

Loss Monitor Hardware Troubleshooting:

1. Using an hp8082a pulse generator, we generated a 5nec pulse of height 12mV running a 1KHz, and input it into the loss monitor quad amplifier.
2. Examine output of quad amplifier on a Tektronix scope.
 - a. Note any DC offset (should be zero)
 - b. Note pulse height (should be 10X input pulse)
3. Examine the output of the quad discriminator on the Tektronix scope.
 - a. If signal is large enough, it will create a 0.8V output trigger pulse with no voltage offset.
 - b. If our input signal does not generate a trigger, increase the pulse amplitude until it does. Note the amplitude required to do this.
4. Examine the output of the ACNET readout. Our 1KHz signal is sampled over 0.4sec, so we should get ~400counts (check ACNET clear, start and stop timers).
 - a. If not, examine the Camac scalar card.
5. NOTE: The crate, slot and channel numbers are referenced for each module.
 - a. I crates were numbered from top to bottom, starting at "1."
 - b. I used "1" for the first slot and reference double wide cards with the second slot.
 - c. Camac card channels start at "0."

Lost Monitors	Building	Amplifier				Discriminator				Scalar	
		Module	Input(mV)	Offset (mV)	Output (mV)	Location	Triggers ok?	offset(V)	output (V)	CAMAC	Acnet Readback (Counts)
D: LMV SCH	AP10	Rack: A17R03	-12.5	50	-120	Rack A17R03	OK	0	-0.8	Rack	496
		Crate 2				Crate 4				Crate	
		Slot 7				Slot 6				Slot	
		Channel C				Channel A				Channel	
D:LMH SCH	AP10	Rack A17R03	-12.5	100	-120	Rack A17R03	No, triggered at 300mV	0	-0.8	Rack	492....This broke at the end of the day????
		Crate 2				Crate 2				Crate	
		Slot 8				Slot 6				Slot	
		Channel 12				Channel D				Channel	
D:LM1Q3	AP10	Rack A17R03	-12.5	0	-200	Rack A17R03	ok, but trace is erratic	0	-0.8	Rack	495
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 2				Slot	
		Channel 1				Channel A				Channel	
D:LM1Q4	AP10	Rack A17R03	-12.5	0	-120	Rack A17R03	No, triggered at 175mV	0	-0.8	Rack	496
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 2				Slot	
		Channel 2				Channel B				Channel	
D:LM1Q4P	AP10	Rack A17R03	-12.5	0	-120	Rack A17R03	ok, after moving from channel C to E.	0	-0.8	Rack	492
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 11				Slot	
		Channel 3				Channel E				Channel	
D:LM1Q5	AP10	Rack A17R03	-12.5	0	-200	Rack A17R03	OK	0	-0.8	Rack	496
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 2				Slot	
		Channel 4				Channel D				Channel	
D:LM1Q6	AP10	Rack A17R03	-12.5	20	-120	Rack A17R03	OK	0	-0.8	Rack	496
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 4				Slot	
		Channel 5				Channel A				Channel	
D:LM1Q7	AP10	Rack A17R03	-12.5	-10	-125	Rack A17R03	OK	0	-0.8	Rack	496
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 4				Slot	
		Channel 6				Channel B				Channel	
D:LM1Q7P	AP10	Rack A17R03	-12.5	25	-125	Rack A17R03	OK	0	-0.8	Rack	495
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 4				Slot	

		Channel 7				Channel C				Channel	
D:LM1Q11	AP10	Rack A17R03	-12.5	20	-125	Rack A17R03	OK	0	-0.8	Rack	495
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 4				Slot	
		Channel 8				Channel D				Channel	
D:LM1Q14	AP10	Rack A17R03	-12.5	20	-114	Rack A17R03	BAD, triggers at 135mV, but trigger is not good	-0.4	-0.4	Rack	495, Camac scalar functionality verified with different quad discriminator trigger.
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 6				Slot	
		Channel 9				Channel A				Channel	
D:LM1Q17	AP10	Rack A17R03	-12.5	50	-112	Rack A17R03	No, triggered at -170mV	0	-0.8	Rack	495
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 6				Slot	
		Channel 10				Channel B				Channel	
D:LM1Q19	AP10	Rack A17R03	-12.5	No cable from patch panel to any amp?		Rack A17R03				Rack	Output stays at 120 with no device attached.
		Crate			Crate	Crate					
		Slot			Slot	Slot					
		Channel			Channel	Channel					
D:LM6Q18	AP10	Rack A17R03	-12.5	50	-120	Rack A17R03	No, triggered at -180mV, but trigger is not good.	-0.4	-0.4	Rack	495, Camac scalar functionality verified with different quad discriminator trigger.
		Crate 2				Crate 3				Crate	
		Slot 8				Slot 6				Slot	
		Channel 11				Channel D				Channel	
D:LM6Q15	AP10	Rack A17R03	-12.5	0	-120	Rack A17R03	OK	0	-0.8	Rack	493
		Crate 2				Crate 3				Crate	
		Slot 9				Slot 8				Slot	
		Channel 1				Channel A				Channel	
D:LM6Q12	AP10	Rack A17R03	-12.5	0	-128	Rack A17R03	OK	0	-0.8	Rack	493
		Crate 2				Crate 3				Crate	
		Slot 9				Slot 8				Slot	
		Channel 2				Channel B				Channel	

