

DAQ Status

➤ Tested with a Simulated-BIRO-app running on different PC:

✓ DAQ send *Startrun* and *Stoprun* command via TCP/IP to BIRO

✓ DAQ receives pack-events from BIRO via TCP/IP

- single runs OK
- multiple autorun IN PROGRESS

➤ Performance

• DAQ receiver follow the sender up to ≈ 4 kHz (events) with a local lan PC – hub – PC

• DAQ preprocessing takes more time... depending on the operations to do:
Find complete events and store into a file (hex format)

➤ Next steps

✓ test DAQ-BIRO with real BIRO

✓ implementation of TDC

✓ matching BIRO-TDC events in preprocessing

✓ other on preprocessing...

Online Detector Control - PLAN

➤ Settings

✓ Read predefined Vbias, Vthrh, Vthrl from a default_set_file and read detector configuration from a Detector_Config_File

✓ Set Vbias:

- Set all channel
- Set single layer
- Set single channel

✓ Set Gain:

- set same Gain for all channel: Vbias is calculated from the characteristic *Gain vs Vbias*
- set Gain for single layer or channel (???)

✓ Set Vthr (presented as n.5 PHE):

- set n.5 PHE for all channel: real value of Vthr is calculated from the characteristic *0.5PHE vs Vbias* and *Gain vs Vbias*

Example Detector_Config_File

"Crate"	"Board"	"Ch_El"	"Ly"	"PB"	"Ch_PB"	"SiPM_Num"	"Type"
0	0	0	0	0	0	"4020-001"	"BIRO"
0	0	1	0	0	1	"4020-002"	"BIRO"
0	0	2	0	0	2	"4020-003"	"BIRO"
0	0	3	0	0	3	"4020-004"	"BIRO"
0	0	4	0	0	4	"4020-005"	"BIRO"
0	0	5	0	0	5	"4020-006"	"BIRO"
0	0	6	0	0	6	"4020-007"	"BIRO"
0	0	7	0	0	7	"4020-008"	"BIRO"
0	0	8	0	0	8	"4020-009"	"BIRO"
0	0	9	0	0	9	"4020-010"	"BIRO"
0	0	10	0	0	10	"4020-012"	"BIRO"
0	0	11	0	0	11	"4020-013"	"BIRO"
0	0	12	0	0	12	"4020-014"	"BIRO"
0	0	13	0	0	99	"9999-999"	"BIRO"
0	0	14	0	0	99	"9999-999"	"BIRO"
0	0	15	0	0	99	"9999-999"	"BIRO"
0	0	16	0	0	13	"4020-015"	"BIRO"
0	0	17	0	0	14	"4020-016"	"BIRO"
0	0	18	0	0	15	"4020-017"	"BIRO"
0	0	19	0	0	16	"4020-018"	"BIRO"
0	0	20	0	0	17	"4020-019"	"BIRO"
0	0	21	0	0	18	"4020-020"	"BIRO"
0	0	22	0	0	19	"4020-021"	"BIRO"
0	0	23	0	0	20	"4020-022"	"BIRO"
0	0	24	0	0	21	"4020-023"	"BIRO"
0	0	25	0	0	22	"4020-024"	"BIRO"
0	0	26	0	0	23	"4020-025"	"BIRO"
0	0	27	0	0	24	"4020-026"	"BIRO"
0	0	28	0	0	99	"9999-999"	"BIRO"
0	0	29	0	0	99	"9999-999"	"BIRO"
0	0	30	0	0	99	"9999-999"	"BIRO"
0	0	31	0	0	99	"9999-999"	"BIRO"

➤ Rate monitoring

➤ ODC and DAQ run together:

DAQ send *run_number* to Odc and a log file with *run_number* → *V config* → *Detector Config* association will be produced.

➤ Detector configuration (optional):

change layer config
change Ch_El – Ch_PB association
other changes

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