



U.S. DEPARTMENT OF
ENERGY



CAEN HV Testing Status Update

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Testing Game Plan Overview

	GECO No Load	
	Stability	Ramping
hvcaentest2	Yellow	Green ✓
hvcaentest3	Yellow	Yellow

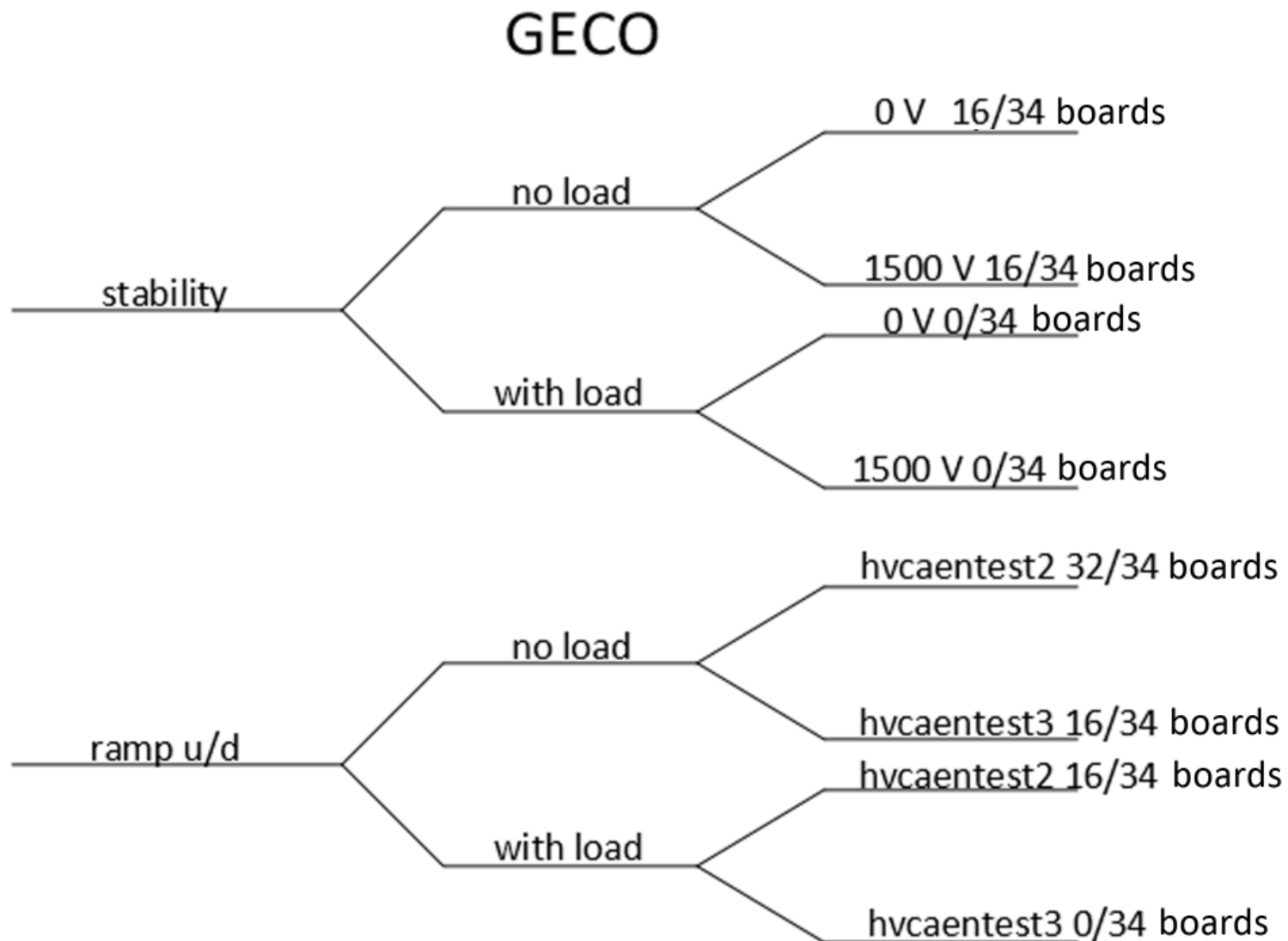
	GECO With Load	
	Stability	Ramping
hvcaentest2	White	Yellow
hvcaentest3	White	White

	EPICS No Load	
	Stability	Ramping
hvcaentest2	White	White
hvcaentest3	White	White

	EPICS With Load	
	Stability	Ramping
hvcaentest2	White	White
hvcaentest3	White	White

Green = Completed, Yellow = In Progress

Testing Progress



Known Issues

The screenshot displays the Geco General Control Software interface for a power supply system. The main table lists 30 channels (01.007 to 01.030). Channel 01.020 is circled in red, indicating a 'Down' status and a significantly reduced ramp down rate (RDWn) of 1 Vps, compared to the 250 Vps setpoint. The left sidebar shows system settings for 'SY4527 UNIVERSAL MULTICHANNEL POWER SUPPLY SYSTEM' and fan speeds. The right sidebar shows status for three A7030TN modules.

