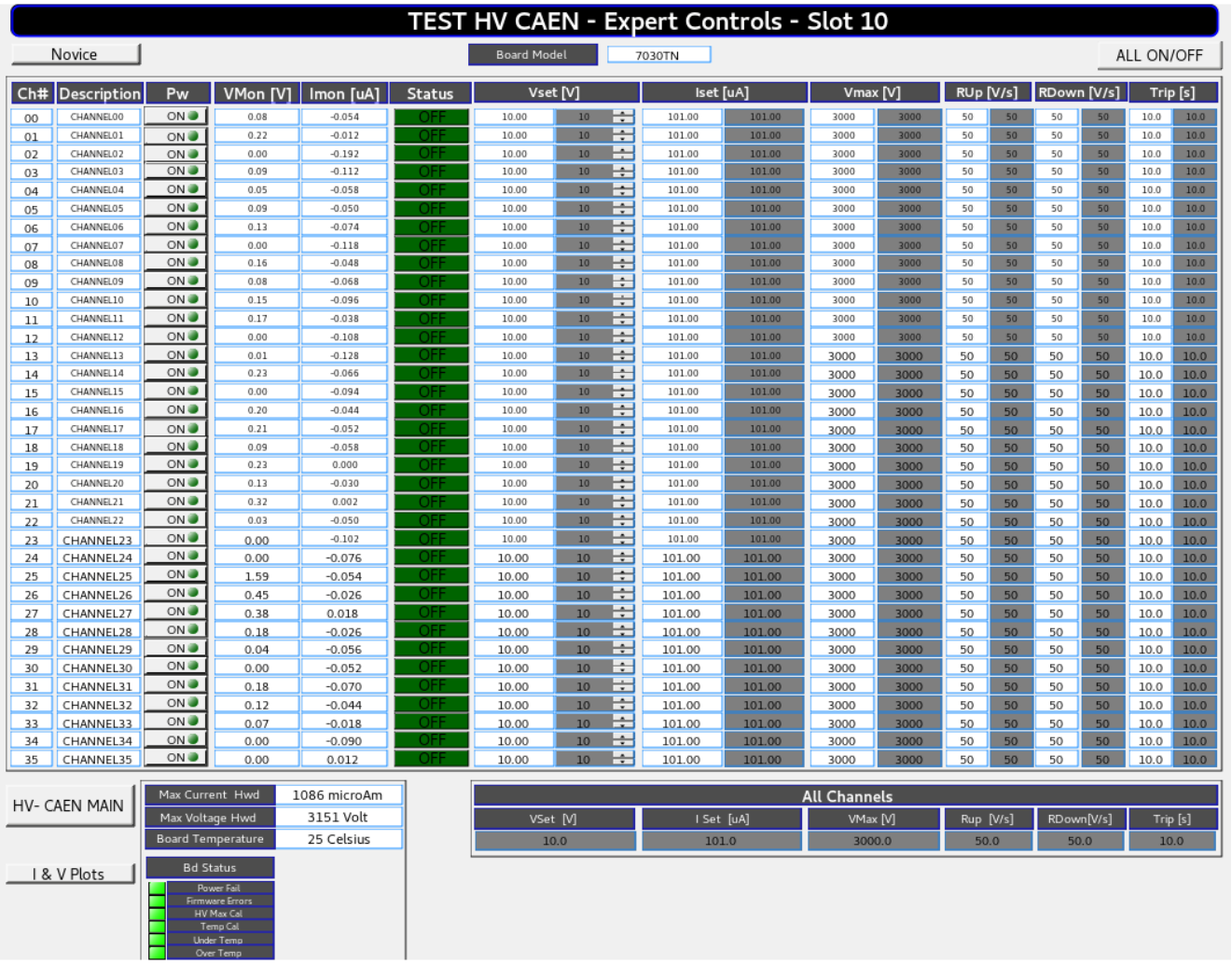
HV-EPICS Test Station Status Report

Date: July 17, 2019

DSG Staff: Pablo Campero

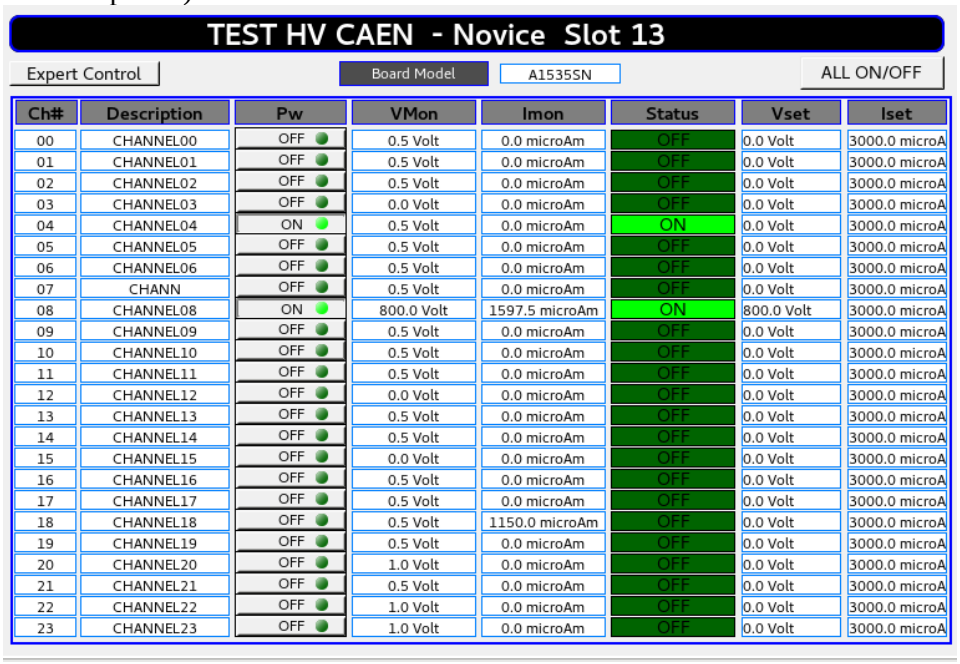
1. Developed 48 CSS-BOY screens to test HV board model CAEN-7030TN.
    1.1. Novice, Expert Controls, and V and I Monitor CSS-BOY screens developed for each slot (x16) to allow simultaneous testing of the HV CAEN-7030TN boards.
    1.2. Replicated and modified previous developed Java script used for boards model CAEN-7435 to generate 96 Java scripts to set the value of all 36 channels of one or more of the six variables (output voltage, current limit, maximum output voltage, ramp up, ramp down and trip time).



Ch#	Description	Pw	VMon [V]	Imon [uA]	Status	Vset [V]		Iset [uA]		Vmax [V]		RUp [V/s]		RDown [V/s]		Trip [s]	
00	CHANNEL00	ON	0.08	-0.054	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
01	CHANNEL01	ON	0.22	-0.012	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
02	CHANNEL02	ON	0.00	-0.192	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
03	CHANNEL03	ON	0.09	-0.112	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
04	CHANNEL04	ON	0.05	-0.058	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
05	CHANNEL05	ON	0.09	-0.050	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
06	CHANNEL06	ON	0.13	-0.074	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
07	CHANNEL07	ON	0.00	-0.118	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
08	CHANNEL08	ON	0.16	-0.048	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
09	CHANNEL09	ON	0.08	-0.068	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
10	CHANNEL10	ON	0.15	-0.096	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
11	CHANNEL11	ON	0.17	-0.038	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
12	CHANNEL12	ON	0.00	-0.108	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
