



Module testing

A.Nomerotski 2/3/03

- **Goals**

- ◆ **Further validation of hybrid design**
 - ▲ Capacitive load on SVX4
 - ▲ HV bypass
- ◆ **Further validation of full chain**
 - ▲ Same as above
 - ▲ May affect Adapter Card and Twisted Pair Cable design
- ◆ **Further validation of SVX4 time sequence**
 - ▲ Have recipe for SASEQ firmware giving good performance
- ◆ **Grounding issues**
 - ▲ LO/L1 CC support structures
- ◆ **Mechanical issues**
 - ▲ Assembly tooling and procedures, boxes etc
- ◆ **Studies of sensor performance**
 - ▲ Noise/Pedestal, laser scans, depletion etc

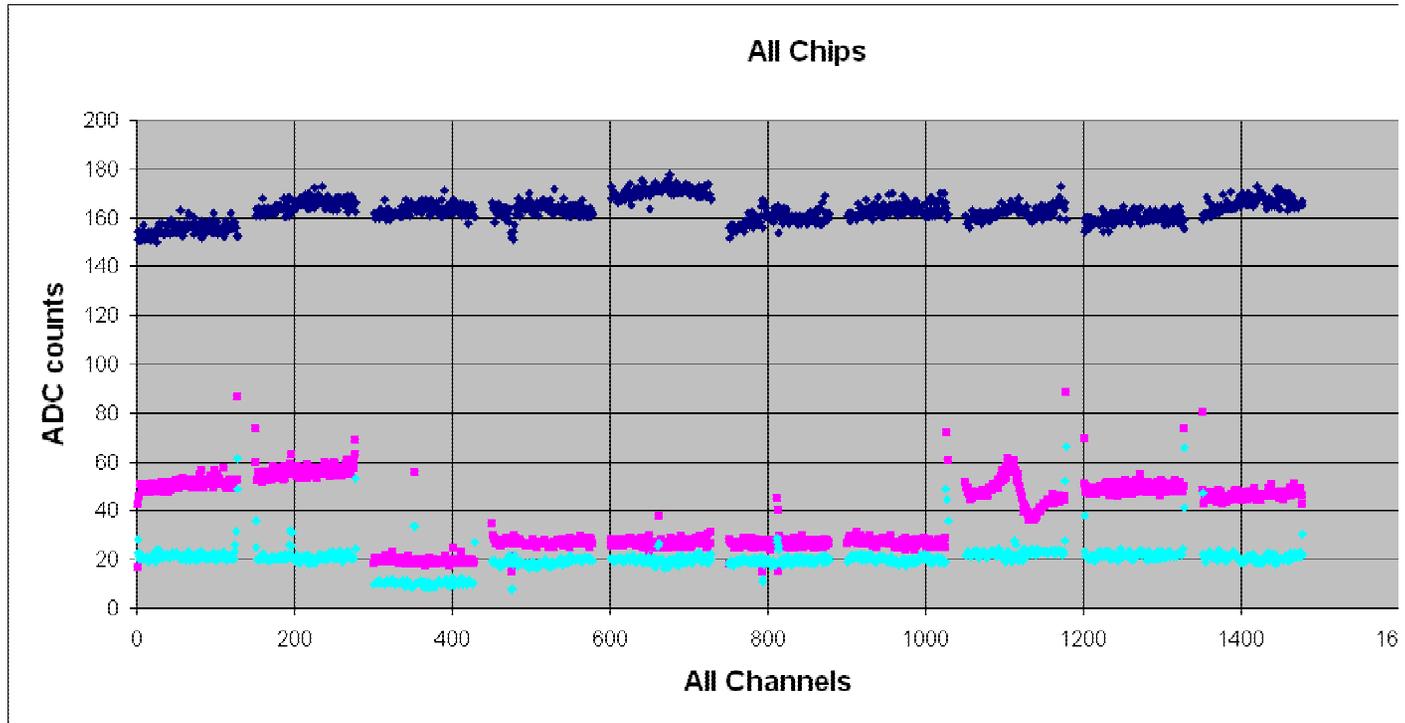


L2-5 Status

- L2A 20-20 assembled and tested last week
 - ◆ Amitron L2A hybrid (flatness >150um)
 - ◆ Do not plan to use for stave production, will be used for studies
- Issues to understand (see next slide)
 - ◆ Higher total noise for further-away-from-hybrid sensors
