PFB Board

• Two version 1b boards built
• FPGAs, USB DRAM and LVDS links
  • fully functional
• Revision of Schematic started for version 2
• Loop back board built to test FX20 and FX60
  Rocket I/O
  • Majority of circuits tested at 3.125GHz
• MWA RTM being manufactured at Haystack
Correlator Board

- Four version 1 boards
  - Minor components loaded
- Two have all components
  - Delivered to Haystack
  - Were working when sent but one had Ethernet problems
    - Faulty unit returned to Sydney
- FPGAs, USB LVDS and Rocket I/O links tested
  - fully functional

- Revision of Schematic and Routing Finished
- RTM built and test
Control

• Control firmware developed by Ludi de Souza
• Moved all complex tasks to external CPU
• Slot 1 firmware prototyped on XILINX development board.
• Slot 1 board design simplified
  • Schematics modified
  • Board layout complete
  • Being manufactured now
• Firmware stubs provide visibility of FPGA operation to CPU
  • Faster debugging
• This approach now adopted by MWA and SKAMP
  • Common development
## Board Status

January 2008

<table>
<thead>
<tr>
<th>PFB board</th>
<th>SKAMP RTM</th>
<th>MWA RTM</th>
<th>Correlator RTM</th>
<th>Slot 1</th>
<th>PFB Test jig</th>
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<tr>
<td>Schematic capture</td>
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<tr>
<td>Board layout</td>
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Number SKAMP | 27 | 27 | 27 | 27 | 5
Number MWA (512T) | 18 | 18 | 70 | 70 | 10

| Version 1a boards | 1 | | 2 | 4 | 2 |
| Version 1b (for PFB) | 2 | 2 | 2 | | |
| Version 2 | 4 | | 4 | | |
| SKAMP Production | 26 | 26 | 26 | 24 | 4 |
| MWA Production | 14 | 16 | 68 | 69 | 8 |
MWA PFB firmware

- Will be based on SKAMP – working modules for
  - Fine Filterbank
  - Cube Rotation
  - Data re-ordering to correlator
  - DRAM interface
- Fine filterbank/cube rotation 1.6GHz for SKAMP
  - 8bit data – 25.6Gb/s
- MWA limited to same analogue bandwidth
  - 5bit data – 16Gb/s
  - Reduces number of useable optical inputs from 16 to 12
  - Redesign by Roger – no change to hardware