HV-EPICS Test Station Status Report
July 24, 2019

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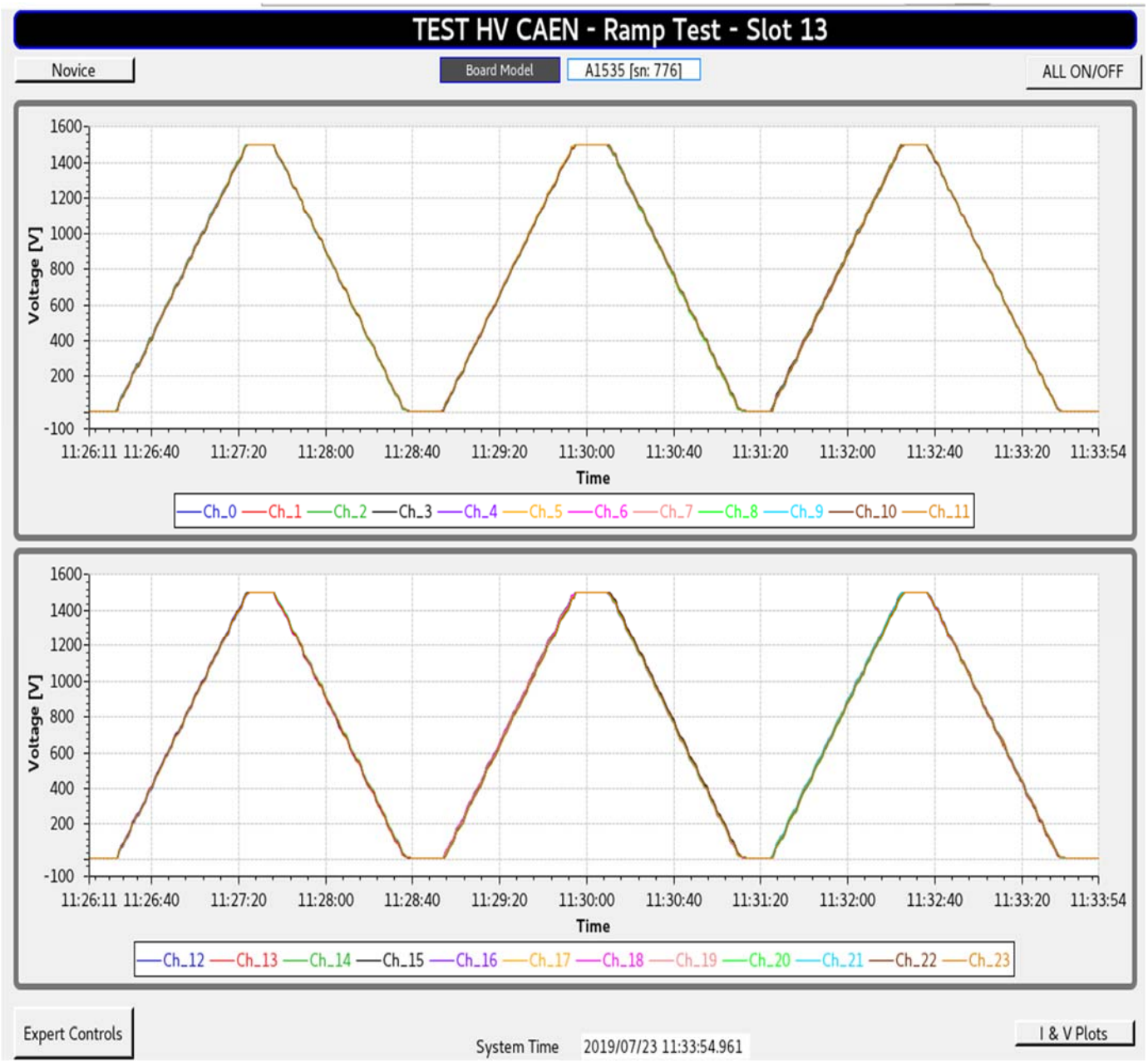
1. Developed CSS-BOY screen to test voltage ramp up/down of the HV board model CAEN-A1535
    1.1. CSS-BOY based voltage screen works in conjunction with the CSS-BOY based Expert Controls screen to control and monitor voltage drops or voltage increments.
    1.2. CSS-BOY screen plots the voltage vs time for all 24 channels of CAEN-A1535; the plots are displayed in two panels, 12 channels/panel.



