# On the Fly, EV Battery Charger: The Shorted (Motor)Transformer

This design is for charging batteries (swapped in rotation) while driving an electric vehicle allowing for the use of merely one 12V battery for powering the vehicle's motor and accessories while the remaining two 12V batteries are being trickle recharged. Since Level Two charging generally takes five to six times longer than the time it takes to discharge an EV's battery pack while driving on the highway at ~60mph, I suspect that this system will succeed at extending an EV's range to a considerable length with, or without, any additional batteries included and swapped in rotation – *and successful enough to compete with Tesla Motors™ and hybrids for alleviating motorists' range anxiety.*

The concept of a shorted motor(transformer) has been known for over a century. Applying it to battery charging may be a new idea which no one has thought of before now? *Perhaps...*

The following schematics and their virtual oscilloscope tracings are simulated in both LTSPICE and Micro-Cap – The term used, herein, of 'Stator' refers to voltage-oriented, enlarged coil/s carrying more units of voltage than units of amperage while the term of 'rotor' refers to much smaller coils carrying more units of amperage than units of voltage. Both sets of coils are wound upon the same armature and all of them are surrounded by additional windings of iron wire to boost their magnetic coupling. Additional iron, held outside of the coils, may be magnetically coupled to the armature for additional coupling efficiency. We want the coupling to be as close to unity as is possible for maximum gain to occur...

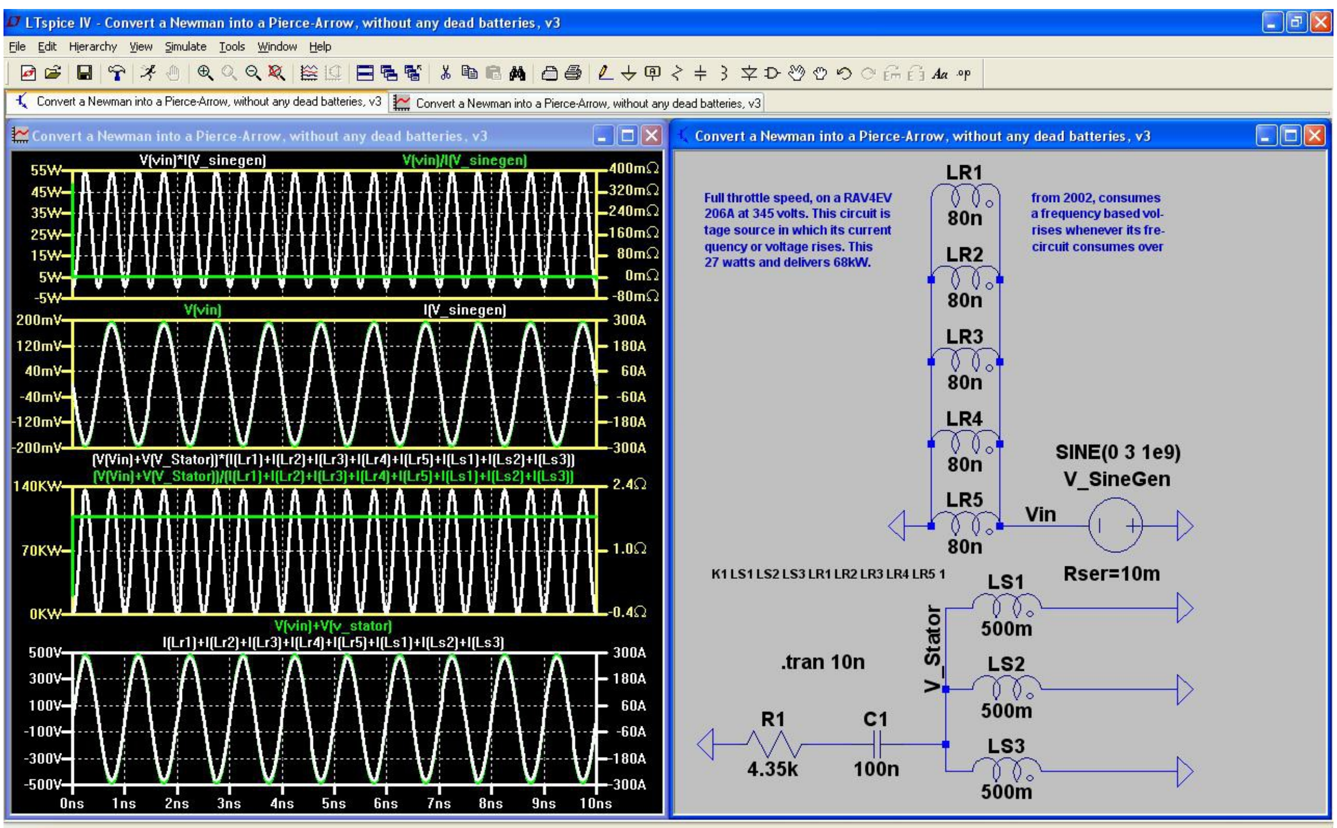


*Illustration 1: 140kW peak to peak.*

## FREE ENERGY, ie. THE OVERUNITY OF THE COEFFICIENCE OF PERFORMANCE, OBEYS OHM'S LAW!

16. INSTANT ENERGY RELEASE AS INFINITY

Phenomena of enormous magnitude manifest themselves when the criteria for voltage or potential difference is instantly disrupted, as with a short circuit. The effect is analogous with the open circuit of inductive current. Because the forcing voltage is instantly withdrawn the field explodes against the bounding conductors with a velocity that may exceed light. Because the current is directly related to the velocity of field it jumps to infinity in its attempt to produce finite voltage across zero resistance. If considerable energy had resided in the dielectric force field, again let us say several K.W.H. the resulting explosion has almost inconceivable violence and can vaporize a conductor of substantial thickness instantly. Dielectric discharges of great speed and energy represent one of the most unpleasant experiences the electrical engineer encounters in practice.

**Pt.2 - Aether - Eric Dollard SFTS Powerpoint, p.49**

**http://is.gd/aetherdollard**

Eric is describing the hyperbolic function of division with regards to a finite sum of potential (voltage) divided by a nearly, infinitely tiny, resistance yields an infinitely large, current. For example...

*When one volt is applied to a capacitor during its charging phase, then it is also resisted by a nearly infinite quantity of Ohms arising from its capacitive storage preventing its release. This nearly infinite resistance transforms itself into nearly zero resistance during the capacitor's discharging phase resulting in a contraction of its charge/discharge duty cycle, namely: how much duration does a low level capacitance spend to charge and discharge versus how much duration does it spend resting (doing nothing)?....*

$$\frac{\textit{One Volt}}{\textit{Nearly Infinite Ohms at Capacitor}} = \textit{Zero Amperes released during Charging Phase of Capacitor}$$

$$\frac{\textit{One volt}}{\textit{Nearly Zero Ohms at Capacitor}} = \infty \textit{ Amperes suddenly released during Discharge Phase of Cap.}$$

The relationships, above, are based on contrasting the status of a capacitor during its charging phase in contrast to its discharging phase. From the point of view of a capacitor of extremely low Farads, resistance varies drastically between these two phases causing an acceleration of discharge current if the capacitance is kept to a level low enough to disqualify it as a “shock absorber” and redefine it as a reflector/mirror so that time-delays between charge and discharge is minimized towards zero. It is this reduction of time-delay which parallels the acceleration of current upon release of its stored potential due to a contraction of its time domain. We're talking major Quantum Physics, here!

This is what happens in the simple circuit, up above, in which a high frequency of alternating voltage has its polarity inverted (switched) rapidly across a finite input of 3 volts of sine waves. The result is a huge current blasting out of this circuit requiring several thousand Ohms of resistance to thwart this tremendous surge into a reasonable quantity of amperes and also raises its voltage in proportion to its current so that a pair of A/C motors inside a RAV4 EV from 2002, can appreciate it...namely, 345V and 206A (more or less).

Here is what would have happened had the resistance been zero at R1...

