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Commissionning of the Herschel FE Crate

CROC Toolset

Little note on the action behind the buttons of the CROC panel

- the ChannelB-->Calibration button tells the FE to be ready to send the RAM when receiving a L0
- General Control--> Enable Seq button tells the spyRAM to get ready to receive a L0 sequence. (validL0seq function of croc spyPGA)
- L0/ChannelB--> L0 --> Trigger L0 Sequence button send a signal that trigger the release of a L0 sequence. (triggerL0seq function of croc spyPGA). It is also directed to the L0 Seq lemo output on the front plane.
- Spy-->Transfer-->Start get the spyRAM data on CAT memory
- Spy-->Transfer-->View display them
- General Control-->Acquisition L0 correspond to General Control--> Enable Seq + L0/ChannelB--> L0 --> Trigger L0 Sequence
- Spy-->Transfer-->Acquisition correspond to General Control--> Enable Seq + L0/ChannelB--> L0 --> Trigger L0 Sequence +Spy-->Transfer-->Start+Spy-->Transfer-->View

In this configuration the result is not different from what one would get from just pressing the "Acquisition" button but the internal logic is different: Acquision correspond to pressing "Enable Seq","Trigger L0", "Start" and "View", where "Trigger L0" launch the L0 sequence. Here we replace "Trigger L0" by the pulse from the generator.

Triggering the L0 sequence from external input and reading RAM

The L0 sequence generated by the CROC can be triggered from an external source (making sure they share the same clock) by sending a -800mv pulse on the "Trig L0 Seq" input of the CROC front plane. This can replace the manual triggering of the L0 Sequence which is done by pressing the "Trigger L0 Seq" button of the CROC panel.

The sequence to follow to spy RAM in the CROC spyPGA in this case is the following (after configruing the espionage):

On the CROC panel:

- Press the ChannelB-->Calibration button (this tells the FE to be ready to send the RAM?)
- Press the General Control--> Enable Seq button. This tells the spyRAM to get ready to receive a L0 sequence. (validL0seq function of croc spyPGA)
- Launch the triggerring of the L0Sequence from the generator.
- Press the Spy-->Transfer-->Start and then Spy-->Transfer-->View

Triggering an external device from the CROC when sending a L0 Sequence

Through the Seq L0 output of the front plane of the CROC one can send a signal when the L0 sequence is fired. By triggering external device with this signal one can synchronise (by adjusting the L0 Delay), the release of a generated signal and the launch of a L0 sequence. The advantage is that this can be done automatically via software, since this signal is release on the call of triggerL0seq function.

Sending data from a waveform generator and spying them in the CROC

trigger the generator with the Seq L0 output of the CROC front plane or trigger the Seq L0 from the generator by sending a pulse to the Trig seq L0 input of the CROC front plane. Advantage of the first solution is that it can be run automatically since trigger L0 seq button (and the function behind) will trigger both the seq and the generator while the first one needs a manual trigger of the generator

Timing scan

Dan please document

ADC conversion factor measurement

To redo

Synchronisation of the channels in DAQ

Victor please document

Synchronisation of the channels in Trigger

TODO

-- VictorCoco - 03 Oct 2014

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