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PHENIX High Voltage Operation

(http://www.phenix.bnl.gov/ phoncs/oncs/Anc_sys/operation.ps)

This document is intended to instruct the reader how to initialize and operate the PHENIX HV system. For more detailed information, the reader is directed to *The PHENIX High Voltage Control System* manual (http://www.phenix.bnl.gov/ phoncs/oncs/Anc_sys/hvmanual.ps).

The steps to operate the PHENIX HV system are as follows:

1) Logging On

First logon to phoncs5 as phoncs (often phoncs is already logged onto phoncs5). Phoncs5 is a Sun SPARCstation 5 located in the southwest corner of the counting house.

Then 'source' the setup_epics script (type 'source setup_epics' at the '$phoncs5 : scripts >$' prompt) in the /export/software/oncs/epics/R3.13.0.beta11/scripts ($EPICS/scripts) directory.

2) Starting the MEDM GUI and Alarm Handler

After sourcing the setup_epics script, the start_medm and start_alarm commands should be active. To start the Motif Editor and Display Manager (MEDM) GUI, type 'start_medm'. After typing this, a screen similar to Figure 1 should appear.

To read and/or set high voltage values for various subsystems, click on the desired button under the 'Voltage/Current' column and choose the value.

To start the alarm handler, type 'start_alarm'. After typing this, a widget similar to Figure 2 should pop up. To operate the alarm handler, the reader is referred to the more detailed HV manual referred to above.

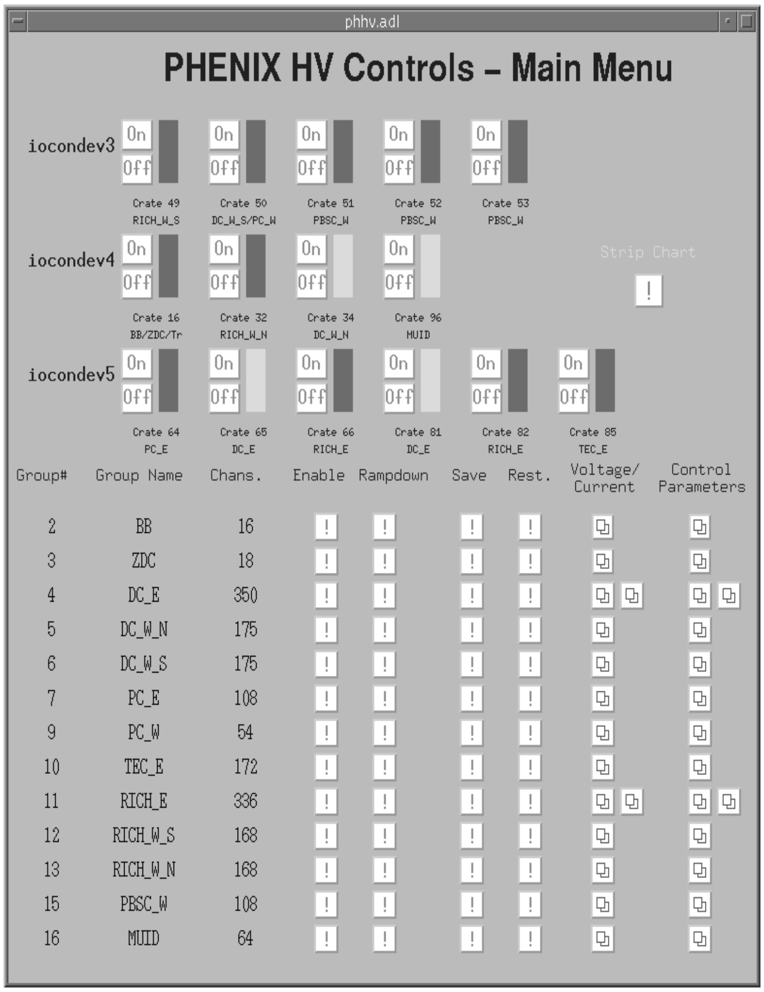

Figure 1) MEDM GUI

Figure 2) EPICS Alarm Handler

3) Rebooting the IOC

In order to run the high voltage control system, it may be necessary to reboot the Input Output Controller (IOC). The current high voltage setup has three IOCs; iocondev3, iocondev4 and iocondev5.

To logon to the IOC, type 'rsh iocondev3' at the $' >'$ prompt on phoncs5. A 'soft' reboot can then be attempted by typing 'control x' at the 'iocondev3>' prompt. If this does not work, a 'hard' reboot should be attempted.

A 'hard' reboot can be accomplished by pushing the red 'reset' button on the front panel of the IOC. The IOCs are located approximately 3 meters to the west of phoncs5 (behind a wall) in the rack room of 1008 and are labeled with yellow tape.

After rebooting the IOC, the database and EPICS software can be loaded onto the IOC by typing '< load' at the 'iocondev3>' prompt. After the bootscript has been executed, the cache memory assigned to the different mainframes is initialized. This can take up to ten minutes. After the cache memory is initialized, a series of numbers representing the 1458 cache memory is displayed. Finally, the sequencers that communicate between the IOC and the LeCroy 1458s are spawned. If everything goes smoothly, a note similar to Figure 3 should be displayed.

A successful bootlog of iocondev3 is located in the $IOC/bootlog directory and is called iocondev3boot. This could be helpful when attempting to debug a boot sequence.

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List of Mainframes: =

0) MF 50 Status = OK - SEQUENCER RUNNING
1) MF 34 Status = OK - SEQUENCER RUNNING

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IOC Initialization Complete!

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Have fun.

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Figure 3: End of IOC Boot

4) Further Information

As was mentioned above, for further information the reader is referred to the more complete *PHENIX High Voltage Control System* manual (http://www.phenix.bnl.gov/ phoncs/oncs/Anc_sys/hvmanual.ps). In particular, the troubleshooting section may contain a problem, and solution, similar to a current difficulty.

Lars Ewell (ewell@bnl.gov)

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