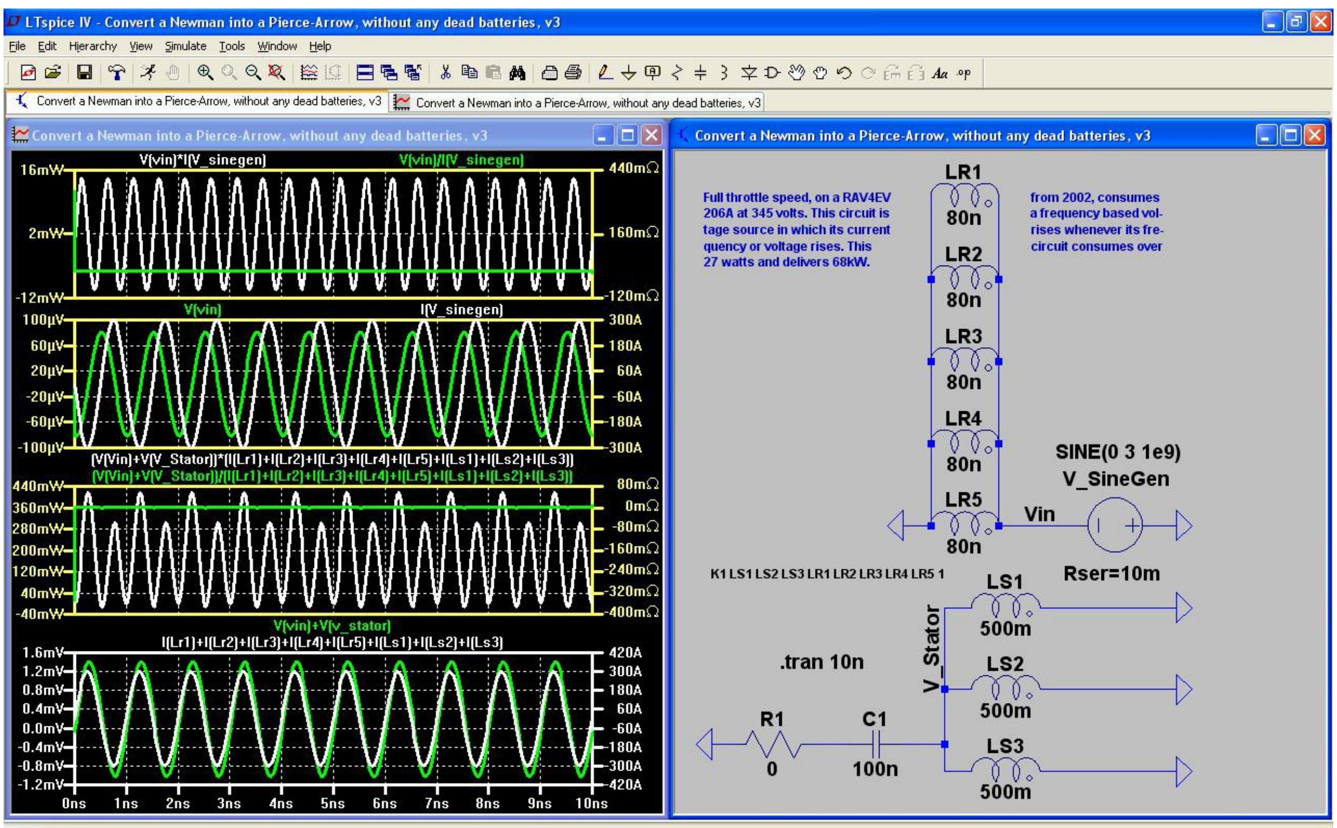


*Illustration 2: 440mW peak to peak.*

See the difference? This circuit takes resistance, at R1, and translates it into voltage as a direct one-to-one relationship at LS1 and LS2 and LS3. Any increase of resistance at R1 results in an increase in voltage, not only at the stator coils, but also throughout the circuit. But this does not impact the current in any way whatsoever since the current is a byproduct, not of voltage drop, but of a combination of factors, such as: the inductive smallness and the numerous quantity of rotor coils, at LR#, plus the largess of this circuit's input frequency (one Giga Hz at V_SineGen). But if I keep the resistance of

4.35KΩ intact at R1, and double the voltage input at V_SineGen, then I get a quadrupling of wattage – *probably due to both a doubling of current and a doubling of voltage occurring at the same time?...*

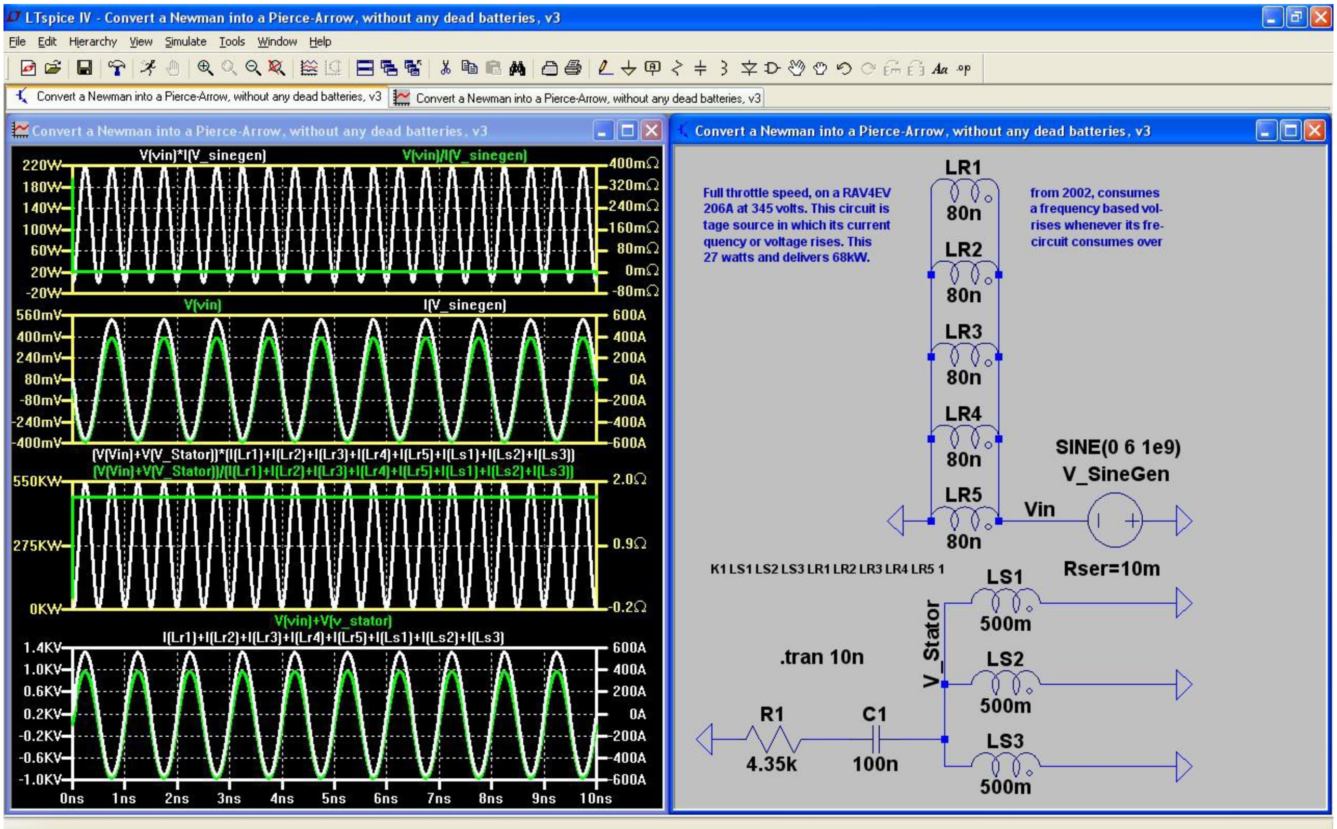

*Illustration 3: 550kW (peak to peak) ≈ 140kW (p2p) × 4.*

The wattage increases by a factor equal to the squaring of the increased input voltage...

