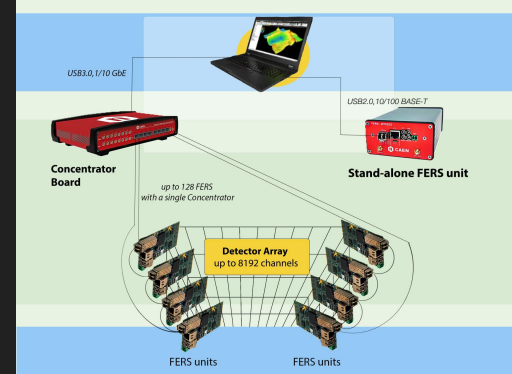


CAEN Noise Peak Issue

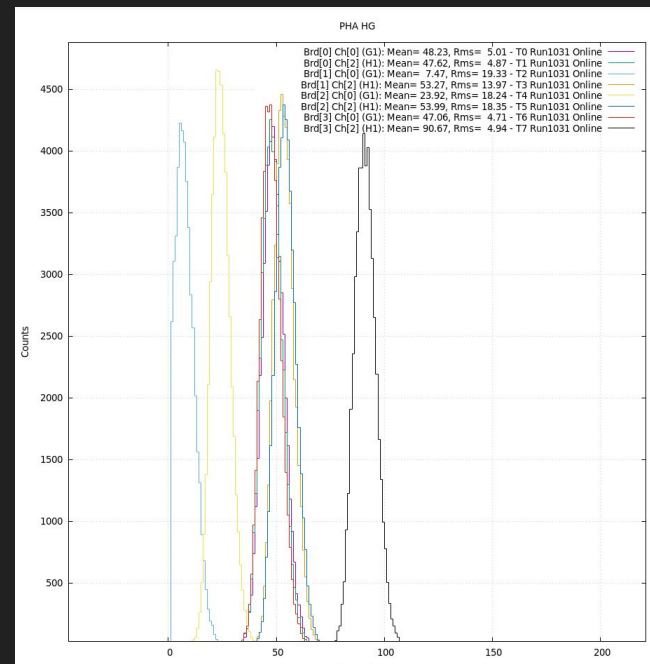
by: Cordney Nash (UTK student interning at ORNL)

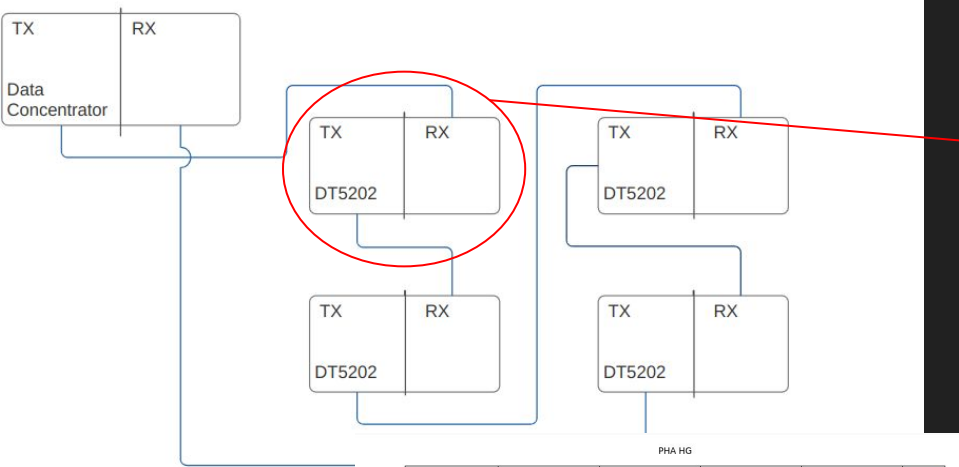
- We tested several DT5202 units with the concentrator board



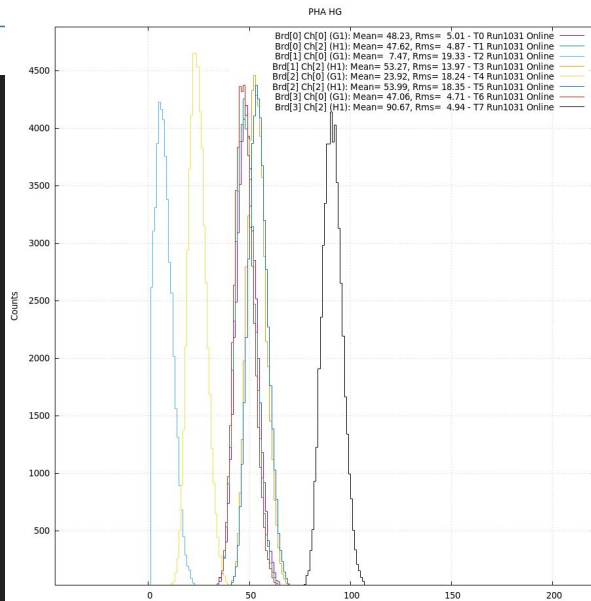
- Noise peaks were all over the place
 - Should be 50
 - Shifted peaks varies between 7-100
- One single units works but multiple in series or in parallel do not.

- We suspected grounding issues
 - Internal triggering (PTRG) -> No electrical connections
 - We still seen this problem
 - Connections between the DT5202 units are fiber cables.

