



Ensuring Success for L1Cal in Run IIb

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Outline

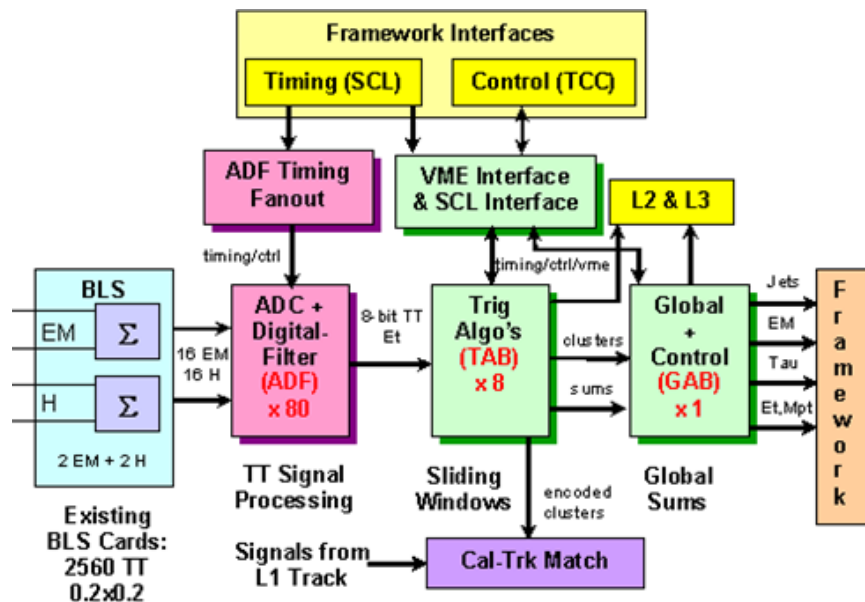
1. Pre-Installation (extensive use of Test Area)
2. Installation July 2005
3. Post-Installation

Warning

- this does *not* represent “The Plan”
- it is meant to stimulate *Discussion & Worry*



Where We Stand Now



GROUPS:

- **Saclay** ADF → v.2
- **MSU** ADF, Online
- **Nevis** TAB, GAB, VME/SCL
- **UIC** Commissioning
- **FNAL** Test Waveform Gen
- **NEU/Rice** Simulation

HARDWARE STATUS:

- **1st Round Integration: Oct., 2003**
 - ♦ big success!
 - ♦ SCL → ADF, TAB
 - ♦ ADF → TAB
 - ♦ TAB → Cal-Track (L1Muon)
- **ADF**
 - ♦ Some design changes after prototype
 - Analog: well advanced
 - Digital: starting
 - ♦ ADF v.2: August, 2004
- **SCLD**
 - ♦ 1-channel prototype used in Oct. Test
 - ♦ need group to make final board
- **VME/SCL**
 - ♦ ready for production
- **TAB**
 - ♦ almost ready for production
 - only L2/L3 readout path to test
- **GAB**
 - ♦ prototype received at Nevis