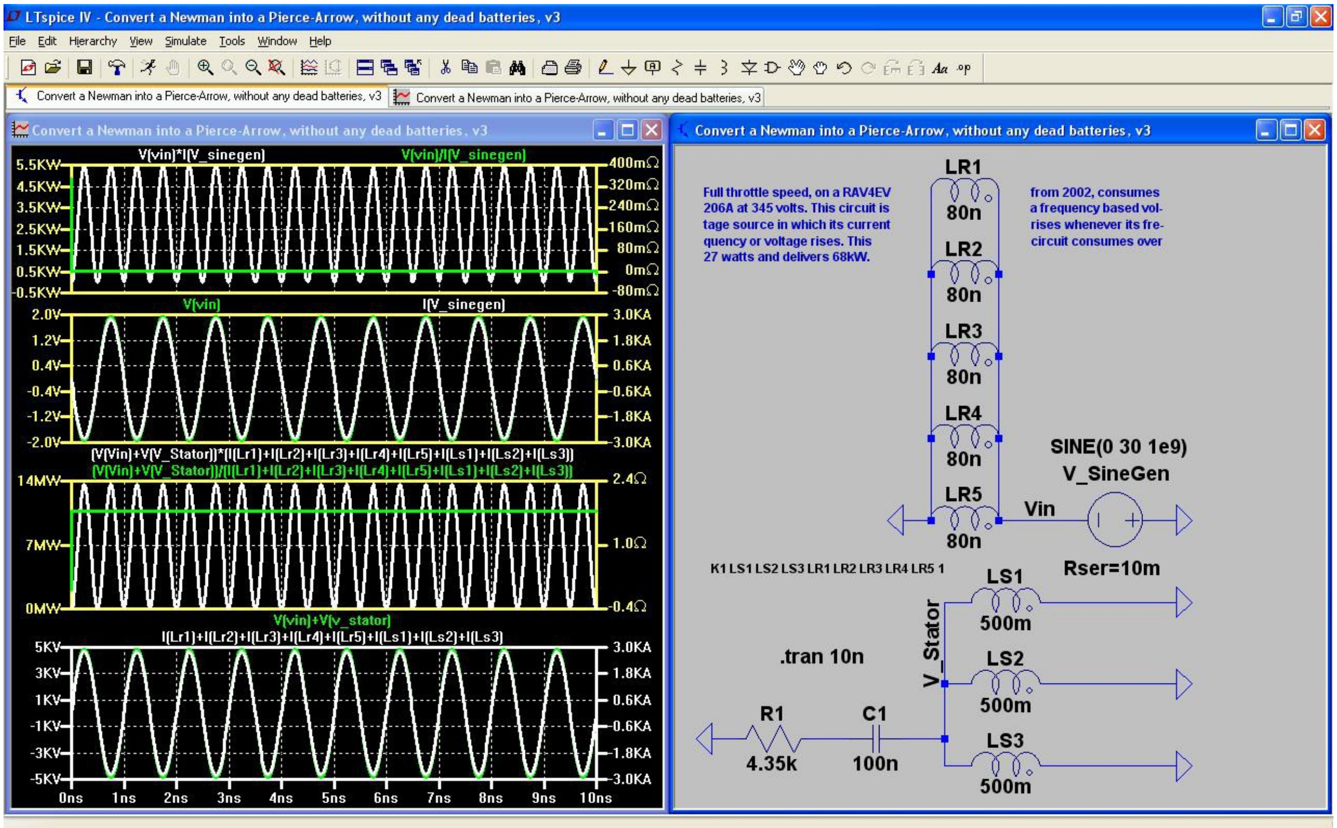


*Illustration 4: 14mega watts (p2p) = 100 × 140kW (p2p) due to Ohms Law in which current times voltage yields wattage. Thus, 5kV (p2p) = 10 × 500V (p2p) {times} 3kA (p2p) = 10 × 300A (p2p) {equals} 14mega watts (p2p) = 100 × 140kW (p2p). This results in a huge savings of drainage of the voltage source making it very desirable to use something other than a pack of batteries to power an EV.*

History (according to Wikipedia) cites the invention of the lead-acid battery to have occurred around 1880. History also cites the development of an aluminum anode and lead cathode diode (using an electrolyte of baking soda or borax) to have been commonplace a century ago. This puts diode and lead-acid battery technological developments in roughly the same time frame.

My guess is that the Ammann brothers may have known about all of this and used it to their advantage referenced in both of their newspaper interviews (the Arizona Republican and the Denver Post articles) in which C. Earl Ammann claims the use of mineral/s, in addition to the use of iron wire, inside the barrel/drum housing his circuit. This could imply their use of the minerals of: lead, aluminum, and trona (the raw material from which baking soda is derived) and/or borax if they included diodes in their circuit. But as we will see, down below in a Micro-Cap simulation, that a dead battery can be incorporated into this circuit without impacting its performance if the battery's contribution of voltage does not exceed certain limits of influence.

I bring this up only because it is so advantageous to use diodes to insure the correct direction of current when charging batteries within the context of an alternating electrical environment whether or not they used them. And diodes (of a century ago) could be construed to be a derivation from lead acid batteries, or vice versa.

I take inspiration from attempting to solve other inventor's mysteries without necessarily trying to replicate their inventions, exactly, as they implemented them...