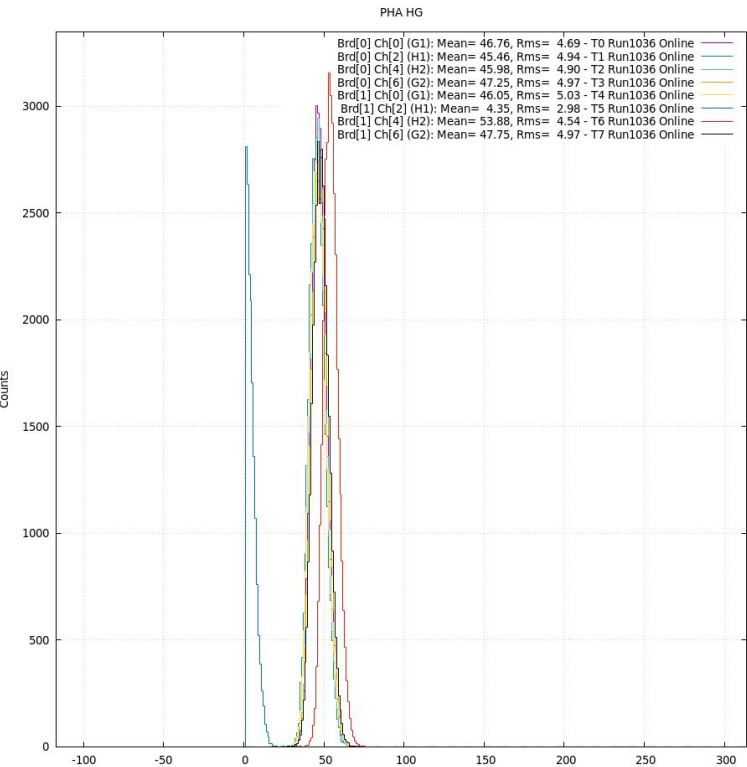
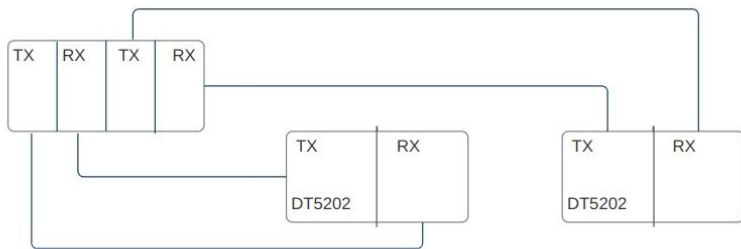




- When connected in series the mean of the first unit is normal, BUT the noise peak of the following units are displaced.
- This trends happens no matter the order of the DT5202 units in their physical connections.



	PATH	PID	Brd Model	FPGA FW Rev	uC FW Rev
<input checked="" type="checkbox"/>	0 eth:192.168.50.125:tdl:0:0	51118	DT5202	4.0 (Build = 6719)	N.A.
<input checked="" type="checkbox"/>	1 eth:192.168.50.125:tdl:0:1	51375	DT5202	5.0 (Build = 7703)	N.A.
<input checked="" type="checkbox"/>	2 eth:192.168.50.125:tdl:0:2	51117	DT5202	5.0 (Build = 7703)	N.A.
<input checked="" type="checkbox"/>	3 eth:192.168.50.125:tdl:0:3	25799	DT5202	4.0 (Build = 6719)	N.A.
<input type="checkbox"/>	4				
	PATH	PID	Brd Model	FPGA FW Rev	uC FW Rev
<input checked="" type="checkbox"/>	0 eth:192.168.50.125:tdl:0:3	25799	DT5202	4.0 (Build = 6719)	N.A.
<input checked="" type="checkbox"/>	1 eth:192.168.50.125:tdl:0:1	51375	DT5202	5.0 (Build = 7703)	N.A.
<input checked="" type="checkbox"/>	2 eth:192.168.50.125:tdl:0:2	51117	DT5202	5.0 (Build = 7703)	N.A.
<input checked="" type="checkbox"/>	3 eth:192.168.50.125:tdl:0:0	51118	DT5202	4.0 (Build = 6719)	N.A.
<input type="checkbox"/>	4				



- Even when connected in parallel we still see shifted noise peaks.

	PATH	PID	Brd Model	FPGA FW Rev	uC FW Rev
<input checked="" type="checkbox"/>	0 eth:192.168.50.125:tdl:1:0	25799	DT5202	4.0 (Build = 6719)	N.A.
<input checked="" type="checkbox"/>	1 eth:192.168.50.125:tdl:0:0	51118	DT5202	4.0 (Build = 6719)	N.A.
<input type="checkbox"/>	2				
<input type="checkbox"/>	3				
<input type="checkbox"/>	4				
	PATH	PID	Brd Model	FPGA FW Rev	uC FW Rev
<input checked="" type="checkbox"/>	0 eth:192.168.50.125:tdl:0:0	51118	DT5202	4.0 (Build = 6719)	N.A.
<input checked="" type="checkbox"/>	1 eth:192.168.50.125:tdl:1:0	25799	DT5202	4.0 (Build = 6719)	N.A.
<input type="checkbox"/>	2 eth:192.168.50.125:tdl:0:2				
<input type="checkbox"/>	3 eth:192.168.50.125:tdl:0:3				
<input type="checkbox"/>	4				

PROBLEMS WE ARE FACING

- This is purely a software issue.
- We do not see this problem when only one unit is connected to the DT5215 unit or directly to the computer.
- We suspected it being a software problem and thus updated the Janus software
 - After updating the Janus (v 3.6.0) software we did not encounter this problem .