 - ◆ Differential noise does not scale with # of sensors
 - ◆ Wiggle in total noise at the Jumper Cable location
- First electrical grade stave
 - ◆ Need 4 modules : L2A 10-10, L2A 20-20, L2S 10-10, L2S 20-20
 - ◆ Use CPT hybrids
 - ▲ Good mechanically and electrically
 - ▲ Stuffed at Sidet, used 2.5 mm connector
 - ◆ L2S 10-10 ready, waiting for box and testing
 - ◆ L2S 20-20 waiting for sensors
 - ◆ L2A 10-10, L2A 20-20 waiting for debugged hybrids and sensors
- Plans
 - ◆ Assembling 16 more hybrids at stuffing houses
 - ▲ Solderability checked at NXGen : good
 - ◆ Will convert some hybrids to 2-3 new staves by summer
 - ◆ Limited by chips and sensors



L2-5 Status



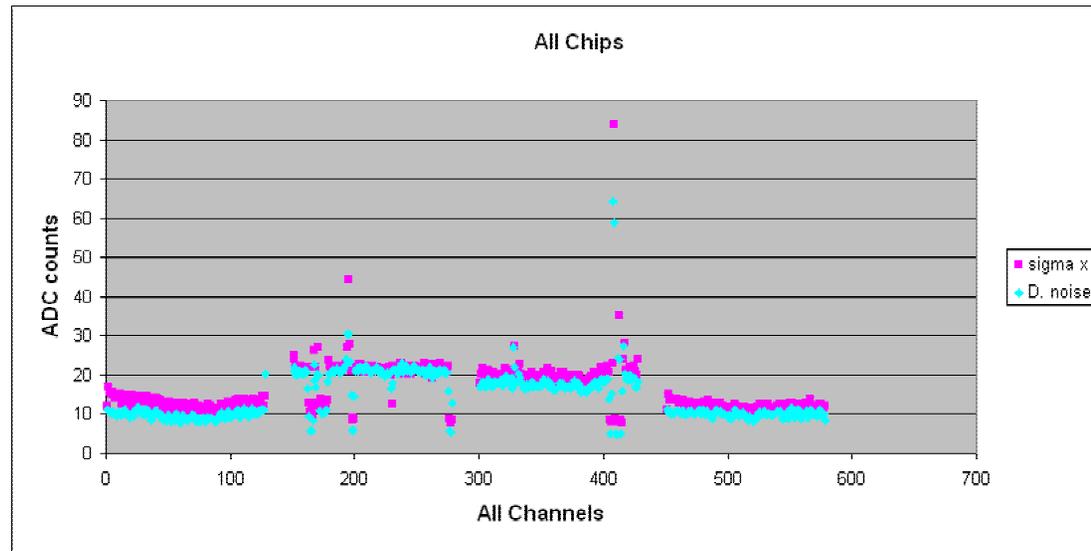
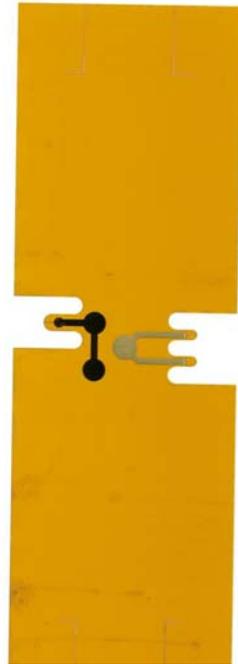
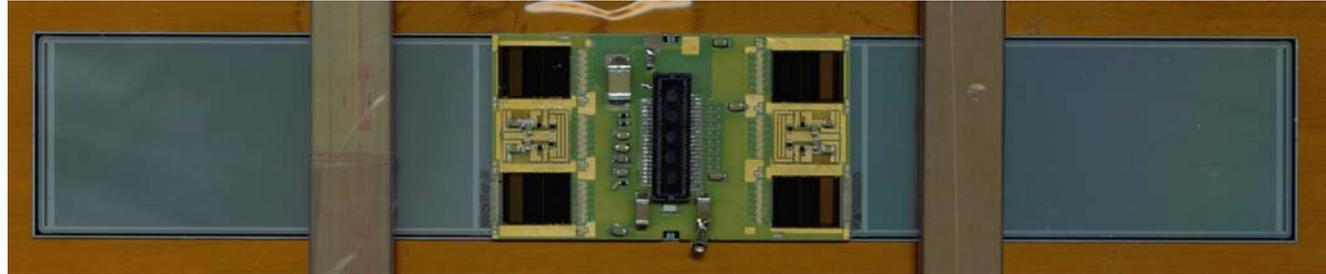
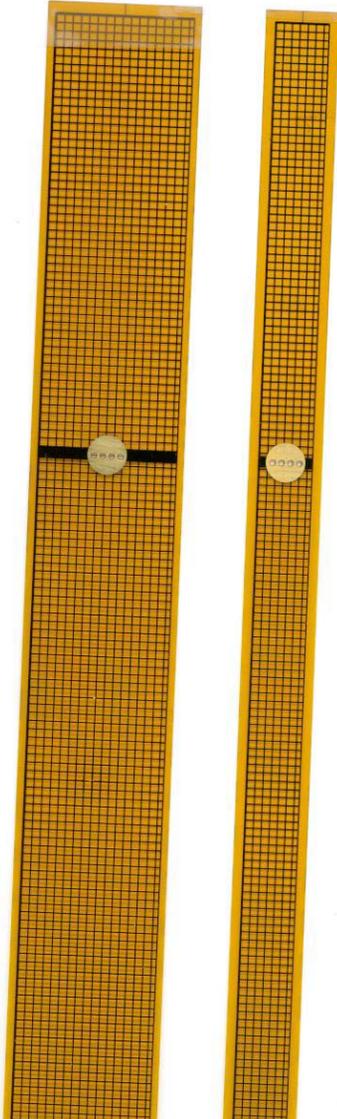