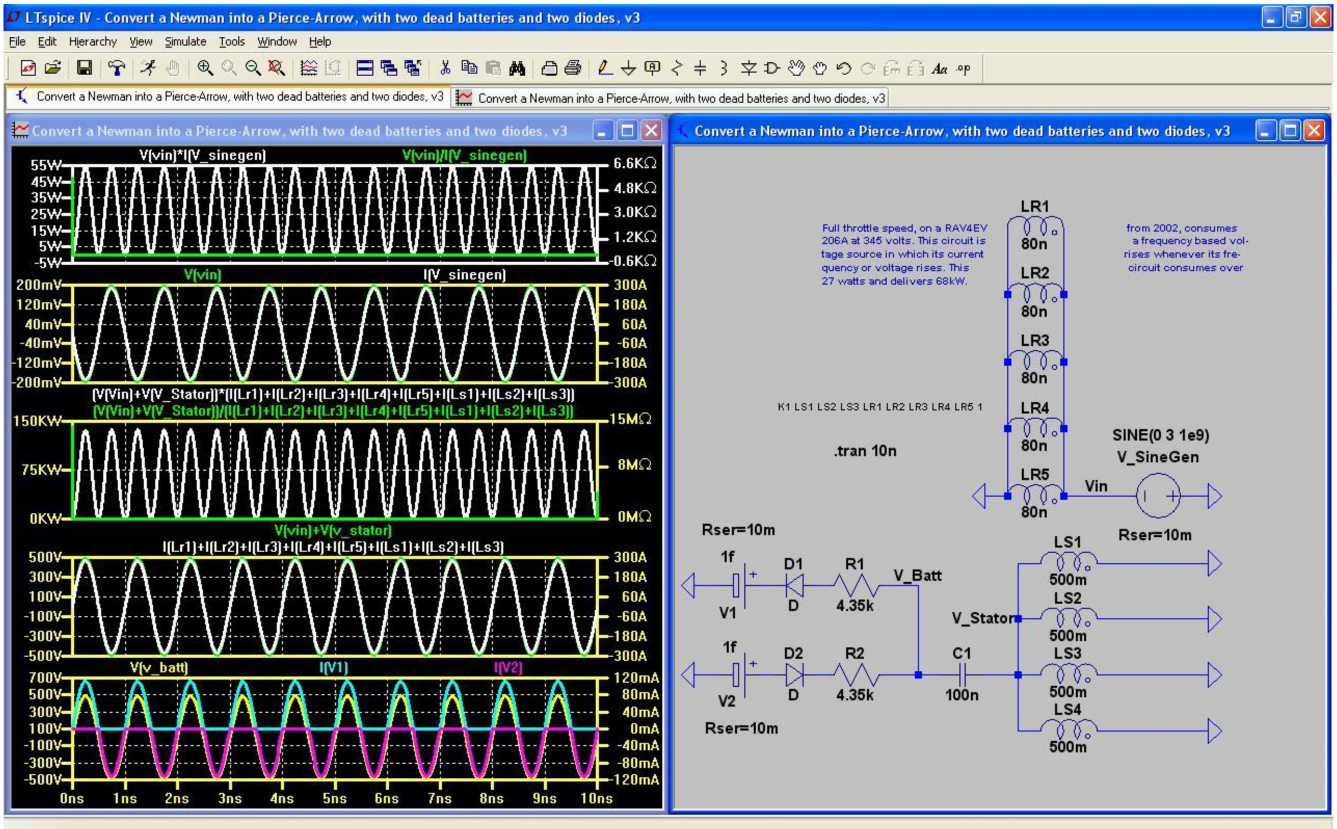


*Illustration 5: Notice how the orientation of dead battery #2, V2, is turned around backwards for recharging to take place? Yet, its oscilloscope tracing exhibits an in-phase condition between its current of I(V2), colored in magenta, and its voltage of V(v_batt), colored in yellow? Since all flavors of Berkeley SPICE simulators have their current out of phase with their voltage by one-half cycle of 180º of separation, this in-phase condition tells me that the right thing is occurring, namely: that the batteries are not acting as generators producing current, but are -instead- becoming recharged with current. Yet, to do this requires that battery #2, V2, be turned around cockeyed! Shows how little I know about electrodynamic theory if I can't explain this... ;-) While we're at it... Take a look at the input voltage of V(vin) versus the input current of I(V_sinegen). Their waveforms are in total alignment! This implies that this sine wave generator is no longer generating current. Instead, it's had its voltage polarity inverted by the more powerful influence of this circuit imposing its polarity upon the sine wave generator which will probably damage the generator if it is not a simple circuit fed by nothing other than an aerial or something similar. I frequently forget how limited is the protection provided by a single diode in that it merely prevents the alternation of current. It does not provide any protection with regard to the alternation of voltage. Hence, it may become necessary to use a full, bridge rectifier of four diodes rather than merely one diode on each battery? Perhaps... The following schematic (on the next page) will have the current of its sine wave generator artificially inverted to highlight what I am saying by multiplying it by a value of negative one...*

The charging scheme, up above, amounts to a trickle charge intended to top off *two very dead batteries*, V1 and V2, while the car is in motion since there's plenty of wattage available to power the motor coils, then there isn't any need to recharge each battery with any current greater than this.

Since it only takes three volts to run this power supply, the gain in output amply supplies sufficient power to drive the car and top off two of its batteries at the same time – *assuming only one additional battery (battery #3 "behind the scenes" and "out of sight" powering V_SineGen) will be running this* *vehicle's motor/s while batteries #1 and #2, V1 and V2, will undergo recharging.*

Only three 12V batteries need be used to power this vehicle: one to power the motor while two get recharged on a rotation basis. Since the transformer's three 'stator' coils and five 'rotor' coils will probably consume space similar in volume to the missing nine batteries of a conventional EV, the weight of this setup and its volume is probably the same as a conventional EV?

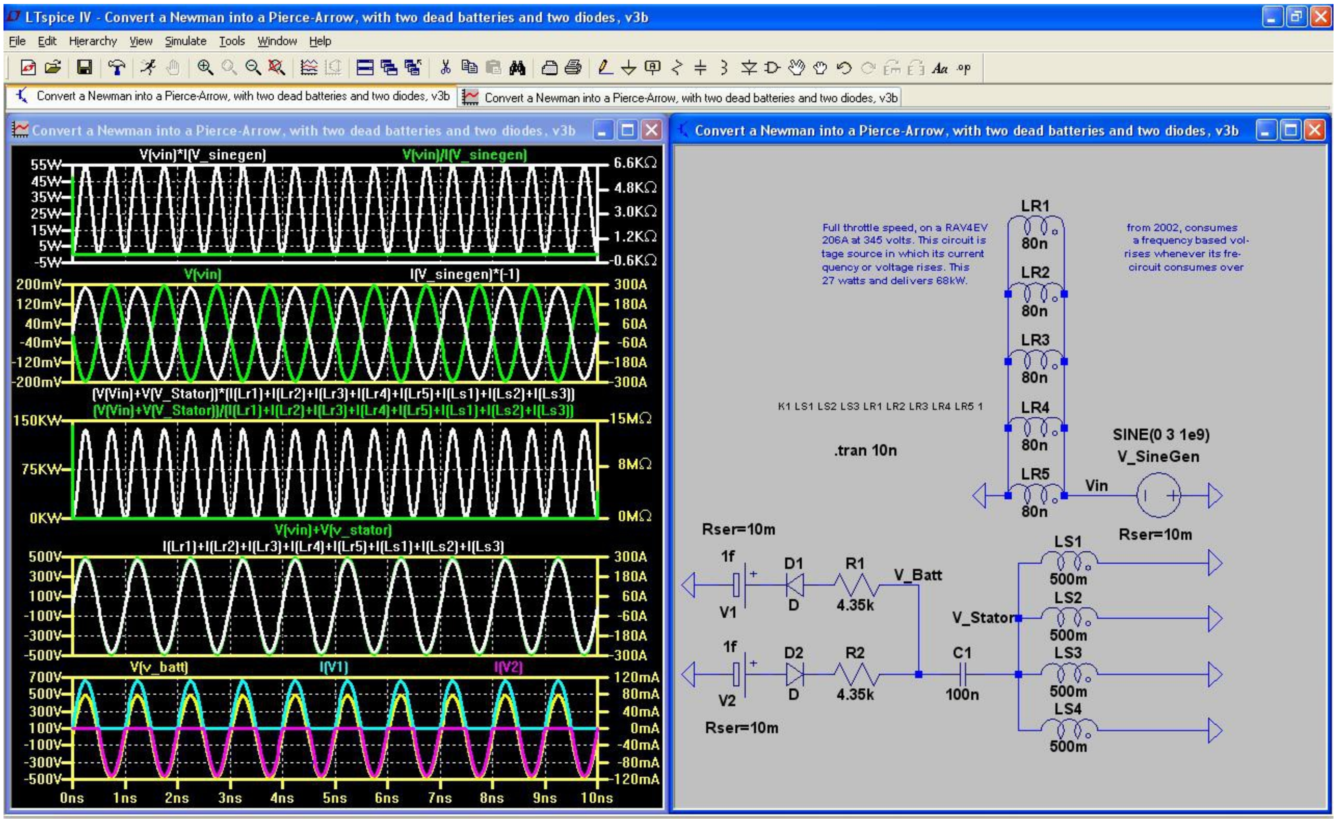


*Illustration 6: An artificial alteration of the current of the sine wave generator by multiplying it by negative one, I(V_sinegen) × (-1). If this condition had occurred all on its own with no help from me tweaking it with my mathematical trickery, then this would have indicated that the generator is doing its job and not in any danger of destroying its polarity. Hence, great care must be taken when deciding upon a voltage source for powering this generator lest that source be destroyed! I suspect that an aerial is the only solution, or else a solar panel? Since a solar panel putting out 12V may be too large to place upon the roof of a car, either this device must be a standalone appliance, or else an aerial plus a voltage multiplier involving diodes and capacitors may become necessary?*

