

MWA News Update 27 August 2009

Report on system integration work at Curtin

As most of you are aware, a major system integration effort is currently underway at Curtin University in Perth. A receiver (pulled from the field), the 32T hardware correlator, and a small RTS (also pulled from the field) are, for the first time, all sitting in the same place and communicating with one another. The correlator suffered some minor damage in shipment from Haystack, but has been repaired and is believed to be back in working condition.

Dave Emrich reports that, in general, the end-to-end testing is going well. The RRI team has made good inroads to creating the full-bandwidth fiber signals from the receiver AgFo board in preparation to passing those signals to the Correlator PFB. With known signal sources injected into the receiver, the signals passed from the receiver to the PFB can be meaningfully examined in the PFB for proper behavior and characteristics. Dave writes "We anticipate seeing Ludi DiSouza's diagnostic screens showing us nice clean sine-wave signals and broadband noise source(s) on the various "antenna" and "frequency" channels as they exit the correlator PFB, and we hope later this week or shortly thereafter to pass these signals into the correlator board and on through to the RTC. In the interim, the "guys" are also looking forward to generating known signals within the hardware correlator FPGA that will independently test the correct functioning of the correlator block. Basically, these tests involve synthesizing a pair of ~100MHz sinewave signals, separated by mHz, and looking for "phase winding" in the correlator outputs."

Beyond the end of this week, when traveling members of the team must return home, the equipment will be sufficiently bench-integrated to allow further work to be done "by remote", with the Curtin team available for local intervention and assistance as necessary.



Above: The hardworking integration team [front: "Vani" Srivani (RRI), Darshan Thakker (U.Sydney) , Ludi DeSouza (ATNF), Prabu Thiagaraj (RRI); rear: Wayne Arcus (Curtin), Russ McWhirter (Haystack), Dave Emrich (Curtin)]. The 32T correlator chassis is visible on the bench.

Your MWA News Update editor is always eager for news to share with the MWA community -- please pass on any you may have.