





Production schedule scenarios to speed delivery *B. Carlson*



National Research CouncilConseil national de recherchesCanadaCanada

EVLA Correlator Meeting Oct. 31, 2006



Outline

- Review of long-term schedule...current production plan.
- Expedited/alternate production plan...conditions under which this might work.



			200			2008		2009	2010	
ID	Task Name	Start		07 Q2 '07 Q	3 '07 Q4 '07	Q1 '08 Q2 '08 G	3 08 Q4 08	3 Q1 '09 Q2 '09 Q	Q3 109 Q4 109 Q1 10 Q2 10 Q3	'10 Q4
1	Stage 1 Prototype Hardware in Penticton	Tue 04/10/05	 06/11							
2	Stage 1 Prototype PCB Acceptance Testing	Mon 23/10/06		04/05						
3	Stage 2 Prototype Fabrication & Assembly	Mon 07/05/07			31/08					
4	Power Plant Delivered to VLA Site	Mon 05/02/07	•	05/02						
5	Hardware/Software Integration Testing	Mon 03/09/07	 			28/12				
6	Critical Design Review	Fri 28/12/07				28/12				
7	Hardware for OTS Testing Sent to VLA	Mon 31/12/07				25/01				
8	On-The-Sky Testing	Mon 28/01/08				09/03	5			
9	High-Speed Inter-Rack Cables Delivered to and Installed at VLA Site	Mon 02/07/07			28/09					
10	Racks Delivered to and Installed at VLA Site	Mon 31/12/07				28/03				
11	Stage 3 Production Hardware	Mon 14/01/08				11/04				
12	System Integration & Testing @ Penticton	Mon 14/04/08			_		29/08			
13	Limited Production Hardware Sent to VLA	Mon 01/09/08					26/09	1		
14	Stage 4 Production Hardware	Mon 01/09/08					T I	12/12		
15	Final Full Production Test & Burn-in in Penticton	Mon 15/12/08						13/03		
16	Full Board Installation & Testing @ VLA	Mon 16/03/09							12/02	
17	Commissioning - Turn off old correlator	Mon 15/02/10			-			- -		24
18	Prototype Software	Thu 22/12/05		18/0	5				1	
19	MCCC Software	Mon 03/07/06					16/	10		
20	CPCC Software	Tue 10/07/07				25/02				
21	Correlator Backend Software (V1.0 Test, V2.0)	Tue 07/11/06	1					29/12		
22	CMIB Production Software	Mon 21/05/07						12/12		

B. Carlson, 2006-Oct 31



Expedited production plan

- Will **only** work if 1st prototypes are successful and no major changes required ("Stage 2" is a built-in re-spin).
- Requires that Correlator Chip works first time...no re-spin.
 - Scan tests of 1st few prototypes indicate ~90% yield...this and exhaustive functional as well as gate-level sim adds confidence that respin may not be required.
 - Must be highest priority for testing so that we can get production quantity ASAP.



Expedited production plan

- Issue one production work order so that there is only one component purchasing cycle.
 - Each purchase cycle is fraught with delays due to component availability problems. One cycle reduces these uncertainties.
- Request production build in two stages:
 - NPI. Get ~16 (more? More==more risk) of each type built and tested.
 - Meets prototype correlator requirement and in-house system integration+test requirements.
 - Full production order for the remainder of the boards.



Expedited production plan

- Possible expedited (best) schedule:
 - Corr Chip testing complete January 15th; tests are completely successful.
 Production chips available May 15th (Contract: 12 wks ARO; allow 16 wks).
 Require 2 more months of in-house ESS testing before ready for production
 July 15th 2007.
 - BB + SB testing complete by April 30th 2007 (6 mo test time...could be faster or slower).
 - CDR then issue production work order by May 15th 2007 with NPI and full production staged as indicated.
 - Assuming 24 wk lead-time, get NPI units by Nov 30, 2007...could be sooner.
 - 1 month to test NPI units. If we *don't* wait for OTS testing, can give the goahead for full production ~Jan 1/08. Otherwise wait 'til OTS with NPI units complete.
 - Assuming 8 wk lead-time (components already on-hand), get production units by Feb/Mar 08. Start shipping ESS-tested units to site May 2008...nearly 1 year ahead of baseline schedule.