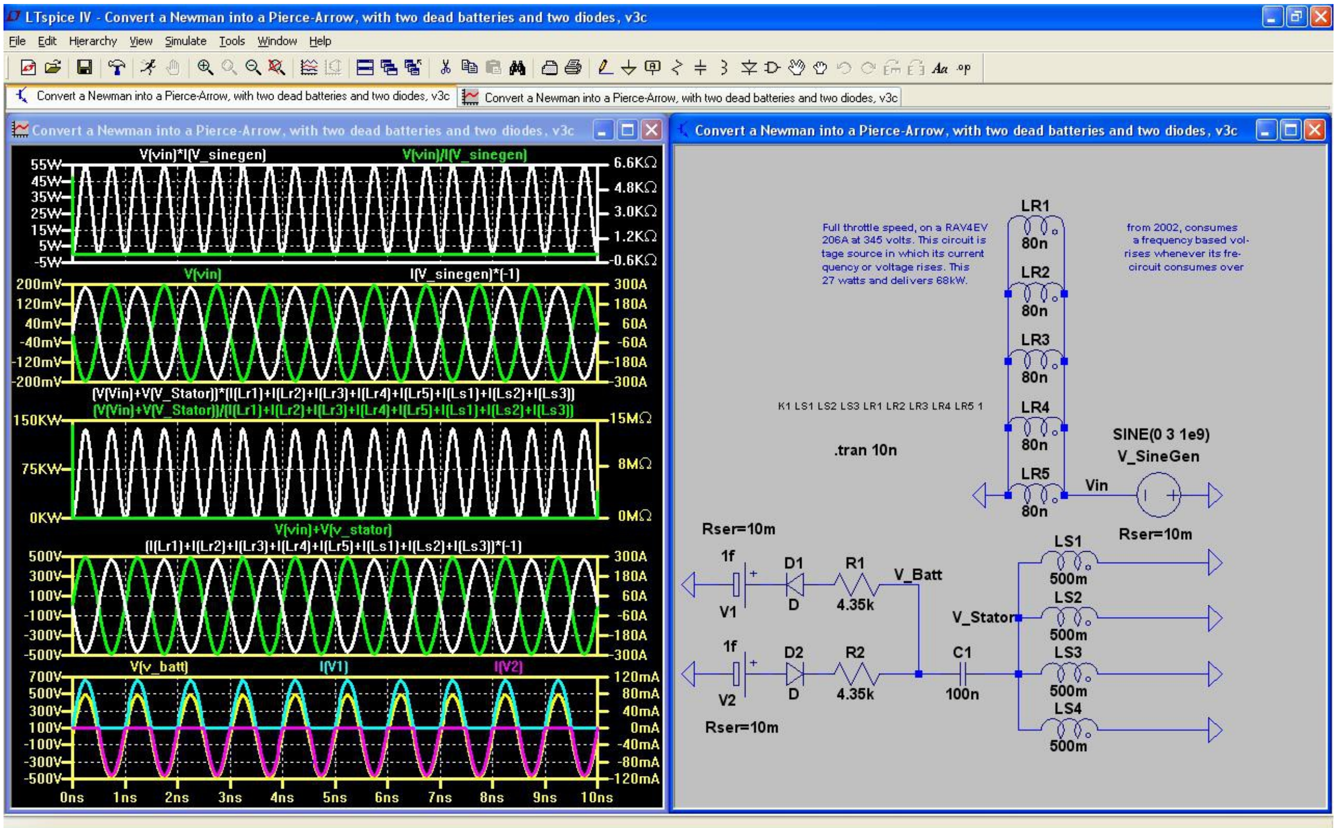


*Illustration 7: Notice how I have artificially induced, through mathematical sleight-of-hand, a similar condition to arise at the rotor and stator coils by multiplying their combined current by a factor of negative one? This has managed to shift their phase relation, relative to their voltage, by one-half cycle of alternation. This causes me to conclude that, indeed, it is this circuit's coils and capacitance (at C1) which is dominating the outcome resulting in the conversion of the voltage source into becoming a voltage load! This is in vast contradistinction to standard electrodynamic theory (which presently upholds the politicization of this science by the politics of physics) which always assumes that a voltage source, or a current source, will always and without fail (nor without question) always dominate a circuit's behavior! What a pile of **you-know-what**... This is probably due to the assumption that the magnetic coupling between the rotor coils and the stator coils will always fall short of unity, or nearly unity, sufficiently enough to deny this circuit from achieving this enviable condition of overunity.*

In the illustration, above, notice how both batteries, V1 and V2, have become loads and may no longer be considered as sources of voltage since the phase of their charging current is in-phase with the phase of their charging voltage. This is what we want to occur, here. The unfortunate consequence, as noted previously (above) is that, since this is a byproduct resulting from this circuit becoming an overunity device capable of dominating its voltage sources, this also has the consequence of converting the voltage source, V_SineGen, into a voltage load which may do it damage if remedial steps of one type or another are not taken ahead of time to prevent this from happening.

We shouldn't have to suffer unacceptable consequences resulting from desirable causations.

These are the details, and the complications, associated with "free energy" (overunity) devices. They are not simple flashlight circuits obeying the corporate-oriented laws of politicized physics.

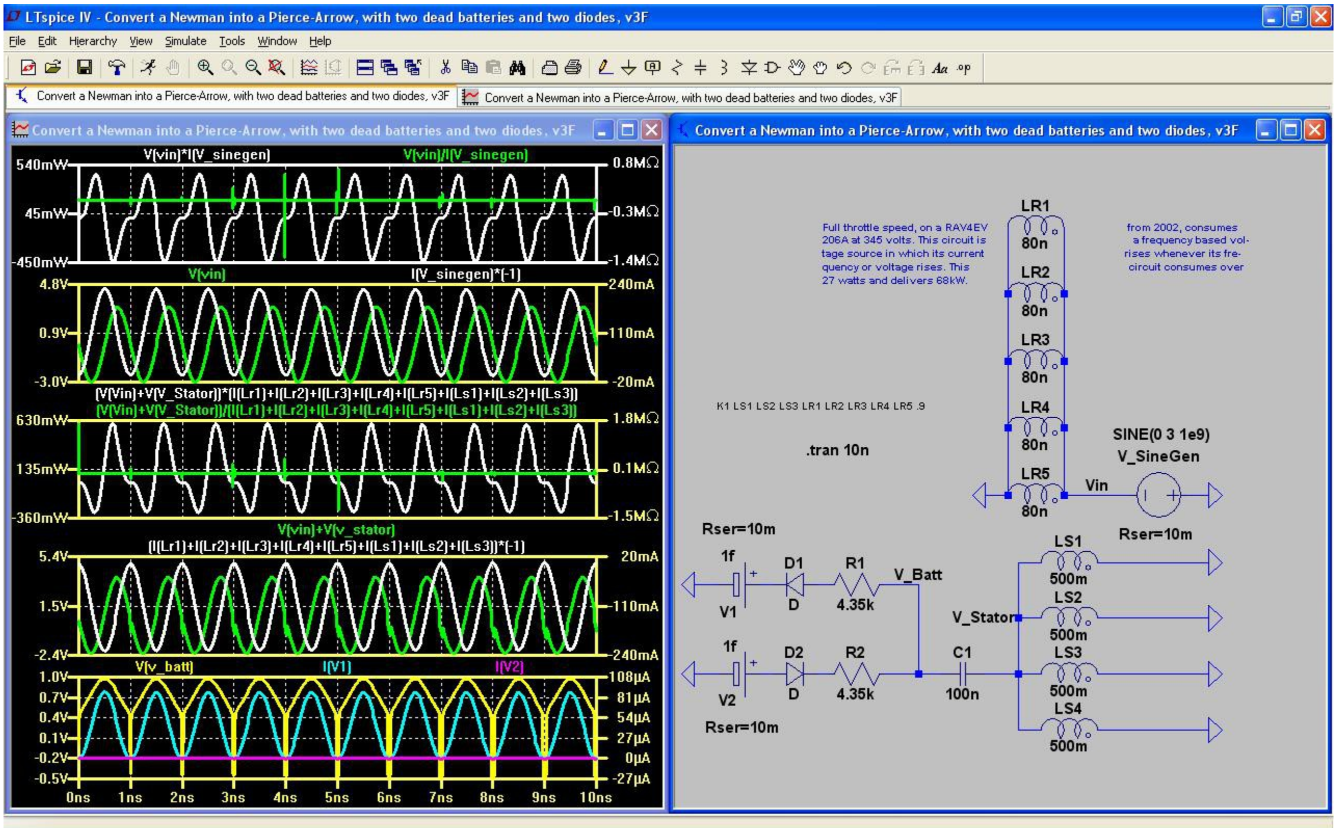


*Illustration 8: In this screenshot, the magnetic coupling between the five rotor coils and the three stator coils has been reduced to a mere 90%. This is where the wave-shapes at the batteries become severely deformed and the current of battery #2, I(V2) colored in magenta, has flattened out to a miniscule value probably requiring the reversal of its terminal connections within this circuit to what is considered normal for recharging purposes (and similar to the orientation of battery #1, voltage source: V1? The current phase angle of the sine wave generator, I(V_sinegen), has become lagged behind its voltage phase angle by a factor of 90°....precisely the same as what standard thermodynamic modeling (and its so-called laws – which I call its rules of thumb) predicts (and requires our obedience, thereto, if we want to maintain our respectable reputation in a society dominated by vested interests – none of whom have asked for your opinion, nor mine, before embarking upon this journey called: social engineering. Any coupling coefficience above that of 90%, used in this example, and less than the ideal minimum of: .9999999 = 99.99999%, will improve performance dependent upon how much greater than 90% does this coupling approach unity.*

