

Update for 10<sup>th</sup> of May 2020

## This is my son's tenth birthday! Happy Birthday, Kyle!!

Getting these simulations to last for any lengthy duration without an error message of: "Matrix is singular" is very challenging. Yet, I managed to succeed at a duration of half a second which may qualify as a user-friendly parameter for regulating these spikey surges with mechanical switching to prevent frying the host-circuit to ruinous oblivion by grounding, or self-shorting, various nodes creating pulsed surges which may be tolerable and still remain useful? I don't know... I'm not a technician savvy at building anything other than bionic circuits.

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https://is.gd/analogcomputer

switch parameters: duration & resistances » T,0,1e-15,1e-9,1e50

1µ volt sine wave input at 13k Hz.

Two daisy-chained modules of Eric Dollard's LMD analog computer (longitudinal magneto-dielectric).

All six capacitors have 10 milli Ohms of series resistance. Capacitors, C5 & C6, stabilize the output along with resistor, R1.

Inductor, L1, has 1 Ohm of series resistance, and 1µ Farad of parallel capacitance.

DC 0 AC 1 0 Sin 0 1u 13k 0 0 0

Transformers: K2 and K3, plus the coil on the right side of K1, could be replaced with a bronze tube of helium (interconnecting two bronze spheres) and stimulated with a mild voltage, sine wave at each sphere. The left coil of K1 could be a stack of pancake coils of iron windings surrounding the tube of helium.

Notice that this is overunity. The input current is no more than spikes of 5e-41 amperes while the input voltage is 1µ volt peak-to-peak (at V1) and the output voltage and the output current (at C6) are less than 7k. This is a huge gain (coefficient of performance) of input relative to output!

This is "real power", not reactive power, since the voltage and current triangular waves are in sync (which is obvious during the initial 50 micro seconds of their career) with zero degrees phase difference between them.

It's very difficult trying to sustain this for any lengthy user-friendly duration at a low level of output without the simulator erroring with "Matrix is singular". So, by increasing the shunt inductances to 1k Henry at the transformers, K1 & K2 & K3, and by increasing the inline capacitances to 110 Farads, and by increasing the resistances to 1.1k Ohms, I managed to increase simulation duration to half a second without errors.

What we have, here, is the replication of the utility grid scaled down to a neighborhood power unit. The shunt inductances and the resistors represent the magnetizability of a transmission line along with the resistance of its length. Capacitors, especially C6 on the far right-hand side of this schematic, have the greatest units of amperage slightly elevated over their units of voltage.

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Select Mode

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Notice how small are the nodal voltages... I have never seen anything like this before now! Usually, if the output is large, the nodal voltages are also as large. But, here, the nodal voltages are far less than the spikes of output current and output voltage at capacitor, C6. The output is spikes of slightly less than 7k amps compared to 13 volts flanking the capacitors!