13	CHANNEL13	ON	0.01	-0.128	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
14	CHANNEL14	ON	0.23	-0.066	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
15	CHANNEL15	ON	0.00	-0.094	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
16	CHANNEL16	ON	0.20	-0.044	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
17	CHANNEL17	ON	0.21	-0.052	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
18	CHANNEL18	ON	0.09	-0.058	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
19	CHANNEL19	ON	0.23	0.000	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
20	CHANNEL20	ON	0.13	-0.030	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
21	CHANNEL21	ON	0.32	0.002	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
22	CHANNEL22	ON	0.03	-0.050	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
23	CHANNEL23	ON	0.00	-0.102	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
24	CHANNEL24	ON	0.00	-0.076	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
25	CHANNEL25	ON	1.59	-0.054	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
26	CHANNEL26	ON	0.45	-0.026	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
27	CHANNEL27	ON	0.38	0.018	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
28	CHANNEL28	ON	0.18	-0.026	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
29	CHANNEL29	ON	0.04	-0.056	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
30	CHANNEL30	ON	0.00	-0.052	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
31	CHANNEL31	ON	0.18	-0.070	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
32	CHANNEL32	ON	0.12	-0.044	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
33	CHANNEL33	ON	0.07	-0.018	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
34	CHANNEL34	ON	0.00	-0.090	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0
35	CHANNEL35	ON	0.00	0.012	OFF	10.00	10	101.00	101.00	3000	3000	50	50	50	50	10.0	10.0

