HOLA installation in USA15
Status

• 8 Pixel + 8 SCT HOLAs installed in USA15
• DAQ channels connected to the ROSes
• FTK fibers laid under the floor and placed next to the vertical slice crate
• Tests:
  – FTK channel tested with a connectivity test
  – DAQ channel tested by running the partition at high rate (SCT only)
Connectivity table

<table>
<thead>
<tr>
<th>HOLA card</th>
<th>ROD</th>
<th>TDAQ fiber</th>
<th>FTK fiber</th>
<th>crate number</th>
<th>rod slot</th>
<th>SCT/pixel</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>0x210100</td>
<td>2250070</td>
<td>3040001</td>
<td>1</td>
<td>6</td>
<td>SCT</td>
</tr>
<tr>
<td>20</td>
<td>0x210101</td>
<td>2250071</td>
<td>3040002</td>
<td>1</td>
<td>7</td>
<td>SCT</td>
</tr>
<tr>
<td>21</td>
<td>0x210102</td>
<td>2250073</td>
<td>3040003</td>
<td>1</td>
<td>8</td>
<td>SCT</td>
</tr>
<tr>
<td>22</td>
<td>0x210000</td>
<td>2250057</td>
<td>3040005</td>
<td>3</td>
<td>6</td>
<td>SCT</td>
</tr>
<tr>
<td>24</td>
<td>0x210003</td>
<td>2250060</td>
<td>3040008</td>
<td>3</td>
<td>10</td>
<td>SCT</td>
</tr>
<tr>
<td>25</td>
<td>0x21000a</td>
<td>2250067</td>
<td>3040010</td>
<td>3</td>
<td>19</td>
<td>SCT</td>
</tr>
<tr>
<td>26</td>
<td>0x210001</td>
<td>2250058</td>
<td>3040006</td>
<td>3</td>
<td>7</td>
<td>SCT</td>
</tr>
<tr>
<td>27</td>
<td>0x210002</td>
<td>2250059</td>
<td>3040007</td>
<td>3</td>
<td>8</td>
<td>SCT</td>
</tr>
<tr>
<td>43</td>
<td>ROD_L4_S18</td>
<td>2251120</td>
<td>3040111</td>
<td>L4</td>
<td>18</td>
<td>pixel</td>
</tr>
<tr>
<td>47</td>
<td>ROD_L3_S7</td>
<td>2251091</td>
<td>3040107</td>
<td>L3</td>
<td>7</td>
<td>pixel</td>
</tr>
<tr>
<td>49</td>
<td>ROD_L2_S20</td>
<td>2251096</td>
<td>3040105</td>
<td>L2</td>
<td>20</td>
<td>pixel</td>
</tr>
<tr>
<td>52</td>
<td>ROD_L2_S18</td>
<td>2251088</td>
<td>3040104</td>
<td>L2</td>
<td>18</td>
<td>pixel</td>
</tr>
<tr>
<td>60</td>
<td>ROD_L1_S18</td>
<td>2251065</td>
<td>3040102</td>
<td>L1</td>
<td>18</td>
<td>pixel</td>
</tr>
<tr>
<td>61</td>
<td>ROD_L1_S16</td>
<td>2251062</td>
<td>3040101</td>
<td>L1</td>
<td>16</td>
<td>pixel</td>
</tr>
<tr>
<td>62</td>
<td>ROD_L3_S9</td>
<td>2251093</td>
<td>3040108</td>
<td>L3</td>
<td>9</td>
<td>pixel</td>
</tr>
<tr>
<td>64</td>
<td>ROD_L3_S18</td>
<td>2251102</td>
<td>3040109</td>
<td>L3</td>
<td>18</td>
<td>pixel</td>
</tr>
</tbody>
</table>

Status of connected HOLAs is also available in the online database:

hola.uchicago.edu
Login: holaviewer
Password: atlas2012
Open the “Search Box” and enter “connected” into the “Note contains” field.
Preparing FILAR test PC that reads out the FTK link

Mounting dual-channel HOLAs on ROD-BOC boards

Connecting FTK fiber to the dual-channel HOLA
Connectivity test

• Standalone FILAR PC connected to FTK channel
• Partition FSM: UNCONFIG -> CONFIG
  – FTK link goes up; we enable FTK-XOFF capability
• A run in started (CONFIG -> START)
• FILAR PC waits for 200 events
  – Dumped on screen; we verify ROD header/trailer
• After 200 events, FTK asserts XOFF for 1 min.
• We verify that the ROD sees XOFF and goes busy during this minute
• All 16 cards and 16x2=32 fibers are good.
Passive-FTK test

• The connectivity test was also repeated *without* enabling FTK flow control capability (controlled through a register programmable via FTK S-Link return line)
• In this mode, flow control requests from FTK are ignored by the HOLA and its ROD
  – Will be useful in the initial commissioning of FTK
• Confirmed that DAQ is unaffected in this mode
High-rate tests

• Most importantly, we need to ensure we didn’t break the main (DAQ) channel.
• The only way to test it is to run the system in the general partition at high rate (~50 KHz)
  – Rely on MRS messages to ensure that all ROD headers/trailers were received correctly, and that there were no S-Link errors in each frame
• Ran SCT for a few hours at 50 KHz (L1 rate)
  – No errors
• Cannot do this for pixels because they haven’t upgraded to TDAQ-00-04 release yet
  – Once they upgrade (~2 weeks), they will perform the tests
Thanks

• FTK installation team:
  – Anton, Bjoern, Constantinos, Georgios, Ho Ling
  – Naoki and Takashi
  – Jinlong

• Many Pixel, SCT, DAQ experts who assisted every day in setting up and running the system