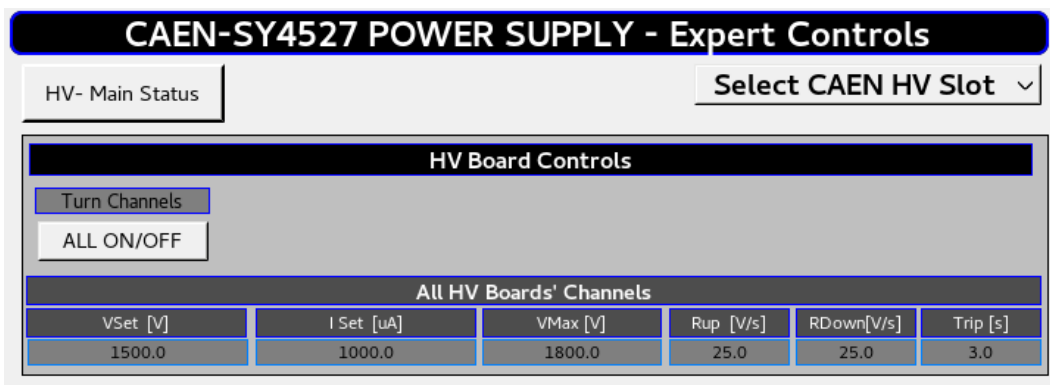


HV-EPICS Test Station Status Report
August 21, 2019

DSG Staff: Pablo Campero, and Peter Bonneau,

1. Written six Java scripts used to set “Vset”, “Imon”, ”Vmax”, “RUp”, “RDWn”, and “Trip” parameters for 16 boards’ channels simultaneously.
 - 1.1. Mentioned parameters set for a total of 576 channels at the same time.
 - 1.2. Java scripts run as part of the CSS-BOY screens, when user introduces a value for each parameter.
2. Modified two Java scripts to turn on and turn off all 16 HV boards’ channels simultaneously.
 - 2.1. Java scripts runs when user clicks on/off push button at the CAEN-SY4527-Expert Controls CSS-BOY screen.
 - 2.2. Found latency to set all HV boards’ channels on/off, required to hit All-on/off button several times to set all channels on/off.
 - 2.3. Added delays in Java script to send commands to turn on/off channels simultaneously.
 - 2.3.1. Tested 10, 100, and 1000 [ms] delays, but issue still persist.
3. Developed CAEN-SY4527-Expert Controls CSS-BOY screen to control all HV boards’ channels simultaneously.



4. Tested all 16 CAEN-A7030TN HV boards simultaneously under the following specifications:

Voltage Ramp Up/Down Test			
Mainframe Model	SY4527	Set Voltage	1500 V
Mainframe S/N	400	Ramp Up/Down Rate	25 V/s
Board Models	A7030TN	Max Current Set	1000 uA
Total Boards Tested	16	Load: 0 Ω	Vmax: 1800 V IMon: ~ 0 uA
Total Channels Tested	576	Total # Ramp Up/Down per channel	1/1

- 4.1. Found that all HV boards have CAEN software issues with the exception of HV boards in slots #5, #9 and #14.
- 4.2. CAEN software issues consists mainly in the random changes of the parameters (“Vset”, “Vmax”, “Iset”, “VRUp”, and “VRdwn”) from its pre-set values.

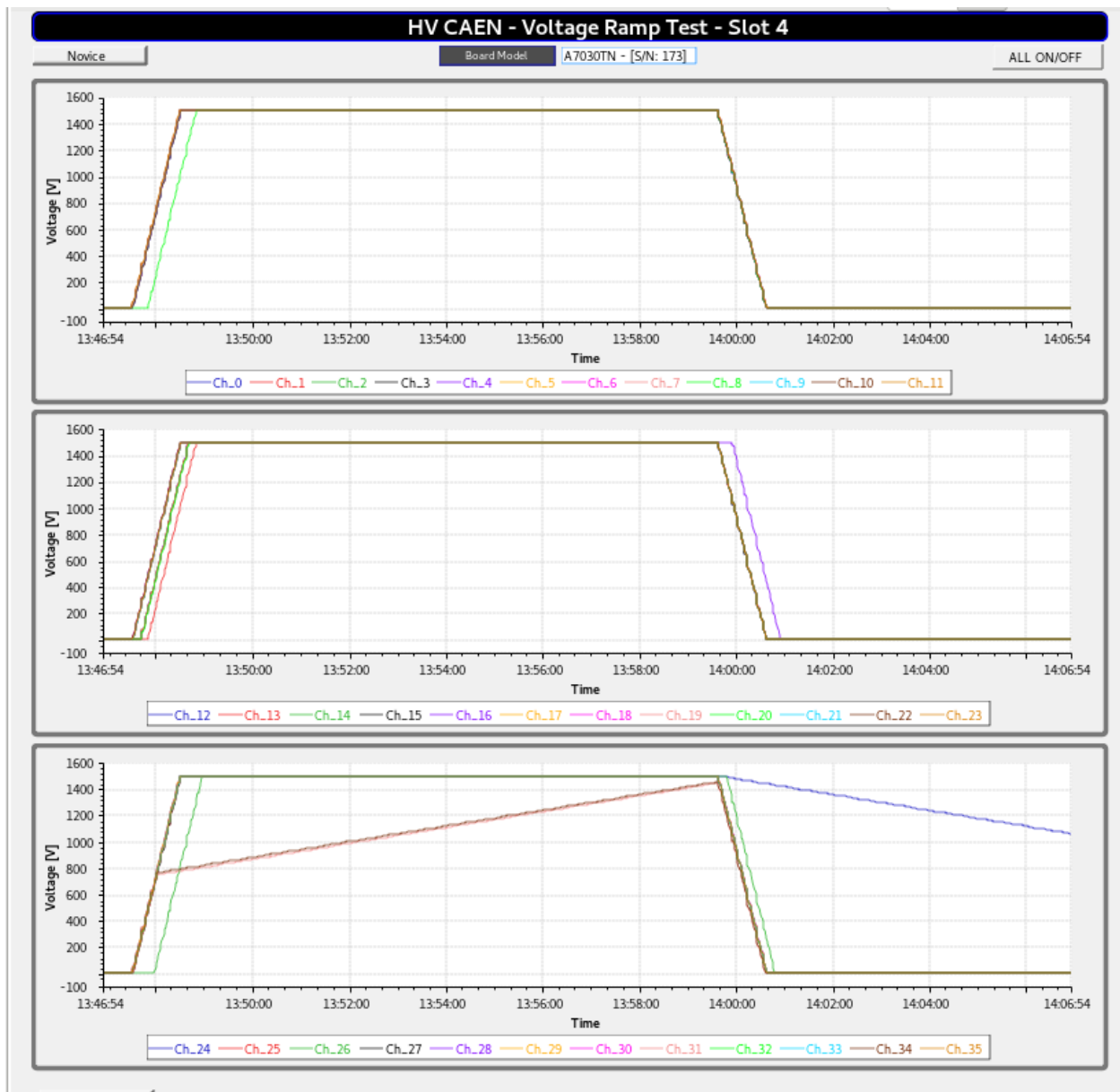
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5. Generated spreadsheet with detailed results for all 16 HV boards

5.1. Spreadsheet contains the summary for test performed and screenshots of all Voltage Ramp

Test CSS-BOY screens and GECO2020 parameters.

5.2. Screenshots for GECO2020 show initial parameter before the test was started.



Example of HV CAEN – Voltage Ramp Test CSS-BOY screen shows HV board’s voltage plots for all 36 channels