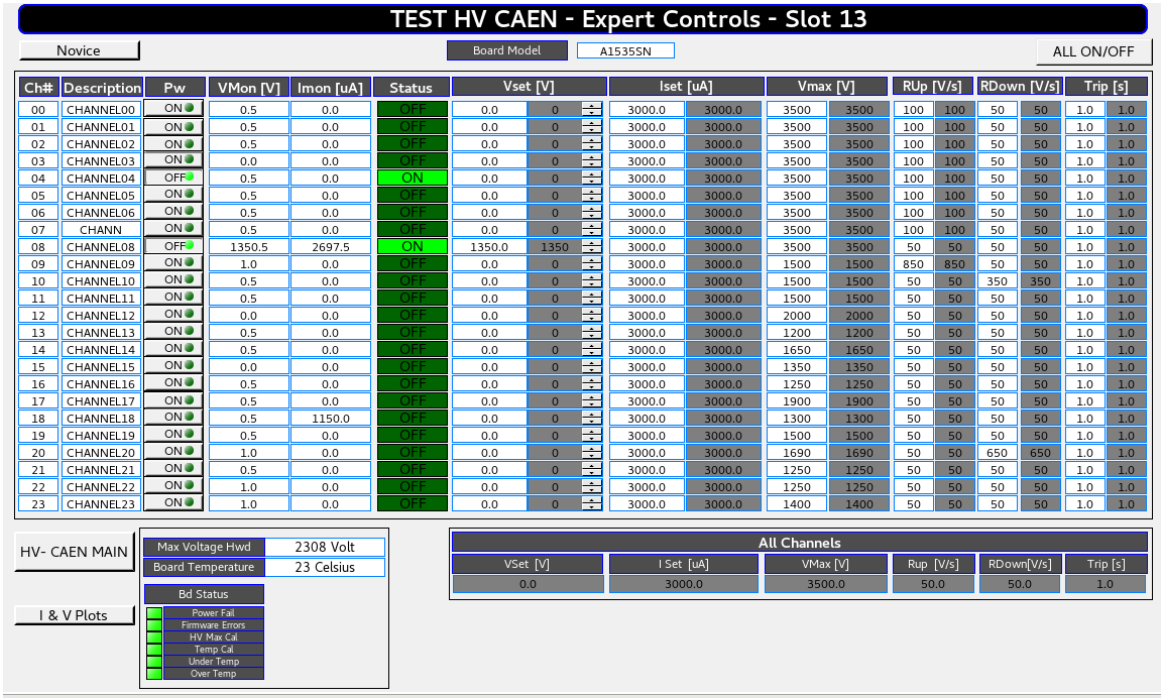
Example for HV-CAEN-7030TN–Expert Control CSS-BOY screen developed for slot 10

2. Developed 24 CSS-BOY screens to test HV board model CAEN-A1535.
    2.1. Each HV-A1535 board fills two slots of the CAEN-SY4527 mainframe.
    2.2. Novice, Expert Controls, and V and I Monitor CSS-BOY screens developed for each slot (x8) to allow simultaneous testing of the HV CAEN-7030TN boards.
    2.3. Replicated and modified previous Java script used for boards model CAEN-7435 to generate 48 Java scripts to set the value of all 24 channels of one or more of the six variables (output voltage, current limit, maximum output voltage, ramp up, ramp down and trip time).



