Voltage Control GUI Specifications

Hovanes Egiyan

SVT Main Voltage Control GUI

- Use HPS test GUI as a starting point
  - Needs to be made manually
  - 36 hybrids in 2015 run vs. 20 hybrids during test run
  - The only control functionalities are:
    - Turn On/Off the power and biases to the individual hybrids (assume that IOC has "bo"-type PVs to fan out the SET command)
    - Change bias voltage for all hybrids (assume that IOC has a "ao"-type PV to fan out the bias setpoint)
  - Have menu buttons to open GUIs with bias parameters for each hybrid
    - Parameters for bias are for EHS MPOD board
    - digital (power) voltage GUIs will need to be on different GUIs and need to have different launching choice (used to share the same screen with hybrid biases)
  - A single button to open controls for digital voltage for all 100 FE boards (not existent during 2012 test run)

Voltage Parameters for Individual Hybrids

- Bias voltages are directly provided from MPOD ISEG EHS-F210p_805-F HV boards, while the power voltages are provided from MPOD MPV boards after being multiplexed

- Bias voltages have more parameters than digital voltages (LV) since all MPOD ISEG EHS-board parameters present for every single channel.

- For AVDD, DVDD, and V125 LV for individual hybrids we only need to:
  - Monitor their On/Off status (and control On/Off status for N-type voltages)
  - Read back the current
  - Read back the voltage (and define setpoint for N-type voltages)

- These GUIs can be generated using CLAS6 MEDM HV screen generation scheme
  - Too much work to make them manually
  - New hardware types will needed to be invented and implemented in the scrips

Ring H   **CDC HV Channels**

HallD CDC biases

Channel Name	Crate Slot Channel #	Measured Voltage	Voltage Setpoint		Voltage Setpoint Readback	HV ON/OFF	Channel Status	Measured Current	Trip Current Setpoint		Trip Current Readback	Trip Timeout Setpoint		Trip Timeout Readback	Max Voltage Setpoint		Max Voltage Readback	Ramp Up Rate Setpoint		Ramp Up Rate Readback	Ramp Down Rate Setpoint		Ramp Down Rate Readback
H:1	kyzhv39:0:1	299.50	0		300.00	🟩	On	0.00	0		300	0		10	0		3,500	0		100	0		100
H:2	kyzhv39:0:1	300.00	0		300.00	🟩	On	0.00	0		300	0		10	0		3,500	0		100	0		100
H:3	kyzhv39:1:1	0.00	0		0.00	🟥	Off	0.00	0		0	0		0	0		0	0		0	0		0
H:4	kyzhv39:1:1	0.00	0		0.00	🟥	Off	0.00	0		0	0		0	0		0	0		0	0		0
H:5	kyzhv39:1:1	0.00	0		0.00	🟥	Off	0.00	0		0	0		0	0		0	0		0	0		0
H:6	kyzhv39:1:2	0.00	0		0.00	🟥	Off	0.00	0		0	0		0	0		0	0		0	0		0
H:7	kyzhv39:2:1	235.50	0		237.00	🟩	On	0.50	0		6	0		300	0		2,399	7		100	0		100
H:8	kyzhv39:2:1	234.00	0		237.00	🟩	On	0.50	0		2	0		300	0		2,399	0		100	0		100
H:9	kyzhv39:2:1	232.50	0		237.00	🟩	On	0.00	0		2	0		300	0		2,399	0		100	0		100

Low Voltage Parameters for FE Boards

- FE board LV voltages are directly provided from MPOD Wiener MPV8008 LV boards

- FE board LV voltages have more parameters than digital low voltages for the hybrids, but the parameters are different from the bias voltage parameters since biases use MPOD ISEG EHS-boards.

- Single screen needed for FE low voltages
  - This screen can be made either by hand or by the scripts.

Hall-D BCAL LVs

BCAL_LVChannels.opi ✕

BCAL: LV Channels of DOWNSTREAM Modules 1-4

Channel Name	Crate Slot Channel #	Measured Sense Voltage	Measured Terminal Voltage	Voltage Setpoint	Voltage Setpoint Readback	LV ON/OFF	Channel Status	Measured Current	Max Current Setpoint	Max Current Readback	Trip Current Setpoint	Trip Current Readback	Max Sens Voltage Setpoint	Max Sens Voltage Readback	Max Term Voltage Setpoint	Max Term Voltage Readback	Ramp Up Rate Setpoint	Ramp Up Rate Readback	Ramp Down Rate Setpoint	Ramp Down Rate Readback	Clear Events and Turn Off
D:1p	he:N1-6-TOP:800	5.000	5.000	0	5.000		On	0.004	0	5.000	0	5.050	0	7.000	0	6.000	0	5	0	5	
D:1n	he:N1-6-TOP:801	5.000	5.000	0	5.000		On	0.000	0	5.000	0	5.050	0	7.000	0	6.000	0	5	0	5	

ECAL High Voltage Control Screens

- Need to design and manually make a main status GUI showing the structure of the ECAL
  - Use the voltage grouping provided by F.-X.
  - Actual mapping can be arbitrary at this point
  - Clicking on a menu button on the top or the bottom halves will bring up the group HV GUI for the voltage or parameter GUIs appropriate ECAL half.

- Voltage and parameter GUIs will be similar to the CLAS IC voltages.
  - Can be generated by CLAS HV GUI generation script after some modifications.