Todd Moore		Vicor Power Supply Noise Test Summary Report					5/22/2006		
Version:	3								
Environment:									
	1	Vicor is mounted in the same rack as Monsoon.							
		The analog gnds of both linear & Vicor supplies are grounded at the rack.							
		The rack which has the Vicor power supply & Monsoon is at earth ground.							
		Power cables for Vicor supplies are 4-4-1/2 feet long, 16awg, not shielded & are twisted pairs.							
		Sense cables for Vicor supplies are 4-4-1/2 feet long, 20awg, not shielded, & are twisted pairs.							
		Cables going to external loads are 3-5 feet, 12awg, not shielded, & are twisted pairs.							
		External binding posts (+/-15van…) which are part of the video cable have their inputs shorted together & left floating.							
	2	Monsoon is running Fermilab focalplane on cyclone:/home/monsoon/cfg/_fnalShort/.							
		Sequencer is ReadType1d.ucd							
		Readout time remains at 11uS/pixel, while the # of pixels was decreased to 400 rows X 300 columns to reduce the readout time.							
		All Offsets are set to 1.0v. Channel 0 & 2 video inputs are connected to CCD sim board through Fermilab supplied video cable.							
		All datasets are located on cyclone.hep.uiuc.edu:/home/monsoon/data/vicor_noisetest/….							
		In /home/monsoon/data/vicor_noisetest/ are folders which are named by the date the data was taken.							
			Channel 0		Channel 2				
Test#	Date	Conditions	Mean	RMS	Mean	RMS	Notes	FITS Filename	Postscript Filename
Test19	19-May-06	All Vicor supplies (+/-15va, +/-5va, +5vdc), except 3.3v, are attached to Monsoon and loaded to at least 85%. 3.3v is derived from a regulator using Vicor +5vdc.	80,950	10.88	83,200	9.84	What is noise level of Vicor supplies (without 3.3v) attached to Monsoon?	all_vicor_wo3_3_May19_test19.fits	all_vicor_wo3_3_May19_test19.ps
Test20	19-May-06	Same as Test19, except 3.3v is being derived from Vicor Supply and **IS NOT FILTERED** or **NOT USING uRAM**.	80,970	10.7	83,200	9.926	Does Vicor 3.3v attached and not filtered cause an increase in noise?	all_vicor_w3_3unfiltered_May19_test20.fits	all_vicor_w3_3unfiltered_May19_test20.ps
Test21	19-May-06	Same as Test20, except load has been removed from unfiltered Vicor 3.3v.	80,930	10.28	83,170	9.56	Does removing load from Vicor 3.3v cause an increase in noise?	all_vicor_w3_3unloaded_May19_test21.fits	all_vicor_w3_3unloaded_May19_test21.ps
Test22	19-May-06	Same as Test21, except load has also been removed from +5vdc.	80,930	10.25	83,170	9.731	Does removing load from Vicor 3.3v & +5vd cause an increase in noise?	all_vicor_w3_3&5vdunloaded_May19_test22.fits	all_vicor_w3_3&5vdunloaded_May19_test22.ps
Test23	19-May-06	Same as Test22, except load has also been removed from +15van.	80,990	10.14	83,210	9.343	Does removing load from Vicor 3.3v, +5vd, & +15van cause an increase in noise?	all_vicor_w3_3_5vd_+15unloaded_May19_test23.fits	all_vicor_w3_3_5vd_+15unloaded_May19_test23.ps
Test24	19-May-06	Same as Test23, except load has also been removed from -15van.	80,960	10.85	83,200	9.51	Does removing load from Vicor 3.3v, +5vd, +15van, & -15van cause an increase in noise?	all_vicor_w3_3_5vd_+15_-15unloaded_May19_test24.fits	all_vicor_w3_3_5vd_+15_-15unloaded_May19_test24.ps
Test25	19-May-06	Same as Test24, except load has also been removed from -5van.	80,960	9.947	83,200	8.819	Does removing load from Vicor 3.3v, +5vd, +15van, -15van, & -5van cause an increase in noise?	all_vicor_w3_3_5vd_+15_-15-5unloaded_May19_test25.fits	all_vicor_w3_3_5vd_+15_-15-5unloaded_May19_test25.ps
Test26	19-May-06	Same as Test25, except load has also been removed from +5van.	81,000	9.096	83,240	8.208	Does removing load from Vicor 3.3v, +5vd, +15van, -15van, -5van, & +5van cause an increase in noise?	all_vicor_w3_3_5vd_+15_-15-5+5unloaded_May19_test26.	all_vicor_w3_3_5vd_+15_-15-5+5unloaded_May19_test26.ps
Preliminary Conclusion:		Vicor power supplies have shown to operate quietly while being loaded to at lest 85%. The increase in noise levels from Vicor Noisetest Report Ver1 was due to having power cables, which are attached to Fermilab's video cable, coupling noise into the video signal through unterminated pins in the 50 pin connector attached to the CCD emulator.							