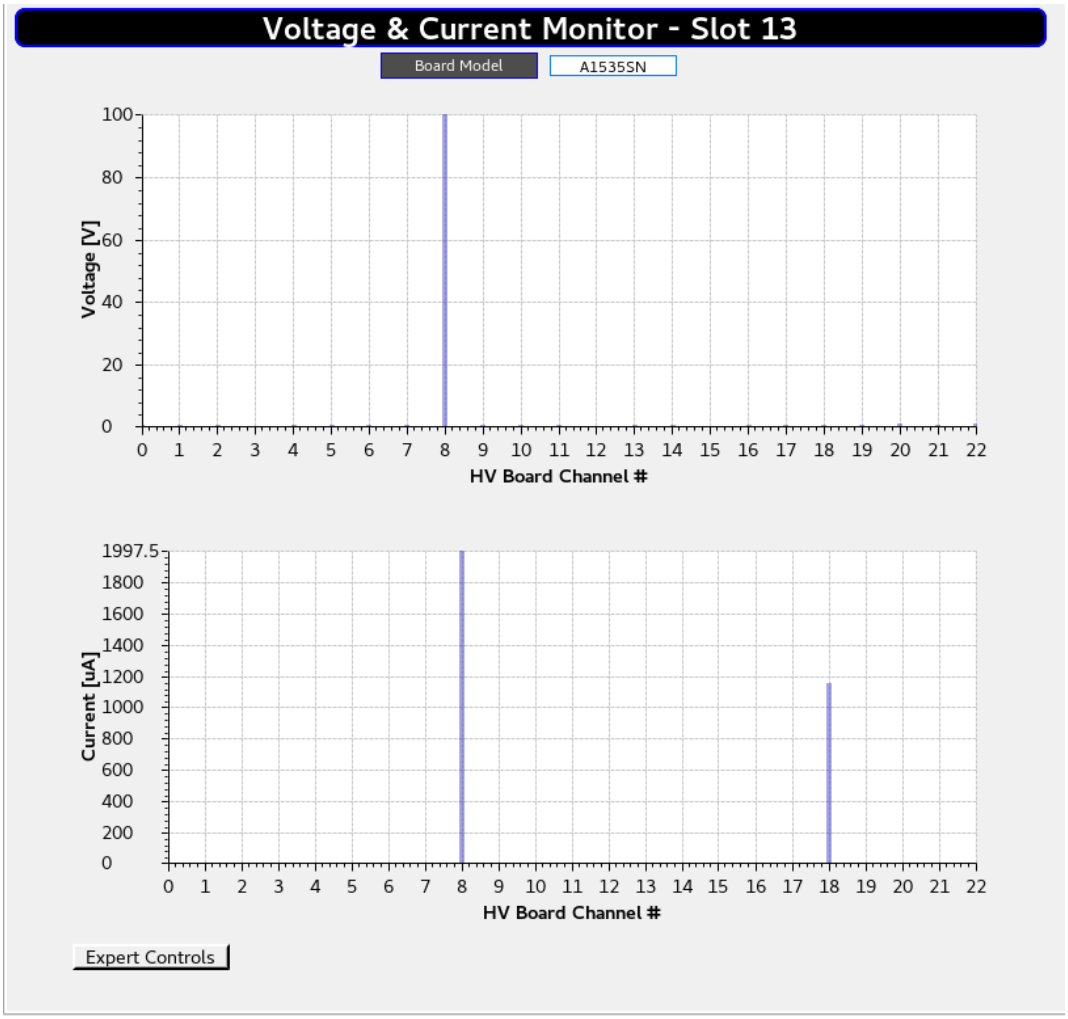
Ch#	Description	Pw	VMon	Imon	Status	Vset	Iset
00	CHANNEL00	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
01	CHANNEL01	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
02	CHANNEL02	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
03	CHANNEL03	OFF	0.0 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
04	CHANNEL04	ON	0.5 Volt	0.0 microAm	ON	0.0 Volt	3000.0 microA
05	CHANNEL05	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
06	CHANNEL06	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
07	CHANN	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
08	CHANNEL08	ON	800.0 Volt	1597.5 microAm	ON	800.0 Volt	3000.0 microA
09	CHANNEL09	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
10	CHANNEL10	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
11	CHANNEL11	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
12	CHANNEL12	OFF	0.0 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
13	CHANNEL13	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
14	CHANNEL14	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
15	CHANNEL15	OFF	0.0 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
16	CHANNEL16	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
17	CHANNEL17	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
18	CHANNEL18	OFF	0.5 Volt	1150.0 microAm	OFF	0.0 Volt	3000.0 microA
19	CHANNEL19	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
20	CHANNEL20	OFF	1.0 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
21	CHANNEL21	OFF	0.5 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
22	CHANNEL22	OFF	1.0 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA
23	CHANNEL23	OFF	1.0 Volt	0.0 microAm	OFF	0.0 Volt	3000.0 microA