D:LM6Q10	AP10	Rack A17R03	-12.5	0	-128	Rack A17R03	No, triggered at -230mV	0	-0.8	Rack	494
		Crate 2				Crate 3				Crate	
		Slot 9				Slot 8				Slot	
		Channel 3				Channel C				Channel	
D:LM6Q9	AP10	Rack A17R03	-12.5	0	-124	Rack A17R03	OK	0	-0.8	Rack	493
		Crate 2				Crate 3				Crate	
		Slot 9				Slot 11				Slot	
		Channel 4				Channel 2				Channel	
D:LM6Q7	AP10	Rack A17R03	-12.5	0	-120	Rack A17R03	OK	0	-0.8	Rack	494
		Crate 2				Crate 3				Crate	
		Slot 9				Slot 10				Slot	
		Channel 5				Channel A				Channel	
D:LMESEP	AP10	Rack A17R03	-12.5	0	-118	Rack A17R03	OK	0	-0.8	Rack	493
		Crate 2				Crate 4				Crate	
		Slot 9				Slot 8				Slot	
		Channel 6				Channel A				Channel	
D:LM6Q6	AP10	Rack A17R03	-12.5	0	-120	Rack A17R03	OK	0	-0.7	Rack	493
		Crate 2				Crate 4				Crate	
		Slot 9				Slot 8				Slot	
		Channel 7				Channel B				Channel	
D:LM6Q5	AP10	Rack A17R03	-12.5	0	-122	Rack A17R03	OK	0	-0.8	Rack	494
		Crate 2				Crate 3				Crate	
		Slot 9				Slot 10				Slot	
		Channel 8				Channel d				Channel	
D:LM6Q4	AP10	Rack A17R03	-12.5	0	-124	Rack A17R03	OK	0	-0.8	Rack	494
		Crate 2				Crate 2				Crate	
		Slot 9				Slot 11				Slot	
		Channel 9				Channel A				Channel	
D:LM6Q3	AP10	Rack A17R03	-12.5	0	-122	Rack A17R03	No, dead output			Rack	495, Camac scalar functionality verified with different quad discriminator trigger.
		Crate 2				Crate 2				Crate	
		Slot 9				Slot 11				Slot	
		Channel 10				Channel C				Channel	
D:LM6Q2	AP10	Rack A17R03	-12.5	0	-122	Rack A17R03	OK	0	-0.8	Rack	494
		Crate 2				Crate 2				Crate	
		Slot 9				Slot 11				Slot	
		Channel 12				Channel D				Channel	
D:LM2Q17	AP30	Rack A35R07	-12.6	100	-122	Rack A35R07	Triggered at 165mV. Adjusted OK	0	-0.8	Rack	521
		Crate 3				Crate 3				Crate	
		Slot 5				Slot 2				Slot	
		Channel 2				Channel A				Channel	
D:LM2Q13	AP30	Rack A35R07	-12.6	50	-126	Rack A35R07	OK after adjusted gain	0	-0.8	Rack	535
		Crate 3				Crate 3				Crate	
		Slot 5				Slot 2				Slot	
		Channel 3				Channel B				Channel	
D:LM2Q10	AP30	Rack A35R07	-12.6	50	-125	Rack A35R07	Triggered at -180mV. Adjusted ok, but output jittery.	0	-0.8	Rack	538
		Crate 3				Crate 3				Crate	
		Slot 5				Slot 2				Slot	
		Channel 1				Channel C				Channel	
D:LM2Q5	AP30	Rack A35R07	-12.6	50	-134	Rack A35R07	Triggered at -190mV, not enough range to adjust.	0	-2	Rack	550
		Crate 3				Crate 1				Crate	
		Slot 5				Slot 8				Slot	
		Channel 6				Channel B				Channel	
D:LM2Q4	AP30	Rack A35R07	-12.6	50	-118	Rack A35R07	Triggered at -140mV, not enough range to adjust.	0	-0.8	Rack	550
		Crate 3				Crate 3				Crate	
		Slot 5				Slot 4				Slot	
		Channel 7				Channel a				Channel	
D:LM2Q3	AP30	Rack A35R07	-12.6	50	-134	Rack A35R07	Triggers at -140mV.	0	-0.8	Rack	549
		Crate 3				Crate 3				Crate	
		Slot 5				Slot 4				Slot	
		Channel 9				Channel B				Channel	