HV-CAEN-A1535 Voltage Ramp Up/Down Test CSS-BOY screen

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2. HV board model: A1535, serial number (S/N) 0775

Board Model	A1535	Set Voltage: 1500 V	
Serial Number	775	Ramp Up/Down Rate : 25 V/s	
Total Test	9	Load: 0 Ω	I_{Mon}: 0 uA
Total # Ramp Up/Down	27	V_{max}: 1800 V	I_{max}: 3000 uA

2.1. Channel 8: voltage set value stuck at 0 V
Solution: Re-set the value to 1500 V

2.2. Channel 4 tripped, I_{max} value changed for no reason in CAEN controls.
Solution: Changed set value for I_{max} and reset channel ON/OFF

2.3. Channel 9: PV used to set the voltage in this channel stuck at 25 V.
Solution: Reset Ch ON/OFF button to ramp to 1500 V

2.4. Channel 1 and channel 5: PV for I_{mon} stacked at 25 uA and 1800 uA while GECO-2020 (CAEN Controls) indicated 0 uA.
Solution: Reset EPICS Server built in CAEN SY427

3. HV board model: A1535, S/N 0776

Board Model	A1535	Set Voltage: 1500 V	
Serial Number	776	Ramp Up/Down Rate : 25 V/s	
Total Test	9	Load: 0 Ω	I_{Mon}: 0 uA
Total # Ramp Up/Down	27	V_{max}: 1800 V	I_{max}: 3000 uA

3.1. Channel 11 and Ch 21: Set voltage value changed from set value 1500 V to 1 V for no reason.
Solution: Reset power On/Off for channel

3.2. Channel 7: PV used for V_{mon} stuck at 1500 V while GECO show correct value for V_{mon} value as 0 V.
Solution: Reset power On/Off for channel

4. HV board model: A1535, S/N 0556

Board Model	A1535	Set Voltage: 1500 V	
Serial Number	0556	Ramp Up/Down Rate : 25 V/s	
Total Test	9	Load: 0 Ω	I_{Mon}: 0 uA
Total # Ramp Up/Down	27	V_{max}: 1800 V	I_{max}: 3000 uA

4.1. Channel 10: Set values for V_{set} and V_{max} changed for no reason (PV and value in GECO2020) from its previous set values 1500 V and 1800 V respectively.
Solution: Re-enter set point for V_{set} and V_{max}, then reset power On/Off

4.2. Channel 17: Set values for voltage ramp down changed for no reason (PV and value in GECO2020) from its previous set values 25 V/s to 1 V/s
Solution: Re-enter set point for R_{dwn} and reset power On/Off

4.3. Channel 19: Set values for V_{set} changed for no reason (PV and value in GECO2020) from its previous set value 1500 V to 1 V.
Solution: Re-enter set point for V_{set} and reset power On/Off

4.4. Channel 13: Set values for V_{set} changed for no reason (PV and value in GECO2020) from its previous set value 1500 V to 25 V
Solution: Re-enter set point for V_{set} and reset power On/Off