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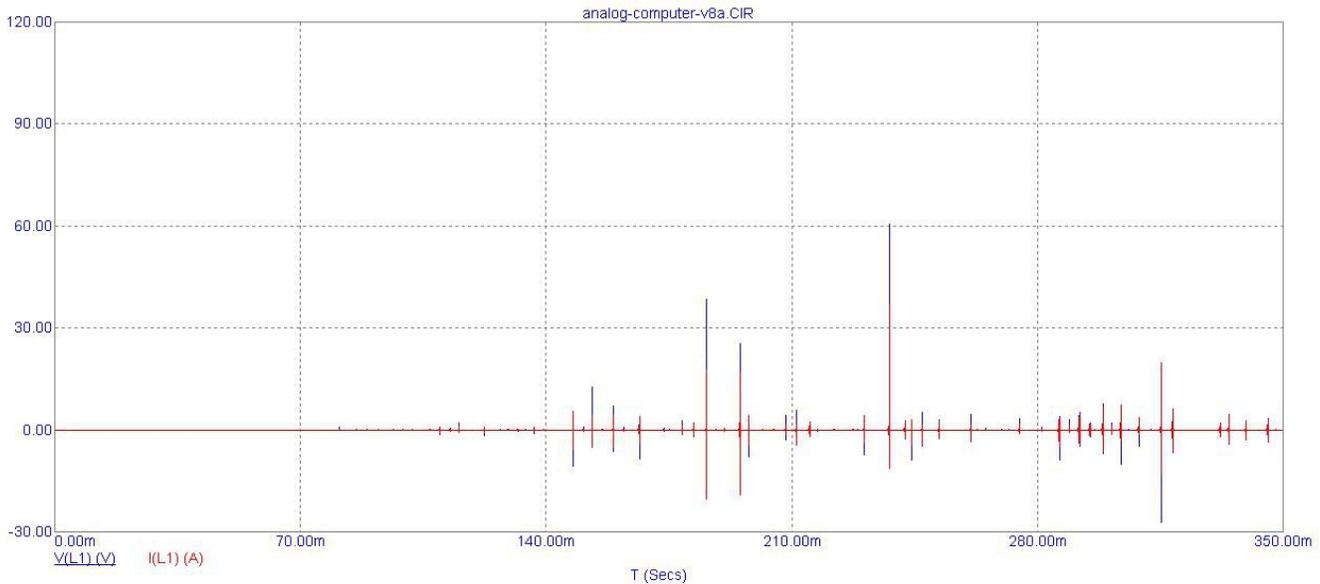
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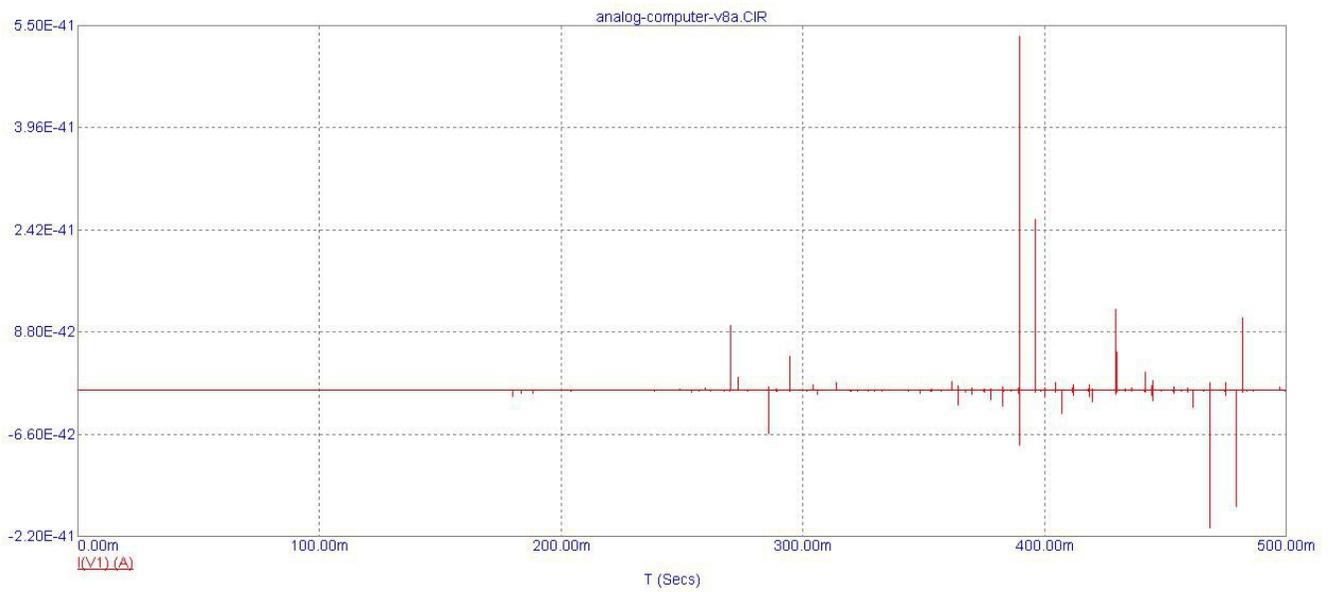
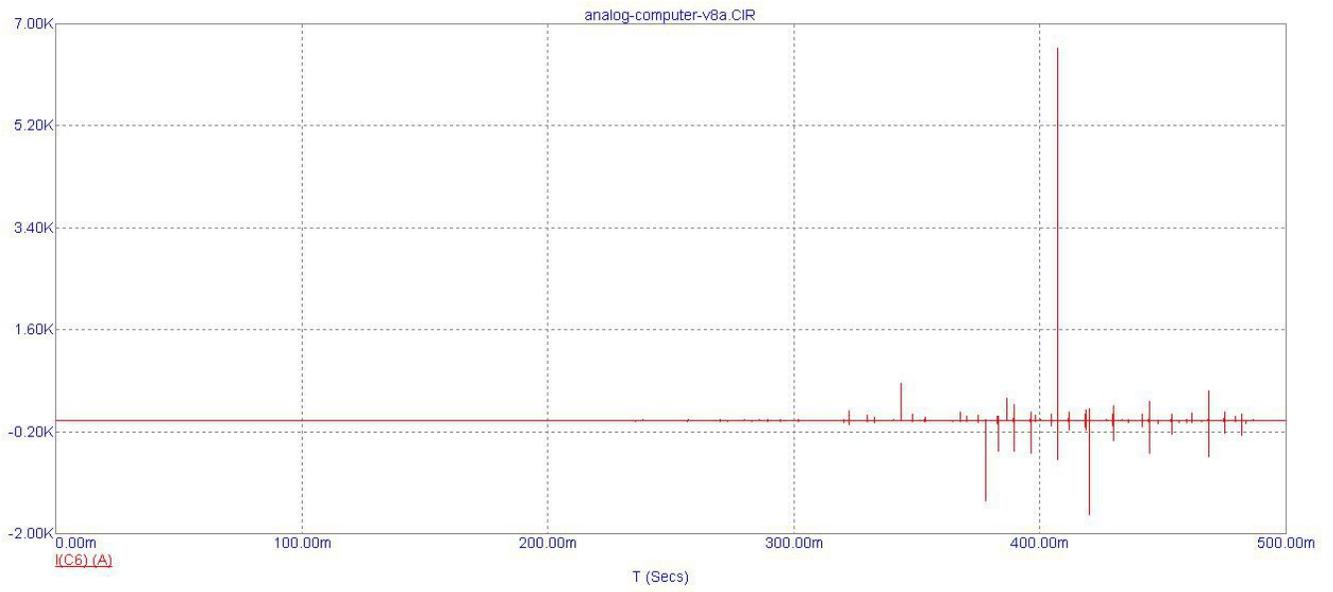
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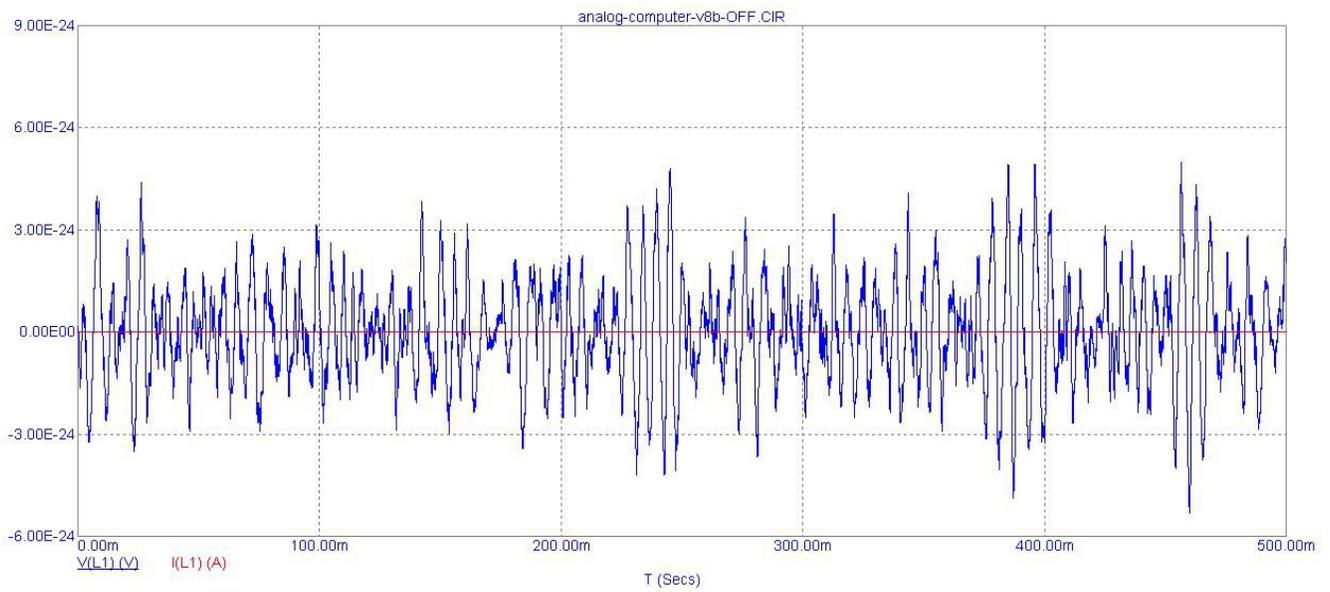
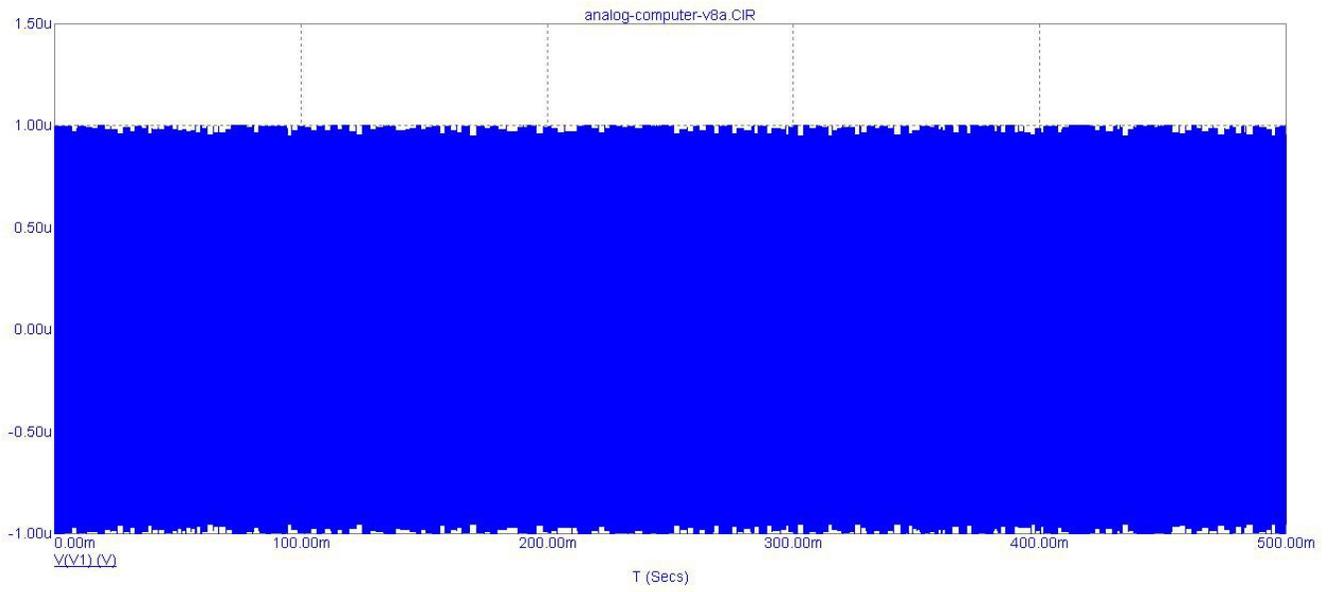
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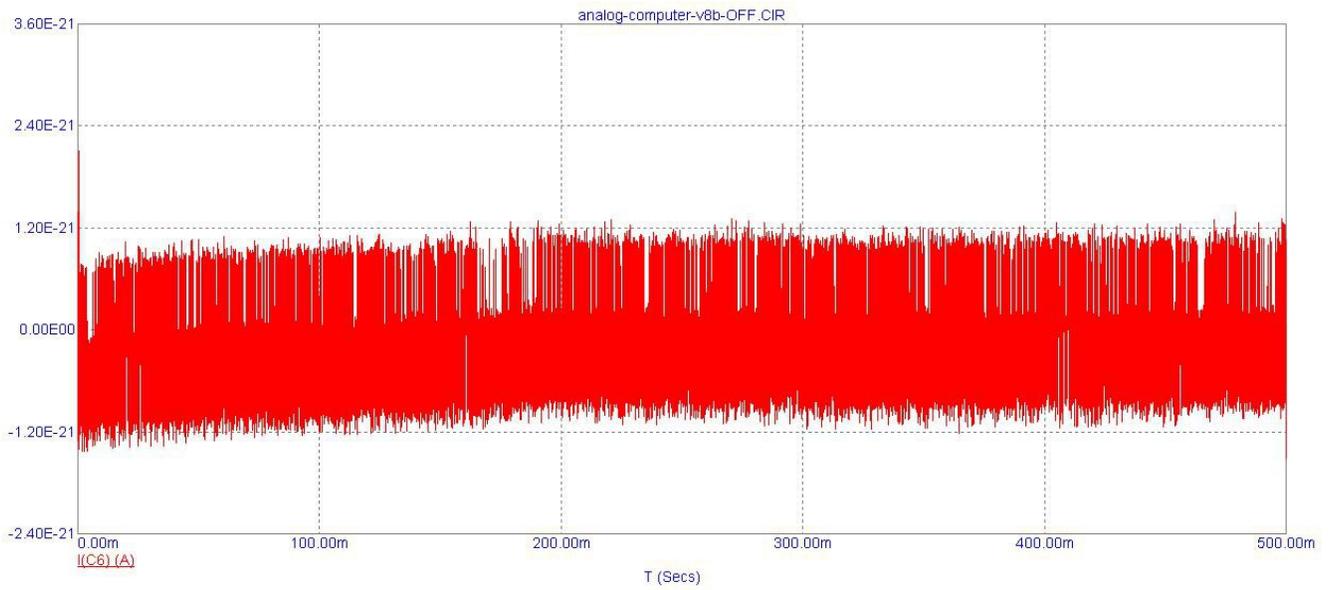