D:LM2Q2	AP30	Rack A35R07 Crate 3 Slot 5 Channel 10	-12.6	50	-126	Rack A35R07 Crate 3 Slot 4 Channel C	Triggers at -140mV.	0	-0.8	Rack Crate Slot Channel	551
D:LM3Q2	AP30	Rack A35R07 Crate 3 Slot 5 Channel 11	-12.6	50	-126	Rack A35R07 Crate 3 Slot 4 Channel D	Triggers at -180mV, output is jittery.	0	-0.8	Rack Crate Slot Channel	550
D:LM3Q4	AP30	Rack A35R07 Crate 3 Slot 5 Channel 12	-12.6	50	-122	Rack A35R07 Crate 3 Slot 9 Channel A	Triggers at -140mV.	0	-0.8	Rack Crate Slot Channel	606
D:LM3Q5	AP30	Rack A35R07 Crate 3 Slot 12 Channel 1	-12.6	0	-122	Rack A35R07 Crate 3 Slot 7 Channel B	OK	0	-0.8	Rack Crate Slot Channel	550
D:LM3Q6	AP30	Rack A35R07 Crate 3 Slot 12 Channel 2	-12.6	0	-116	Rack A35R07 Crate1 Slot 8 Channel A	Triggered at -130. Adjusted OK.	0	-0.8	Rack Crate Slot Channel	550
D:LM3Q6P	AP30	Rack A35R07 Crate 3 Slot 12 Channel 3	-12.6	0	-120	Rack A35R07 Crate 3 Slot 7 Channel D	OK	0	-0.8	Rack Crate Slot Channel	550
D:LM3Q7	AP30	Rack A35R07 Crate 3 Slot 12 Channel 12	-12.6	DEAD, NO SPARE CHANNELS		Rack A35R07 Crate 3 Slot 7 Channel A				Rack Crate Slot Channel	
D:LM3Q8	AP30	Rack A35R07 Crate 3 Slot 12 Channel 5	-12.6	0	-114	Rack A35R07 Crate 3 Slot 9 Channel B	OK	0	-0.8	Rack Crate Slot Channel	550
D:LM3Q8P	AP30	Rack A35R07 Crate 3 Slot 12 Channel 6	-12.6	0	-120	Rack A35R07 Crate 3 Slot 9 Channel C	OK	0	-0.8	Rack Crate 35 Slot 19 Channel 02	550, counted ok after reseating limo on scalar card.
D:LM3Q9	AP30	Rack A35R07 Crate 3 Slot 12 Channel 7	-12.6	0	varied -96 to -110. BAD	Rack A35R07 Crate 3 Slot 9 Channel d	OK, wobbly signal on amp not triggering discriminator every time.	0	-0.8	Rack Crate Slot Channel	468
D:LM3Q11	AP30	Rack A35R07 Crate3 Slot 12 Channel 8	-12.6	0	-120	Rack A35R07 Crate 3 Slot 11 Channel A	OK	0	-0.8	Rack Crate Slot Channel	551
D:LM3Q14	AP30	Rack A35R07 Crate 3 Slot 12 Channel 9	-12.6	0	-120	Rack A35R07 Crate 3 Slot 11 Channel b	OK	0	-0.8	Rack Crate Slot Channel	551
D:LM3Q17	AP30	Rack A35R07 Crate 3 Slot 12 Channel 10	-12.6	0, but jittery	-110	Rack A35R07 Crate 3 Slot 11 Channel C	OK	0	-0.8	Rack Crate Slot Channel	1600? Jittery amp signal?
D:LM1Q19	AP30	Rack A35R07 Crate 3 Slot 12 Channel 11	-12.6	0	-120	Rack A35R07 Crate Slot Channel	OK after adjusted gain	0	-0.8	Rack Crate Slot Channel	551
D:LM4Q18	AP50	Rack A53R02 Crate 2 Slot 11 Channel 5	-12.2	0	-185	Rack A53R02 Crate 2 Slot 10 Channel C	OK	0	-0.8	Rack Crate Slot Channel	496