Custom	Name	I0Set	V0Set	IMon	VMon	Pw	Status	RUp	RDWn	Trip	V1Set	I1Set	SVMMax
01.007	CHANNEL07	1000.00 uA	1500.00 V	-0.002 uA	1.10 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.008	CHANNEL08	1000.00 uA	0.00 V	-0.054 uA	1.24 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.009	CHANNEL09	1000.00 uA	1500.00 V	0.970 uA	1.33 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.010	CHANNEL10	1000.00 uA	0.00 V	-0.062 uA	1.31 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.011	CHANNEL11	1000.00 uA	0.00 V	-0.050 uA	0.73 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.012	CHANNEL12	1000.00 uA	0.00 V	-0.088 uA	1.07 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.013	CHANNEL13	1000.00 uA	0.00 V	-0.066 uA	1.30 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	40.00 uA	1500 V
01.014	CHANNEL14	1000.00 uA	0.00 V	0.970 uA	1.37 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.015	CHANNEL15	1000.00 uA	0.00 V	-0.068 uA	0.90 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.016	CHANNEL16	1000.00 uA	0.00 V	-0.034 uA	1.66 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.017	CHANNEL17	1000.00 uA	0.00 V	0.010 uA	1.49 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.018	CHANNEL18	1000.00 uA	1500.00 V	-0.038 uA	1.04 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.019	CHANNEL19	1000.00 uA	0.00 V	0.990 uA	0.60 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.020	CHANNEL20	1000.00 uA	0.00 V	-0.032 uA	1355.44 V	Off	Down	250 Vps	1 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.021	CHANNEL21	1000.00 uA	1500.00 V	0.000 uA	0.00 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.022	CHANNEL22	1000.00 uA	0.00 V	-0.048 uA	1.26 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.023	CHANNEL23	1000.00 uA	0.00 V	-0.074 uA	1.13 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.024	CHANNEL24	1000.00 uA	1500.00 V	-0.086 uA	1.12 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.025	CHANNEL25	1000.00 uA	0.00 V	-0.034 uA	1.68 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	0.00 uA	1500 V
01.026	CHANNEL26	1000.00 uA	0.00 V	-0.026 uA	1.08 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.027	CHANNEL27	1000.00 uA	0.00 V	0.042 uA	1.75 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.028	CHANNEL28	1000.00 uA	0.00 V	-0.090 uA	0.91 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.029	CHANNEL29	1000.00 uA	0.00 V	-0.058 uA	0.95 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V
01.030	CHANNEL30	1000.00 uA	0.00 V	-0.064 uA	1.59 V	Off		250 Vps	250 Vps	40.0 sec	0.00 V	101.00 uA	1500 V

The ramp down rate dropped from the set point of 250 Vps to 1 Vps when using EPICS

Known Issues

- Latency
- Random parameter changes
- Slot communication loss
- Pins getting pushed back

The screenshot displays the GECO General Control interface. At the top, the logo and name 'GECO: General Control' are visible. Below this, the system information for 'SY4527 UNIVERSAL MULTICHANNEL POWER SUPPLY SYSTEM' is shown, along with the IP address '129.57.86.124'. The interface includes sections for 'SETTINGS', 'ADVANCED FEATURES', and a 'SCRIPT' execution area. The 'SCRIPT' area shows a list of commands and their status, with an error message highlighted in a red box: 'ERROR - No board in slot [0]'. The error message is followed by 'WAIT 600000 ms...'. The bottom of the screenshot shows the user 'hvcaentest2' and the IP address '129.57.86.124'.

SYSTEM

hvcaente: liconnect Configure

SY4527
UNIVERSAL MULTICHANNEL
POWER SUPPLY SYSTEM

129.57.86.124

SETTINGS

ADVANCED FEATURES

SCRIPT LOG ON OFF

SESSION CRATE TECH SYS
MAP INFO INFO
RESET GEN SIG KILL CLEAR
FLAG CFI CFG KILL ALARM

Channel ON

OVV

UNV

OVC

Trip

Fan0 3432

Fan1 3218

Fan2 3397

HVFanStat Fan3 3432

Fan4 3254

Fan5 3432

SymbolicName SystemOne

HVFanSpeed LOW MID HI

Fan0 1823

Script Execution

SET [V0SET] for [0{ALL}] to [10]... OK

WAIT 100000 ms... OK

SET [V0SET] for [0{ALL}] to [500]... OK

WAIT 600000 ms... OK

SET [V0SET] for [0{ALL}] to [1000]... OK

WAIT 600000 ms... OK

SET [V0SET] for [0{ALL}] to [1450]...

ERROR - No board in slot [0]

WAIT 600000 ms...

hvcaentest2 129.57.86.124

Path Forward

Crate #2 (hvcaentest2)				
#	Test Type	Board Type	Control/Monitoring/Data Logging	Completed?
RAMP TESTS				
1	Fully Populated Ramp Up/Down [No Load]	A7030TN	GECO/GECO/GECO	v
2	Fully Populated Ramp Up/Down [No Load]	A7030TN	EPICS/EPICS/EPICS	
3	Fully Populated Ramp Up/Down [With Load]	A7030TN	GECO/GECO/GECO	
4	Fully Populated Ramp Up/Down [With Load]	A7030TN	EPICS/EPICS/EPICS	
5	Fully Populated Ramp Up/Down [With Load]	A7030TN	GECO/LabVIEW/LabVIEW+GECO	
STABILITY TESTS				
6	Stability Test [No Load]- 0 V	A7030TN	GECO/GECO/GECO	v
7	Stability Test [No Load]- 1500 V	A7030TN	GECO/GECO/GECO	v
8	Stability Test [With Load]- 0 V	A7030TN	EPICS/EPICS/EPICS	
9	Stability Test [With Load]- 1500 V	A7030TN	EPICS/EPICS/EPICS	

Conclusion

- We are testing CAEN HV equipment for Hall C
 - Two crates and ~34 HV boards
- We have solid game plan to exhaustively test all equipment