Fiber Tracker Readout Status

VLPC Electronics

Current status and projections for AFE8

Glossary

RevA - 10 boards - under test
RevB - 2 boards - not used
RevC - Final Layout
  RevCGrp1 - 146 boards fab and stuff
  RevCGrp2 - 2 PCB's - fast turn / simple check
  RevCGrp3 - 28 PCB's - 3-4 wk fab, then stuff

Presented by: Fred Borcherding
Current AFE8 Status

AFE production - since last meeting

2/23/01 - submitted Gerbers - Clock is started
Schedule slipped by 4 days
Have all parts for 10 RevA boards
Current RevCGrp1 Status

**AFE production Schedule**

- 23 Feb: Start board fab
- 5-Mar: Start stuffing RHB
- 20 Apr: Start stuffing LHB
- 18 May: Stuffing go-ahead

Stuffing go-ahead **BEFORE** bare boards ready

- 4 week board fab.
- 4 weeks to stuff R(L)HB
- RHB done first and then LHB
- only two partial shipments

Fred Borshendring

Feb 27, 2001
### Current RevCGrp1 Status

#### AFE Installation Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Apr</td>
<td>02-Apr Start testing RHB</td>
</tr>
<tr>
<td>27 Apr</td>
<td>09-Apr Start installing RHB</td>
</tr>
<tr>
<td>18 May</td>
<td>30-Apr Finish testing RHB</td>
</tr>
<tr>
<td>25 May</td>
<td>07-May Finish installing RHB</td>
</tr>
<tr>
<td>18 May</td>
<td>30-Apr Start testing LHB</td>
</tr>
<tr>
<td>25 May</td>
<td>07-May Start installing LHB</td>
</tr>
<tr>
<td>15 Jun</td>
<td>28-May Finish testing LHB</td>
</tr>
<tr>
<td>22 Jun</td>
<td>04-Jun Finish installing LHB</td>
</tr>
</tbody>
</table>

- **First 90% of boards**
- 4 weeks to test all RHB
- 20 boards per week
- Installation lags testing by 1 week
- Crew of 6 to test
- Crew of 2 to fix for retest
- 2+ support engineers

*Fred Borochowski*

Feb 27, 2001
RevCGrp2 Status

Quick turn around

- Started Paperwork
  - have a quote
  - PR in system - @ Marvin next
- Order out ASAP
RevCGrp3 Status

? Plan for 28 boards

? Sanmina can build

- same 4wk time as RevCGrp1
- same per boards cost
- have contacted purchasing about change

? No go for fast turn PCB

- Several critical parts >4 weeks away
- Still working on getting all parts at no longer than 4-6 weeks
AFE pre-production - have 10 (revA)

#1 (RHB) @ Fully stuffed - commissioning
#2 (RHB) @ Just received as fully stuffed
#3 (RHB) @ set aside
#4 (RHB) @ DAB3 - being readied for cryo control - send to lab3
#5 (LHB) @ lab 3 - have some results
#6 (RHB) @ Being used for cryo tests - needs MCM’s
#7-10 () @ 9th floor being stuffed

Have all parts in hand for 10 boards
AFE Testing

? Written Procedures
   ✷ Using first version on RevA boards

? Test Stands
   ✷ Have 2 stations - will need 3rd
   ✷ Ordered faster PC

? Testing Firmware
   ✷ Consolidating firmware
     ✷ LHB & RHB versions
     ✷ Test stand specific versions
     ✷ VME & 1553 separate versions
Data for channel 16
+ Poisson Fit
Too many pedestal events
? AFE8 #5
? Data for channel 10 after cut
  ↳ ch 11 above ped
  ↳ ch 12 above ped
? 8 counts / PE
  ↳ 4.6 fC/PE @ SVX
  ↳ 9 fC/PE @ SIFT
? noise sigma 1.8
  ↳ 1 fC @ SVX
  ↳ 2fc @ SIFT

Hand FIT to smeared Poisson
---------------------
Ped = 55
Noise sig = 1.8
<pe> = 1.8
1st = 65
Gain disp = 0.16
Gain = 8

Fred Borchendorf

Feb 27, 2001
Charge at AFE

Basic Yardstick is Charge onto board
Charge at AFE

Charge on AFE board can be calculated from SVX counts with 3 conversions:

- SVX Gain
- Sift Xfer Gain
- Coupling of board to SIFT

1.69 ± 0.46 fC/count

27%

<table>
<thead>
<tr>
<th>Conversion of Counts in SVX to Charge on AFE Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVX Gain</td>
</tr>
<tr>
<td>SIFT Xfer Gain</td>
</tr>
<tr>
<td>Board Xfer</td>
</tr>
<tr>
<td>total</td>
</tr>
<tr>
<td>Counts in SVX</td>
</tr>
<tr>
<td>fC onto board</td>
</tr>
</tbody>
</table>