



Heidelberg Status



- ◆ PPr ASIC being fabricated - 3 wafers will be fully-processed, 3 partially to allow for mask updates at later stage - **completion ~end-March**
- ◆ PPr MCM also being fabricated at Wurth - 100 substrates **~mid-March**
 - ◆ Final assembly (*passive components, die-attachment, etc*) will be done at KIP
 - ◆ Test card still being designed
- ◆ PPM schematics mostly done - some remaining areas
 - ◆ LVDS fan-out implementation - LFANs or Xilinx device (*would first need bench tests*)
 - ◆ ReM FPGA (*D Kaiser*) design continues - PPM layout awaits final pin-allocation
 - ◆ Another CAN processor (*Lawicel*) - Atmel μ controller, small (*DIL28*), needs external ADC
- ◆ TCM arrived in KIP - its matching ALC now being designed
- ◆ No further news on PPr ROD
- ◆ 160 LVDS cables available (*4 channels, 15m length*) - each CPM needs 20



Mainz Status



- ◆ JEM-0 #1 testing continues
 - ◆ VME access to FPGAs currently being worked on - real-time data paths exercised “soon”
- ◆ JEM-0 #2 also now assembled
 - ◆ Assembly and re-work problems now seem solved with new (*expensive*) company
 - ◆ Powered up successfully - JTAG testing starting ~now
- ◆ Two more JEM-0s needed for Slice Tests
- ◆ JEM0 uses TileCal TTCrx d-card - not enough for 4 JEM-0s
 - ◆ Use TTCdec? Needs yet another Interposer card to adapt it
- ◆ Improved Jet algorithm (*work by Stockholm students*)
 - ◆ Latency reduced by 0.5 ticks (*VHDL simulation*) - will be incorporated into JEM-0 modules
- ◆ JEM-0 still to be brought into HDMC framework



Stockholm Status



- ◆ Backplane manufacture complete - **delivery to Stockholm 22 February**
 - ◆ **Temporary glitch - missing power pins - shipping separately ~now**
- ◆ First Crate/Backplane should be at **RAL during w/b 4 March**
- ◆ PSU needs to be connected to Crate/Backplane, and complete system tested before JTAG tests on first CMM and CPM
- ◆ Second Crate/Backplane will be sent to **RAL for w/b 11 March**, then transferred to Birmingham with its PSU
- ◆ Third Crate/Backplane will be assembled at Stockholm and shipped to **Mainz for w/b 18 March** - fourth assembled and retained at Stockholm
- ◆ Two PSUs will be shipped to Mainz and Stockholm during March
- ◆ Sam has two new students starting work on adapting CP simulation software for the JEP system



UK Hardware Requirements - Slice Tests + Test System



<u>Module/card</u>	<u>Needed</u>	<u>Design/ Layout</u>	<u>Manufacture/ Purchase</u>	<u>Number awaiting test</u>	<u>Tested</u>	<u>Comments</u>
DSS	10	-	0	6	4	} Populates 1 full CPM (80 channels) } and 2 partial CPMs (40 + 40 channels)
CMC LVDS Tx Card	20	-	16	0	4	
CMC Generic I/O Card (GIO)	3	Layout	3	0	0	CPM-CMM tests via PB; CTP-D emulation
CERN TTC Test Card	4	-	0	0	4	Only usable on DSS - optical input
TTCdec Interposer	8	-	6	0	2	Needed to allow use of TTCdec with RODs
TTCdec	30	Design	20	7	3	Re-design needed for new TTCrx footprint
LVDS 4-channel Link Cable	126	-	0	0	160	15m - from 6 PPMs -> (2+2 CPMs + 2+2 JEMs) - from HD
CPM	4	-	4	0	0	2 fully-populated, 1 partially-populated
CPM Emulator 1 (CPME1)	4	Design	4	0	0	Sources/sinks 160 Mbit/s serial data (firmware?)
CPM Emulator 2 (CPME2)	4	-	4	0	0	} Sources/sinks HIT data for CMM via PB } and provides CPM-CMM PB testing
CMM Emulator (CMME)	2	Layout	2	0	0	
CMM	4	-	4	0	0	2 for CP sub-system, 2 for JEP sub-system
Rear Transition Module	4	Layout	4	0	0	Sources/sinks CMM I/O data (crate dimensions awaited)
TCM/ALC	7	-	4	0	3	2 for UK, 2 for Heidelberg, 2 for Mainz, 1 spare
ROD (6U)	8	-	6	0	2	} Slice Tests - 3 for CP + 4 for JEP } sub-systems + 1 spare (CMM firmware needed)
CMC G-Link Rx Card	8	-	4	0	4	
S-Link Tx/Rx Card-set	7	-	1	0	6	Slice Tests RODs - 3 for CP, 4 for JEP
S-Link Rx PCI I/F	7	-	1	0	6	Slice Tests ROSs - 3 for CP, 4 for JEP
VME Mount Module (VMM)	5	-	4	1	0	Adapts 6U CPU to 9U VME-- crate - CP 2, JEP 2 + 1 spare
CPU (Concurrent)	6	-	2	0	4	Slice Tests - 2 VME crates + 4 VME-- crates
TTCvi + TTCvx	2	-	0	0	2	Slice Tests + UK Test System
6U VME crate	3	-	1	0	2	Slice Tests + UK Test System
9U crate/PB	2	-	0	2	0	} 1 for Slice Tests } + 1 for UK Test System
9U crate PSU	2	-	0	0	2	
Optical fibres (TTC + S-Link)	~15	-	~10	0	~5	Lengths?