended signals
 - ◆ Can have good signal quality
 - ◆ There are options
 - With components on hybrids
 - Without components on hybrids
- Clock bypassing
 - ◆ May be - need more studies
- Differential signals look good