D:LM4Q15	AP50	Rack A53R02 Crate 2 Slot 11 Channel 6	-12.2	0	-113	Rack A53R02 Crate 2 Slot 10 Channel D	OK	0	-0.8	Rack Crate Slot Channel	497
D:LM4Q12	AP50	Rack A53R02 Crate 2 Slot 11 Channel 7	-12.2	0	-115	Rack A53R02 Crate 3 Slot 11 Channel A	OK	0	-0.8	Rack Crate Slot Channel	498
D:LM4Q11	AP50	Rack A53R02 Crate 2 Slot 11 Channel 8	-12.2	0	-120	Rack A53R02 Crate 3 Slot 11 Channel b	OK	0	-0.8	Rack Crate Slot Channel	498
D:LM4Q10	AP50	Rack A53R02 Crate Slot Channel	-12.2	0	-115	Rack A53R02 Crate Slot Channel	OK	0	-0.75	Rack Crate Slot Channel	499
D:LM4Q10P	AP50	Rack A53R02 Crate Slot Channel	-12.2	0	-109	Rack A53R02 Crate Slot Channel	OK, but jittery output	0	-0.8	Rack Crate Slot Channel	500
D:LM4Q7	AP50	Rack A53R02 Crate 2 Slot 11 Channel 11	-12.2	0	-117	Rack A53R02 Crate 3 Slot 9 Channel B	OK	0	-0.8	Rack Crate Slot Channel	502
D:LM4Q6	AP50	Rack A53R02 Crate 3 Slot 12 Channel 3	-12.2	0	-108	Rack A53R02 Crate3 Slot 9 Channel C	Ok, but output noisy	0	-1.5	Rack Crate Slot Channel	503
D:LM4Q5	AP50	Rack A53R02 Crate 3 Slot 1 Channel 8	-12.2	0	-114	Rack A53R02 Crate3 Slot 9 Channel D	OK	0	-0.8	Rack Crate Slot Channel	501
D:LM4Q4	AP50	Rack A53R02 Crate 3 Slot 1 Channel 9	-12.2	0	-113	Rack A53R02 Crate 3 Slot 7 Channel A	OK	0	-0.8	Rack Crate Slot Channel	501
D:LM4Q3	AP50	Rack A53R02 Crate 3 Slot 3 Channel 12	-12.2	0	-118	Rack A53R02 Crate 1 Slot 12 Channel A	OK	0	-0.8	Rack Crate Slot Channel	500
D:LM4Q2	AP50	Rack A53R02 Crate 3 Slot 1 Channel 12	-12.2	0	-116	Rack A53R02 Crate 3 Slot 7 Channel C	OK	0	-0.8	Rack Crate Slot Channel	501
D:LM5Q1	AP50	Rack A53R02 Crate3 Slot 1 Channel 4	-12.2	0	-122	Rack A53R02 Crate 3 Slot 7 Channel D	OK	0	-0.8	Rack Crate Slot Channel	501
D:LM5Q3	AP50	Rack A53R02 Crate 3 Slot 1 Channel 5	-12.2	0	-113	Rack A53R02 Crate 3 Slot 5 Channel A	OK	0	-0.8	Rack Crate Slot Channel	501
D:LM5Q5	AP50	Rack A53R02 Crate 3 Slot 1 Channel 6	-12.2	0	-116	Rack A53R02 Crate 3 Slot 7 Channel B	Triggered at -160mV, adjusted trigger ok	0	-0.8	Rack Crate Slot Channel	501
D:LM5Q7	AP50	Rack A53R02 Crate 3 Slot 1 Channel 7	-12.2	0	-114	Rack A53R02 Crate 1 Slot 12 Channel C	Triggered at -125mV, adjusted trigger ok	0	-0.8	Rack Crate Slot Channel	501

D:LM5Q10	AP50	Rack A53R02	-12.2	0	-117	Rack A53R02	OK	0	-0.8	Rack	503
		Crate 3				Crate				Crate	
		Slot 3				Slot				Slot	
		Channel 6				Channel				Channel	
D:LM5Q12	AP50	Rack A53R02	-12.2	0	-113	Rack A53R02	OK	0	-0.8	Rack	502
		Crate 3				Crate				Crate	
		Slot 1				Slot				Slot	
		Channel 2				Channel				Channel	
D:LM5Q15	AP50	Rack A53R02	-12.2	0	-114	Rack A53R02	OK	0	-0.8	Rack	502
		Crate 3				Crate 1				Crate	
		Slot 1				Slot 12				Slot	
		Channel 3				Channel D				Channel	
D:LM4Q5U	AP50	Rack A53R02	-12.2	0	-114	Rack A53R02	Triggerred at -150, adjusted ok.	0	-0.8	Rack	502
		Crate 3				Crate 1				Crate	
		Slot 12				Slot 10				Slot	
		Channel 10				Channel H				Channel	
D:LMISEP	AP50	Rack A53R02	-12.2	0	-115	Rack A53R02	Triggerred at -150, adjusted ok.	0	-0.8	Rack	502
		Crate				Crate				Crate	
		Slot				Slot				Slot	
		Channel				Channel				Channel	
		Rack				Rack				Rack	
		Crate				Crate				Crate	
		Slot				Slot				Slot	
		Channel				Channel				Channel	