CH/meet/97/03

Minutes

Oxford DA meeting 21/11/97

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Present : Steve Chappell, Dick Hunt, Bill Rae, Martin Freer, Nobby Clarke, Paul Jagpal and Steve Singer.
Circulation : Charissa-staff

The document CH/DOC/97/04 "Report from ANU" formed the basis of the discussion. Please refer to actions outlined in that report as well as those below.

1. Steve Chappell reported on the outstanding problems with the DA system. These are:

   i. TDC ringing
   ii. WAG board failures
   iii. Fiacre problems

2. Dick Hunt reported on these problems and solutions:

   i. The TDC's are very sensitive and when many input lines change at the same time ringing can occur. This is not so obvious looking at the input signals on a scope but it is very clear inside the TDC where two short pulses can be seen.

   There is a very simple mod to the TDC (one wire) which would enable the inputs to the TDC's to be gated off at the time when all channels are firing ie the start of rundown. This seems to cure the problem in tests here. But final tests need to be done at ANU in situ.

   The TAIL modules will supply this pulse and thus need to be modified. It was also noted that CAMAC power rails had to be close to specification to get the best performance from the TDC's.

   ii. The WAG problem relates to channels not firing sometimes and WAG channels going down. Two cures for this problem. The first is to install pull-up resistors where necessary so that when cables are removed various signals do not float - which can cause the problem since the crate may go into oscillation.

   Certain chips on the WAG boards will be replaced by more powerful versions. The only other chips which seem to blow are the CAT amplifier chips. Hopefully the above mod with pull up resistors might improve this.

iii. The FIACRE has been modified to look at the data coming off the TDC. The new version can identify double time and energy hits and will take the first hit rather than the second which may be due to ringing.

3. Other matters which came up included:

   i. Problems with Silena boards. If there is an apparent problem with a Silena sample and hold then it is better to swap the whole amplifier rather than just the Silena. The Silena sample and hold circuits have to be set up very carefully in each amplifier. If one swaps Silena's this setting up must be done first.

   ii.There may be a problem with the power contollers on the amplifier crates. There are reports that these have dropped the voltage on the output lines by a large amount. It is possible that the opposite could happen thus damaging modules.

4. Other developments are:

   i. A simple logic box has been built which will take the logical output (after the discriminator) from up to 4 Multiplicity units and convert these to fast NIM. NIM logic (eg scaledowns) can then be used and a new MP signal can be sent back to the DA system.

   One of these modules has been tested. Two more are required for the run in January.

   ii. Dick is still working on the FACET which will replace the Starburst. The new version will buffer a whole event making the transfer to the HSM more reliable.

5. The requirements for the run in January were discussed.

   i. SMS will get the working Scaler back from Strasbourg and send off the broken Scaler to Lecroy.

   ii. Paul will get the Exabyte drives refurbished in time to go out to ANU with the next shipment on 12 Dec.

   iii. SMS reported that VP has changed the way the DA system and the amplifiers are controlled. He will use multiple RS232 and hopefully this will speed up these processes.

   iv. The display on Charissa1 at ANU is U/S. SMS will deal with this.

   v. The spare disk with the backup of the DA software will be updated with the current versions of the software.

   vi. We need to have some measure of deadtime for the next run. SPGC will look into this.

   vii. Check event format [SMS/SPGC].

viii. The new RH tester units needs to be repaired. This checks out strip cables and CAT outputs.

ix. RH will modify the TAIL's, WAG's etc on site at ANU. The new FIACRE modules may also be installed if there is time. He will also mod the TDC's on site.

x. SSJ to provide Silena set-up documentation and complete test rig.

xi. Faulty amps to be repaired and returned [SSJ].

xii. Lemo terminators ordered through ANU [SPGC].

6. Other matters:

   MF reported on the Trigger System. He is waiting for a final unit from York. He needs this module urgently if he is to be ready to install the Trigger system in March before the next MEGHA runs. Action DLW.