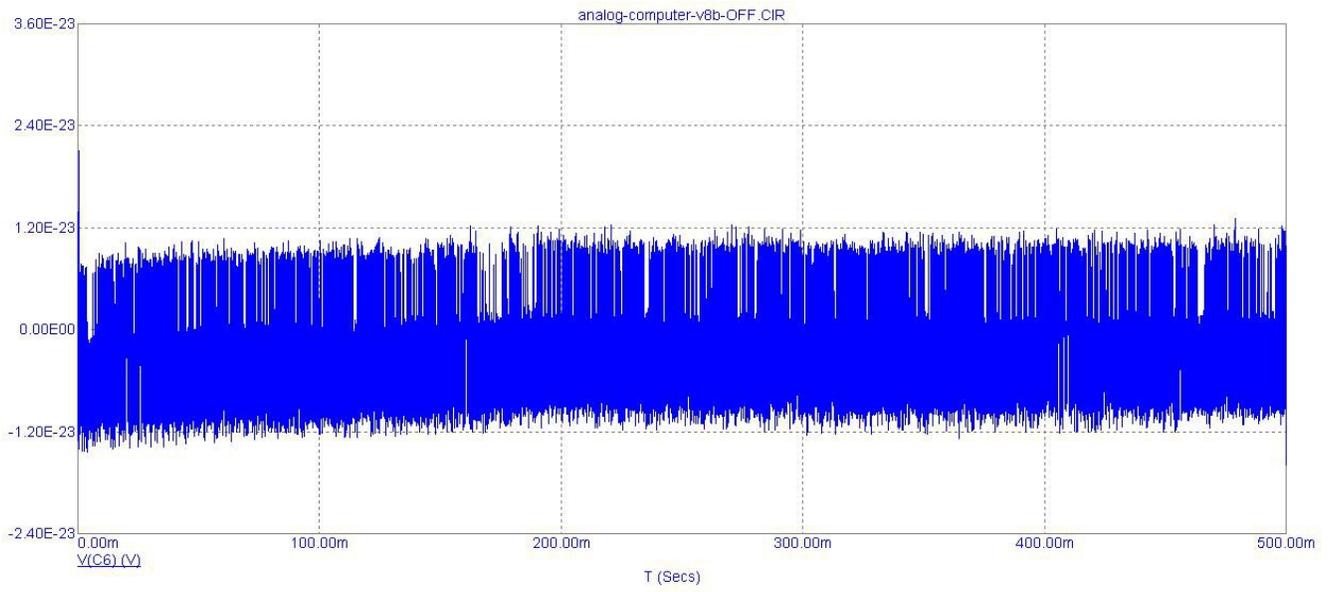
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Select Mode









I might as well add another comment about this simulated implementation of using Eric Dollard's analog computer as a power amplifier, and that is: that it sputters when its power level transcends a certain boundary. I can't remember exactly where, but it was somewhere less than what would be practical for our use. Let's say it was micro amps and micro volts or something similar...

Prior to that boundary being reached, the triangular waveforms are uniformly spaced in a periodic fashion. But after that boundary condition is crossed and the amplitude continues to rise, it almost acts as if it's trying to suppress the continuing expression of the amplitude of its escalating surge (of power) in as much as sputtering spikes - random spikes - jerk out of the circuit to express higher levels of unleashing the build up of its power, but in a totally random fashion.

That tells me that it's being held back (but can't help itself, but explode with a spike of energy) so that the circuit is no longer acting as an oscillator, but instead: is acting as its own impedance.

Now, I'm no electrical engineer. So, I'm not sure how to get around this problem. But, at least I can identify it (somewhat), anyway.