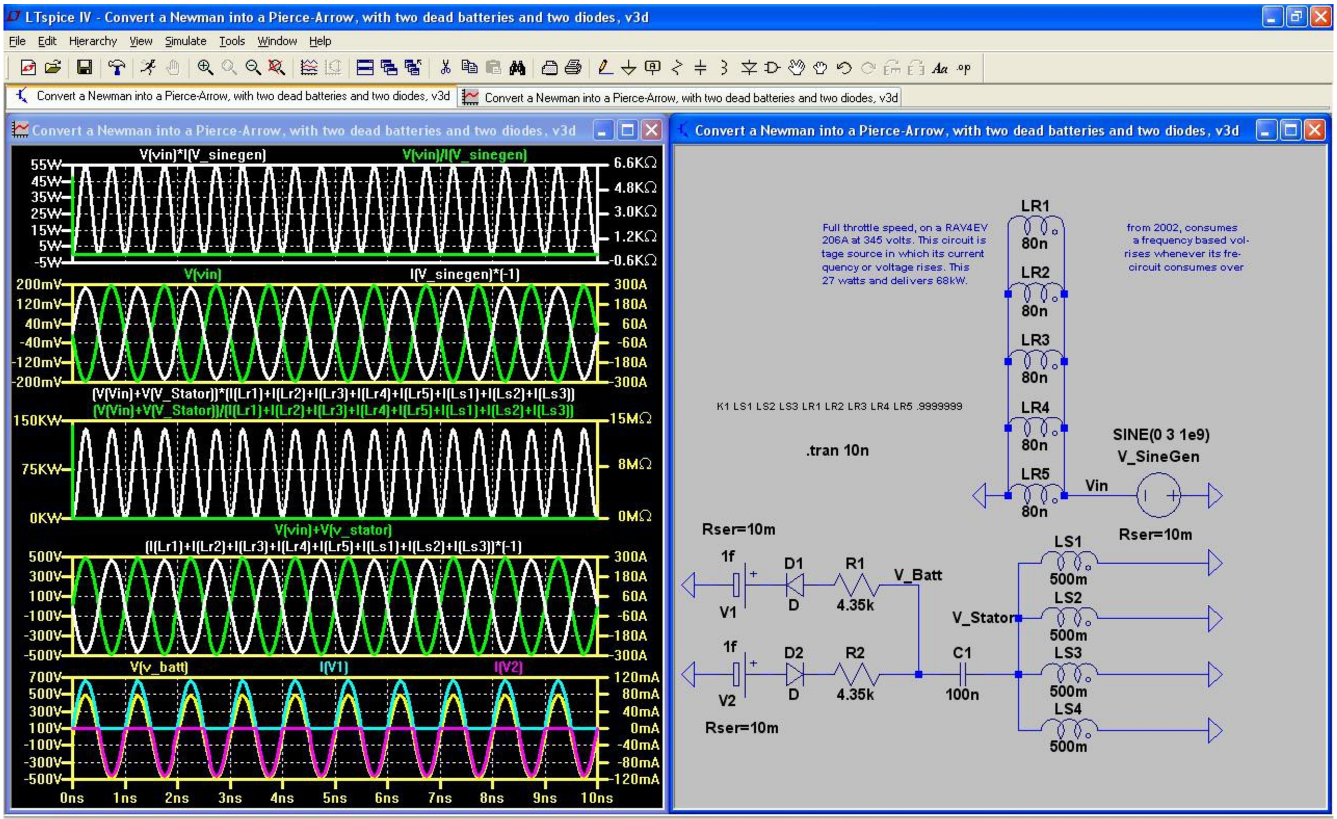


*Illustration 9: It takes a magnetic coupling coeffience of at least .9999999 = 99.99999% to equal the resulting effects from using a coupling of one (see, Illustration 7, above, for comparison). [Nathan Stubblefield]() used a bimetallic winding of bare iron wire cowound among his insulated copper windings in his, [“Electric Battery” patent # 600,457]() of the 8th of March, 1898. And Oliver Heaviside recommended the use of bare iron wire, or ribbon, wrapped around an insulated copper core to fulfill his mathematical analysis of the trans-Atlantic telegraph cable problem of the late 1800s. So, why shouldn't we do likewise?*

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The only question left out of this monologue up until now, is: how does a Giga Hertz sine wave rotate a motor?

Easy! Pulse Width Modulation of square waves produced by the on-board electronics to mimic the characteristic 180 Hertz, or less, sine wave needed to rotate the motor shaft.

Since speed, for an A/C motor, is a consequence of Frequency Modulation, there won't be any difficulty varying the input, sine wave frequency to match the required output, square wave frequency.

These batteries are paired in parallel for recharging them and then they are discharged one at a time giving credit to Nikola Tesla for this pairing concept derived from his 1889 patent: *Method of obtaining direct from alternating currents* – US 413353 A; Published on the 22nd of October, 1889 and filed on the 12th of June, 1889. This is (ostensibly) Tesla's method of adding A/C to D/C. I merely replace Tesla's resistive loads (of his use of lamps) with relatively large resistors to adjust the proportionality between the voltage and current to get it to be within the window of a 2002, RAV4 EV.

## *There is a consequence to using a motor as a transformer/generator...*

...which results in the undesirable *loss* of output since its rotation will complicate matters by adding a wave of considerably lower frequency which, *for some reason beyond my expertise of comprehension,* causes a *reduction* of output below what is desirable to maintain. Again, pulsed width modulation may be the solution. But it may also become necessary to *increase* the input voltage and/or *increase* the input frequency at V_SineGen?...

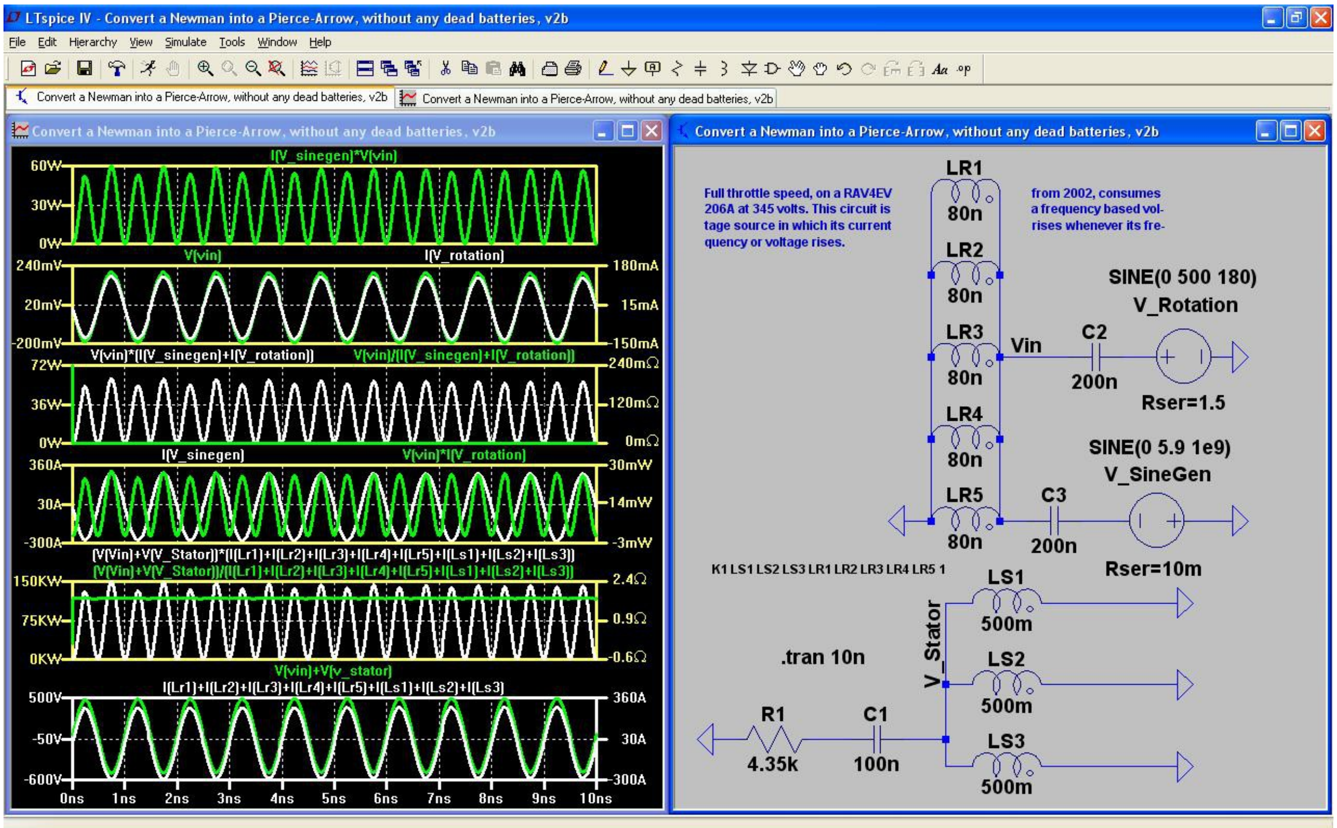



*Illustration 10: This example raises the input voltage and leaves the input frequency alone. You will notice there are no batteries undergoing recharging. That is due to my not having included them at this stage of development of this device. But don't fret... Their inclusion, or exclusion, amounts to no alteration whatsoever since the batteries which I have been using, up until now, are not fresh batteries of considerable voltage. Instead, they have been dead batteries....<u>very, dead batteries</u> up until now of 1 femto volt which is the same as saying 1e-15V.*