Shameless GAB Propaganda

GAB Prototype
10-Feb-04

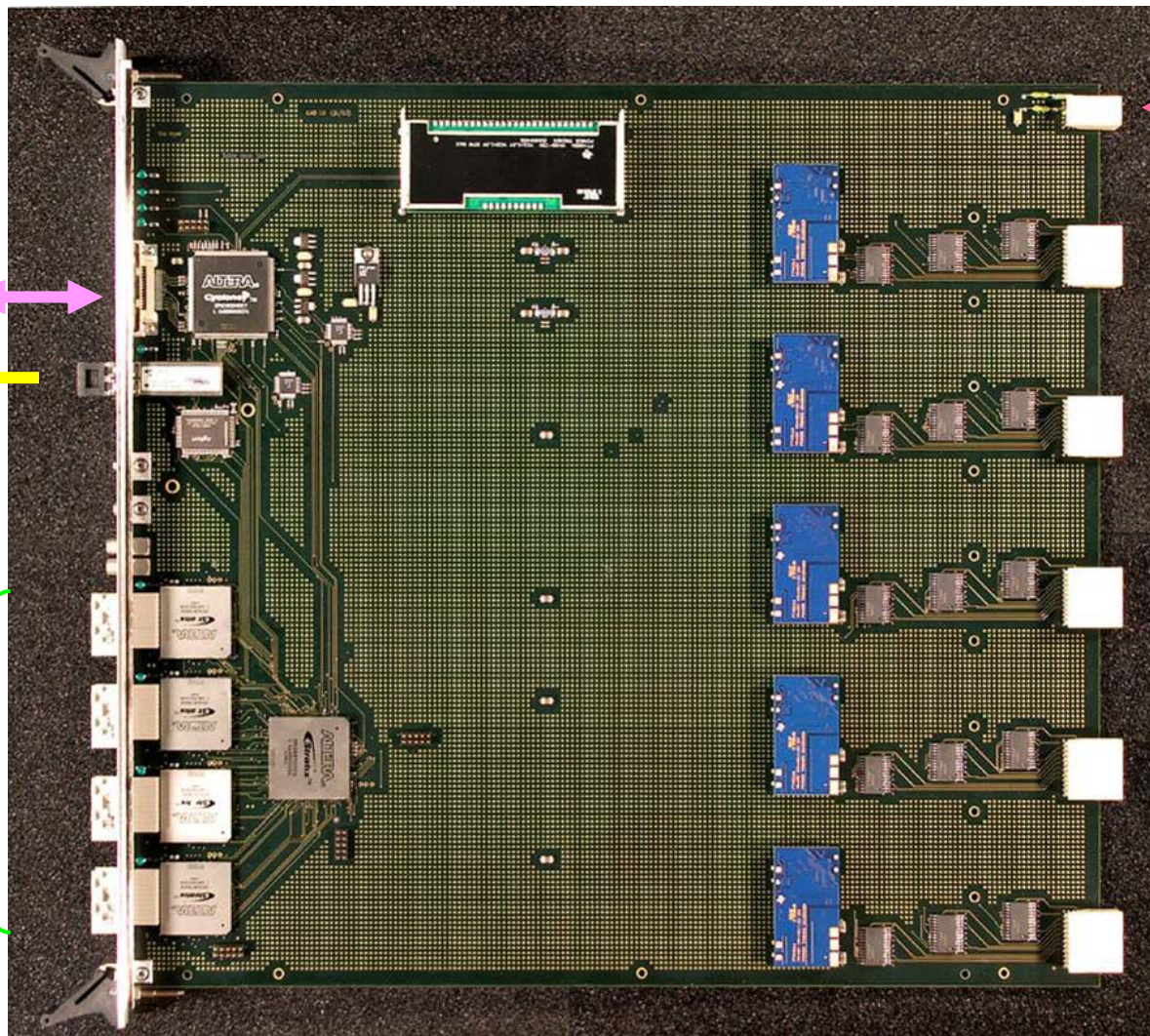
VME/SCL

L2/L3

TAB
Inputs
(x8)

power

out to
TFW





Pre-Installation Work

Start	Dur.	Description
09/22/04	4 w	Pre-Production Integration Test • Verify operation of final boards (already tested separately) • Integrate w/ TFW & DAQ • Requires: ADF v.2 & 32-chan SCLD
10/01/04	→ inst.	Test System Using Splitter Data • Prelim Dig. Filt. Coeff's, Noise, Algo Performance • Gain Experience Running System • Ultimately Requires: 2x9x9 Split BLS Signals
10/19/04	0 w	Release ADF for Production
Winter 04	→ inst.	Develop Calibration & Testing Procedures
Winter 05	→ inst.	Prepare System Infrastructure in Test Area • Cables, Racks, Crates, Power, Cooling, Safety...



Pre-Installation Worries

- **SCLD**
 - ◆ Need to find a group to make this by Fall 2004
- **Splitter Boards**
 - ◆ Four 4-Channel splitters currently available
 - ◆ Redesign required to access 162 channels
 - ◆ No one (yet) lined up to do this
- **Algorithm Development, Calibration & Testing**
 - ◆ As always – more help is needed here



Hardware Installation

Task	Dur.
Remove Old Racks	1 w
Redress Cables	2 w
Install new Racks (previously populated in Test Area)	0.2 w
Connect New Rack Services	1 w
Connect BLS & Intermediate Cables	1 w
Technical Commissioning	4 w
<i>Total</i>	<i>9.2 w</i>

- Based mainly on detailed estimate by D. Edmunds
- Assumes:
 - ◆ All Hardware *completely ready* before start
 - ◆ 2 Shifts per day
 - Total → 17 w without double shifts



Post-Installation Work

First Studies to do – Approx. Time Ordered

1. Study Noise in Real System

- ◆ multiple channels already run in Test Area

2. Tune Digital Filter Coefficients

- ◆ 1st pass already done – but probably not for all chan's

3. Determine Threshold Reference Sets

- ◆ calibration procedures already in place
- ◆ basic L1Cal functionality after this – start physics studies

4. Understand Missing Et

- ◆ effect of ICR – would benefit from prev. studies

5. Implement/Understand New Triggers

- ◆ Topological, Cal-Track, etc...