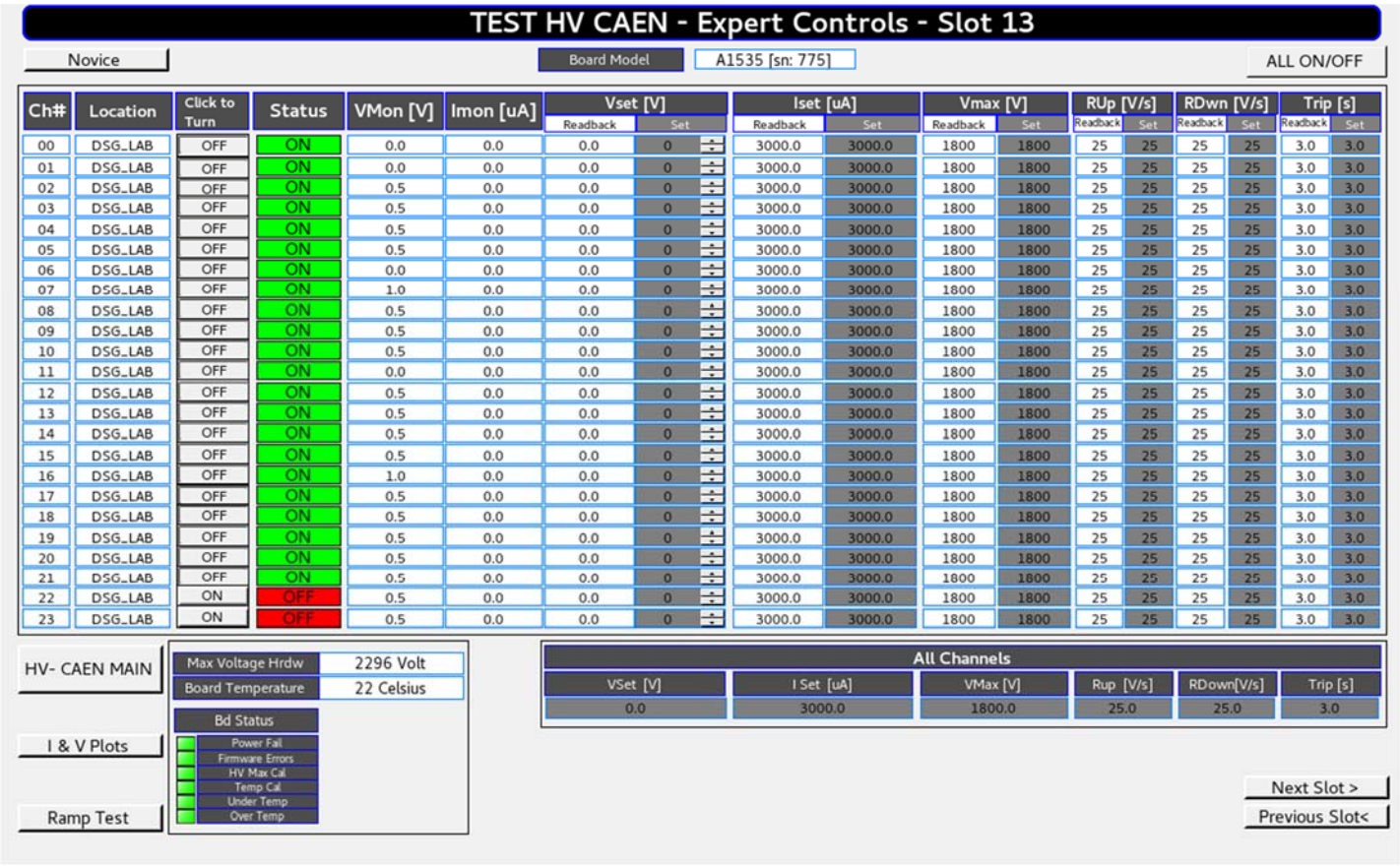
4.5. Channel 18: Set value for voltage ramp down rate "R_{dwn}" changed for no reason (PV and value in GECO2020) from its previous set value 25V/s to 1V/s
Solution: Re-enter set point for R_{dwn} and reset power On/Off

4.6. Channel 22 did not ramp up, **hardware issue.**

5. Generated spreadsheet with the details of the test performed for three HV CAEN A1535 boards.

6. Added "Voltage Ramp Up/Down Test" CSS-BOY screen for HV-CAEN A1535 to drop down menu in SY4527 MAINFRAME screen to allow navigation between screens.

7. Modified "HV CAEN- Expert Controls" CSS-BOY screen.



Ch#	Location	Click to Turn	Status	VMon [V]	Imon [uA]	Vset [V]		Iset [uA]		Vmax [V]		RUp [V/s]		RDwn [V/s]		Trip [s]	
						Readback	Set	Readback	Set	Readback	Set	Readback	Set	Readback	Set	Readback	Set
00	DSG_LAB	OFF	ON	0.0	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
01	DSG_LAB	OFF	ON	0.0	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
02	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
03	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
04	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
05	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
06	DSG_LAB	OFF	ON	0.0	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
07	DSG_LAB	OFF	ON	1.0	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
08	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
09	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
10	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
11	DSG_LAB	OFF	ON	0.0	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
12	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
13	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
14	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
15	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
16	DSG_LAB	OFF	ON	1.0	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
17	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
18	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
19	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
20	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
21	DSG_LAB	OFF	ON	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
22	DSG_LAB	ON	OFF	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0
23	DSG_LAB	ON	OFF	0.5	0.0	0.0	0	3000.0	3000.0	1800	1800	25	25	25	25	3.0	3.0

HV-CAEN – Expert Control CSS-BOY screen showing modifications performed