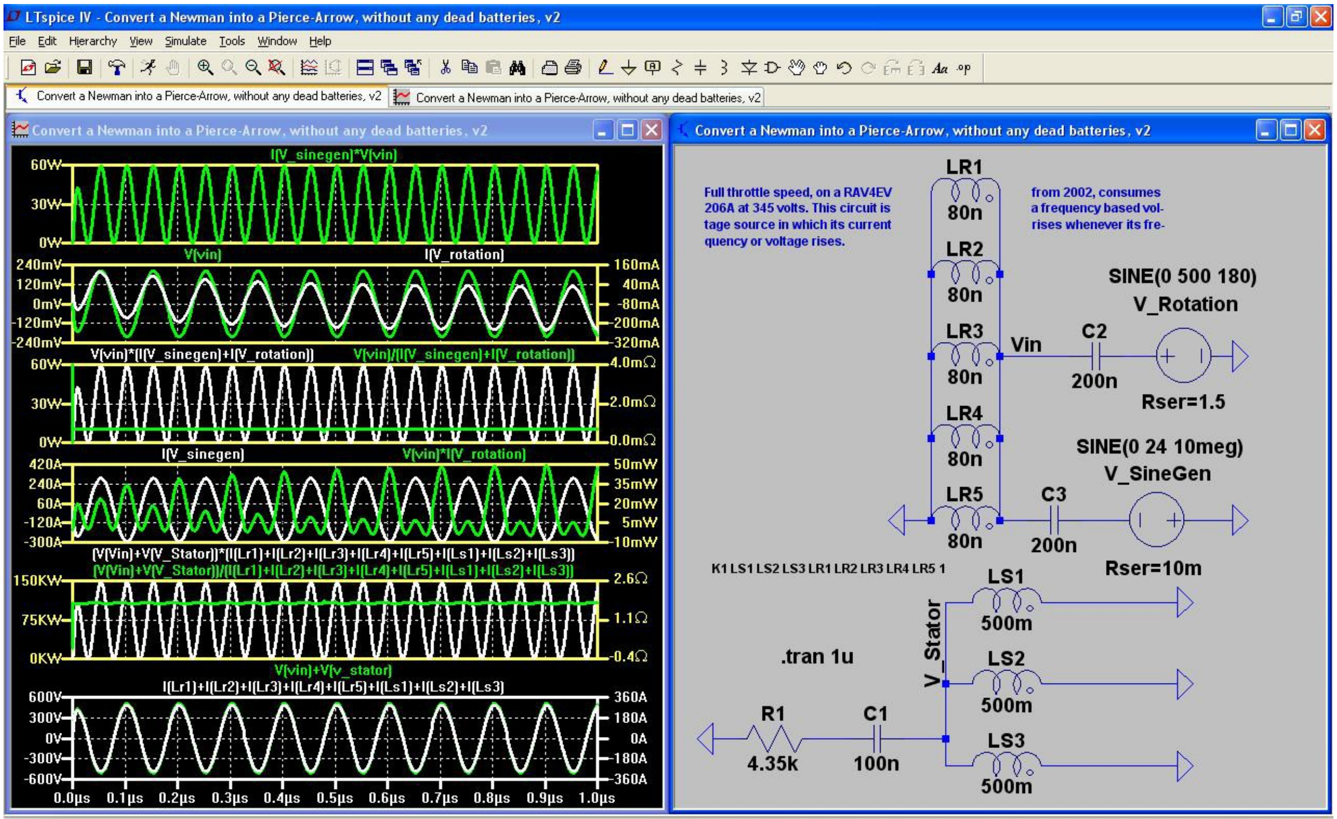
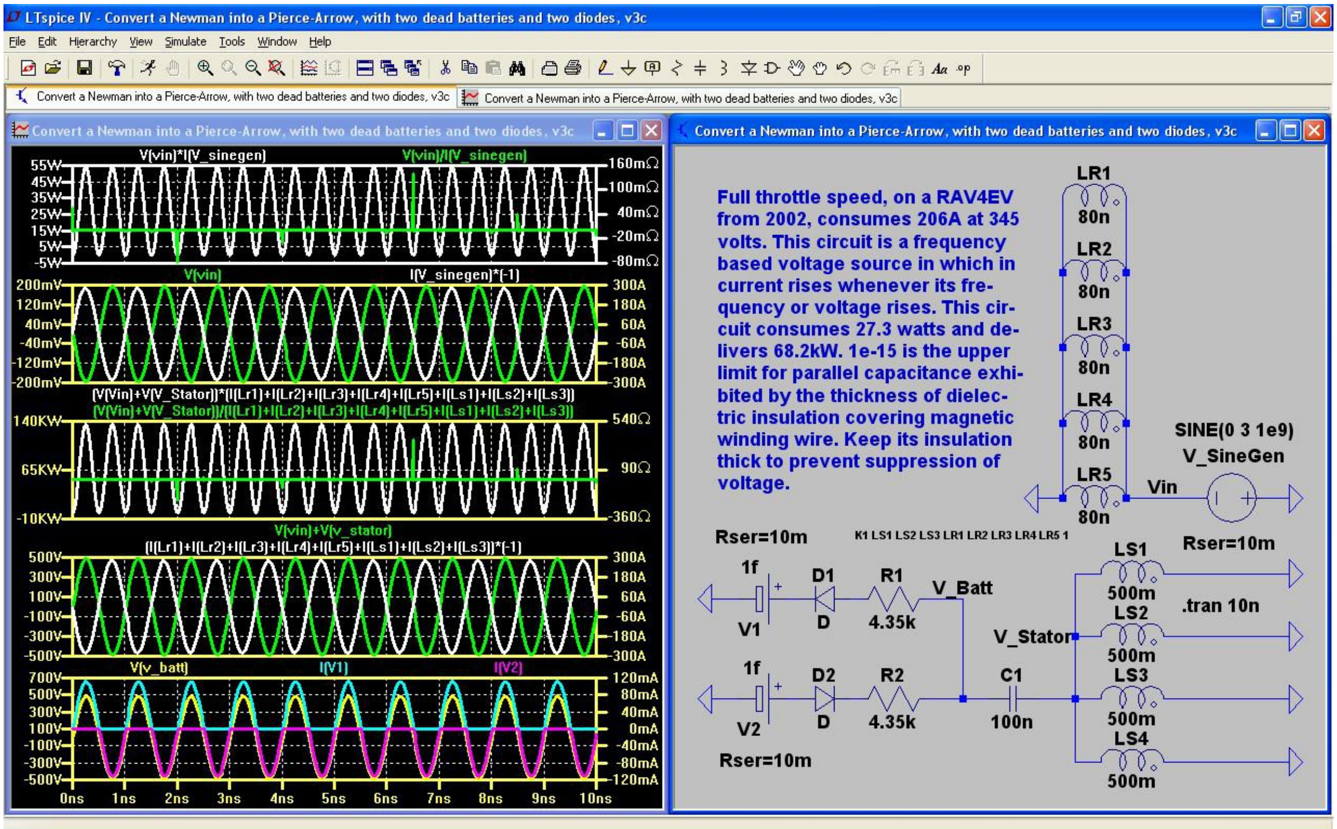



*Illustration 11: Here, in this illustration, the input voltage has been increased beyond 5.9V to a considerable 24V along with a reduction of input frequency towards 10 Mega Hz. In both of these simulations, I am assuming a 500V, peak to peak, contribution of 180Hz is coming from the rotation of the rotor since that is what I see under normal circumstances of running this simulation without any input arising from its rotation. So, I merely have to include that and see what happens... What happens, is that not much voltage nor current is added to the output. Yet, a considerable loss occurs, instead, which must be accommodated somehow or another.*

Go back to page 8 and review Illustration # 7 and compare the impedance of all of its coils (depicted in the center window of virtual oscilloscope tracings).