L1 Status

- One L1 module assembled in July 2002
 - ◆ CPT hybrid prototype with fingers => 4 chips/hybrid
 - ◆ Looks good with new firmware and new grounding scheme
- Plans
 - ◆ Have good L1 hybrids to assemble 2 more modules - in the assembly queue
 - ◆ Will use kapton backing to provide HV and gnd connections
 - ◆ L1 support structure is being prepared at UW - here next week?
 - ◆ Will study
 - ▲ Performance issues listed at page 1
 - ▲ Grounding scheme
 - ▲ Simultaneous readout of more than one module



L1 Status





LO Status

- Five LO modules assembled so far, three with SVX4 using L1 hybrids
 - ◆ See studies by Kazu
- Short term plans
 - ◆ Install 3 LO modules on the LO support structure
 - ▲ Modules will need kapton backing for HV and gnd connections
 - ▲ Hybrid support will be kludges
 - L1 hybrids
 - Analog cables for one sensor location
 - ◆ LO support structure with laminated kapton is ready
 - ▲ Mechanical tests ok (?)
 - ▲ Resistance measurements as expected (good)
 - ◆ Currently measuring one LO module with installed backing
- Longer term plans
 - ◆ Receive LO hybrids from Amitron in March
 - ◆ Receive new prototypes of analog cables in March
 - ▲ Lengths corresponding to locations of two sensors



LO Status

