

## JBO VLBI Station Report for Onsala June 2012

1. VLBI Session recording and evlbi production: this has continued with a reasonable degree of success for the Jodrell Mk2 and Lovell telescopes. We had a slow lock failure of a synthesiser during the recent session which was found after the first 6cm. run.
2. eMerlin+VLBI Integration. There remains a lot of work to be done on both eMerlin and the VLBI integration, however we now have a viable hardware plan which is being implemented for the next session in Oct/Nov 2012. The plan intends;
  - a. Combined eMerlin and VLBI with one outstation, in both cases at 512+512mbps (l+r). eVLBI and recorded VLBI using a Mark5C recorder should be possible, in both cases using the VDIF format.
  - b. Future expansion - one further outstation at lower bandwidth may be possible quickly, but after that, either expanded BBC bandwidth or FPGA modification to the eMerlin Correlator will be required. The former needs extra software correlator capacity.
3. Other hardware: A third 1Gbps lightpath ('UKL3') has been provided by JANET and recently tested. It will be reserved for emerlin eVLBI in the short term.

We will shortly test an upgraded Mark5B, however this unit may have to serve as the Mark5C outstation recorder. This could reduce the capacity to record phase-reference data from, say, JBMk2 and Lovell.

There is currently no plan to replace either the old Mk4 or VLBA terminals with DBBC or DBE hardware. One terminal could be a candidate for a replacement in future.

The eMerlin conversion require further work in terms of local IF transmission from JB2 and LT. This is under way. There is also work remaining on the telescope control software.

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