Example of a HV-CAEN-A1535SN–Novice CSS-BOY screen developed for slot 13



Ch#	Description	Pw	VMon [V]	Imon [uA]	Status	Vset [V]		Iset [uA]		Vmax [V]		RUp [V/s]		RDown [V/s]		Trip [s]	
00	CHANNEL00	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	3500	3500	100	100	50	50	1.0	1.0
01	CHANNEL01	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	3500	3500	100	100	50	50	1.0	1.0
02	CHANNEL02	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	3500	3500	100	100	50	50	1.0	1.0
03	CHANNEL03	ON	0.0	0.0	OFF	0.0	0	3000.0	3000.0	3500	3500	100	100	50	50	1.0	1.0
04	CHANNEL04	OFF	0.5	0.0	ON	0.0	0	3000.0	3000.0	3500	3500	100	100	50	50	1.0	1.0
05	CHANNEL05	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	3500	3500	100	100	50	50	1.0	1.0
06	CHANNEL06	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	3500	3500	100	100	50	50	1.0	1.0
07	CHANN	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	3500	3500	100	100	50	50	1.0	1.0
08	CHANNEL08	OFF	1350.5	2697.5	ON	1350.0	1350	3000.0	3000.0	3500	3500	50	50	50	50	1.0	1.0
09	CHANNEL09	ON	1.0	0.0	OFF	0.0	0	3000.0	3000.0	1500	1500	850	850	50	50	1.0	1.0
10	CHANNEL10	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	1500	1500	50	50	350	350	1.0	1.0
11	CHANNEL11	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	1500	1500	50	50	50	50	1.0	1.0
12	CHANNEL12	ON	0.0	0.0	OFF	0.0	0	3000.0	3000.0	2000	2000	50	50	50	50	1.0	1.0
13	CHANNEL13	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	1200	1200	50	50	50	50	1.0	1.0
14	CHANNEL14	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	1650	1650	50	50	50	50	1.0	1.0
15	CHANNEL15	ON	0.0	0.0	OFF	0.0	0	3000.0	3000.0	1350	1350	50	50	50	50	1.0	1.0
16	CHANNEL16	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	1250	1250	50	50	50	50	1.0	1.0
17	CHANNEL17	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	1900	1900	50	50	50	50	1.0	1.0
18	CHANNEL18	ON	0.5	1150.0	OFF	0.0	0	3000.0	3000.0	1300	1300	50	50	50	50	1.0	1.0
19	CHANNEL19	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	1500	1500	50	50	50	50	1.0	1.0
20	CHANNEL20	ON	1.0	0.0	OFF	0.0	0	3000.0	3000.0	1690	1690	50	50	650	650	1.0	1.0
21	CHANNEL21	ON	0.5	0.0	OFF	0.0	0	3000.0	3000.0	1250	1250	50	50	50	50	1.0	1.0
22	CHANNEL22	ON	1.0	0.0	OFF	0.0	0	3000.0	3000.0	1250	1250	50	50	50	50	1.0	1.0
23	CHANNEL23	ON	1.0	0.0	OFF	0.0	0	3000.0	3000.0	1400	1400	50	50	50	50	1.0	1.0

Example of a HV-CAEN-A1535SN–Expert Controls CSS-BOY screen developed for slot 13



Example of a HV-CAEN-A1535SN–Voltage and Current Monitor CSS-BOY screen developed for slot 13

3. Added all HV-CAEN—Expert Controls, Novice and V & I monitor CSS-BOY screens for HV-CAEN A7030TN and A1535 boards to drop down menu in SY4527 MAINFRAME screen to allow navigation between screens.