The range of impedance in that illustration (on page 8) is from a low of 0Ω to a high of 15 Mega Ω. Yet, in the screenshot, below, its range is from –360Ω to +540Ω of impedance caused by spikes of impedance which affects the RMS calculation...

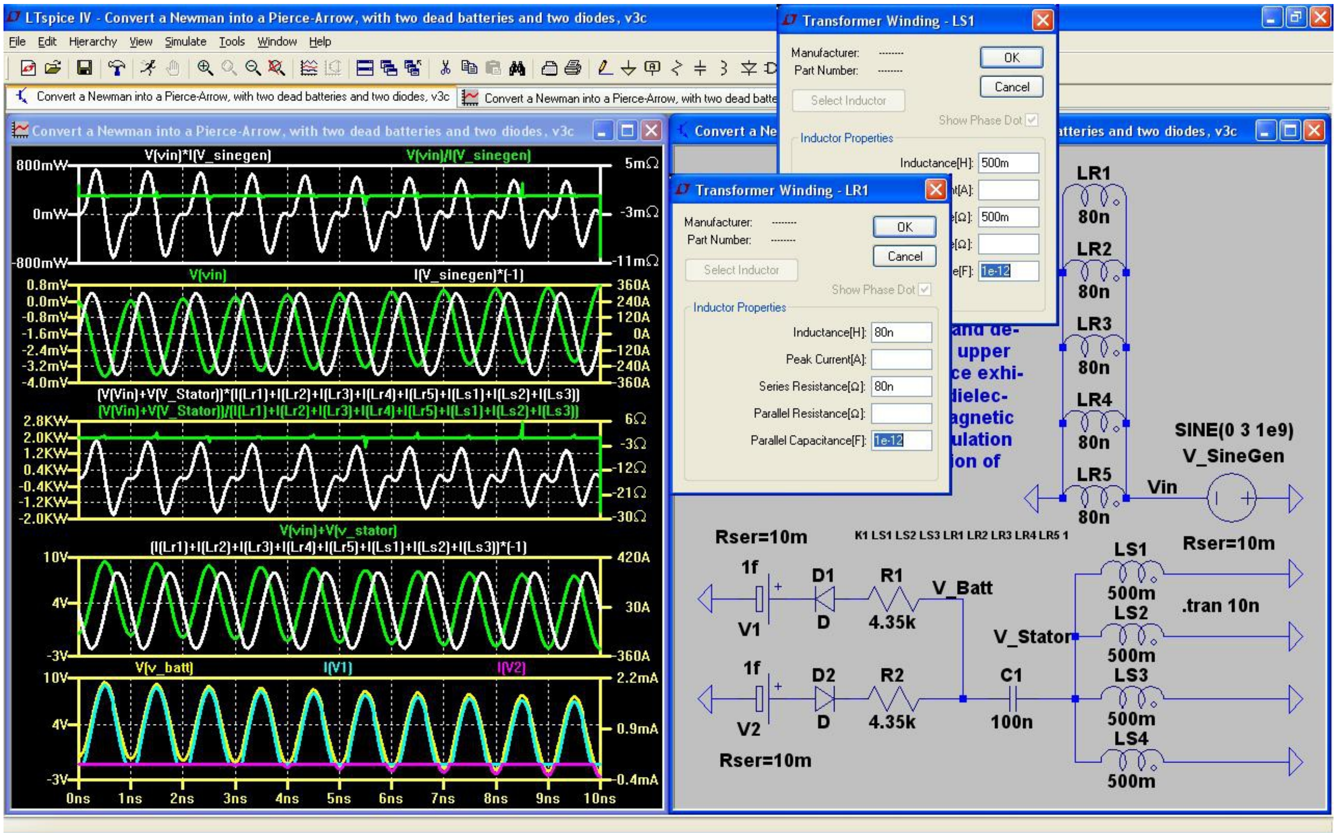



I added 1 femto Farad (1e-15F) of parallel capacitance to each and every coil (all nine of them). This did not detract very much from the expression of voltage. Nor did this small parameter increase amperage. Yet, it did have a beneficial effect in reducing the magnitude of impedance spikes and shifted them away from occurring in the very beginning. This momentary tendency for a spike of impedance to occur in the very beginning (whenever a circuit is initially turned ON) is commonplace. Yet, it is not necessary. It may be avoided by this method of enlarging the thickness of the dielectric insulation surrounding all of the copper wire, including the magnetic winding wire, in order to delay impedance surges to occur at random moments throughout the duration of a circuit's operation rather than occur all at once, in the very beginning, and avoid its magnified intensity.

The second benefit to enlarging wire insulation is to insure that voltage not become suppressed. This seems to be a common complaint among “free energy” enthusiasts in their pursuit of their elusive goal.

The third benefit is the ability to “tune” an overunity circuit. If this parallel capacitance is not avoided (resulting from the thinning down of wire insulation ostensibly, enough, to economize coil volume), then it becomes very difficult to use standard techniques of varying the parameters of electrical reactance, such as: capacitance, inductance and frequency, in order to achieve whatever output is desired. This difficulty is due, not only from suppression of voltage, but also from acceleration of amperage. This makes it very difficult to avoid electrical explosions and motors and generators reacting very quickly with self-destruction.

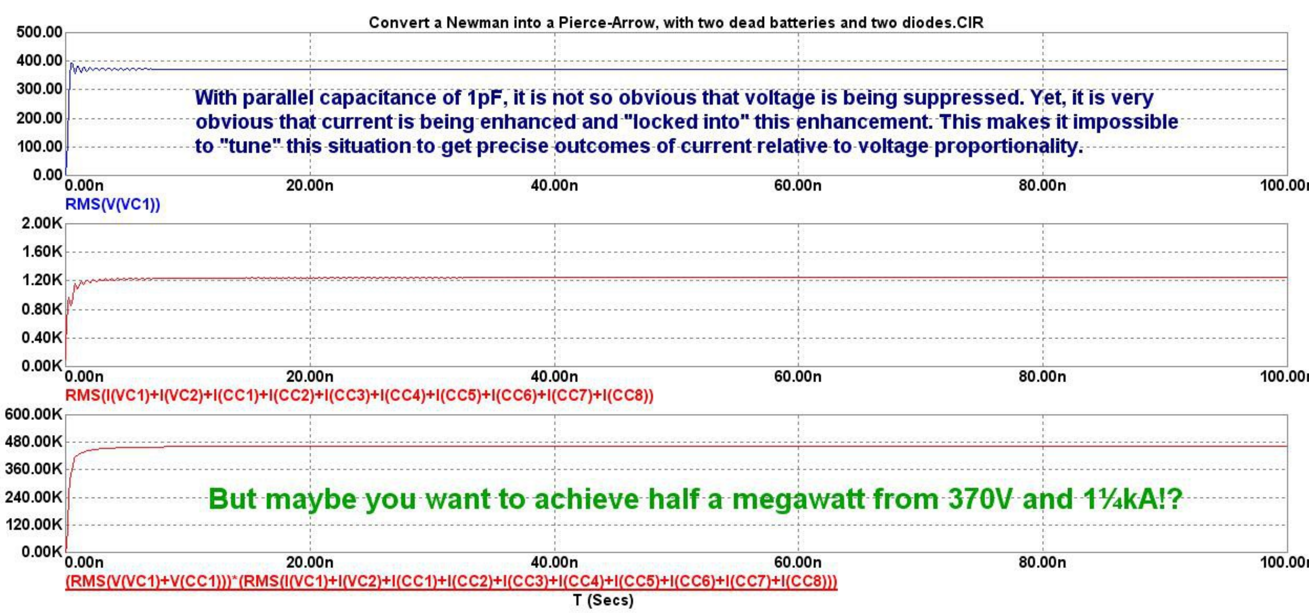
The next image has had its parallel capacitances of all of its coils increased to 1pF (1e-12 Farads; one pico Farad)...



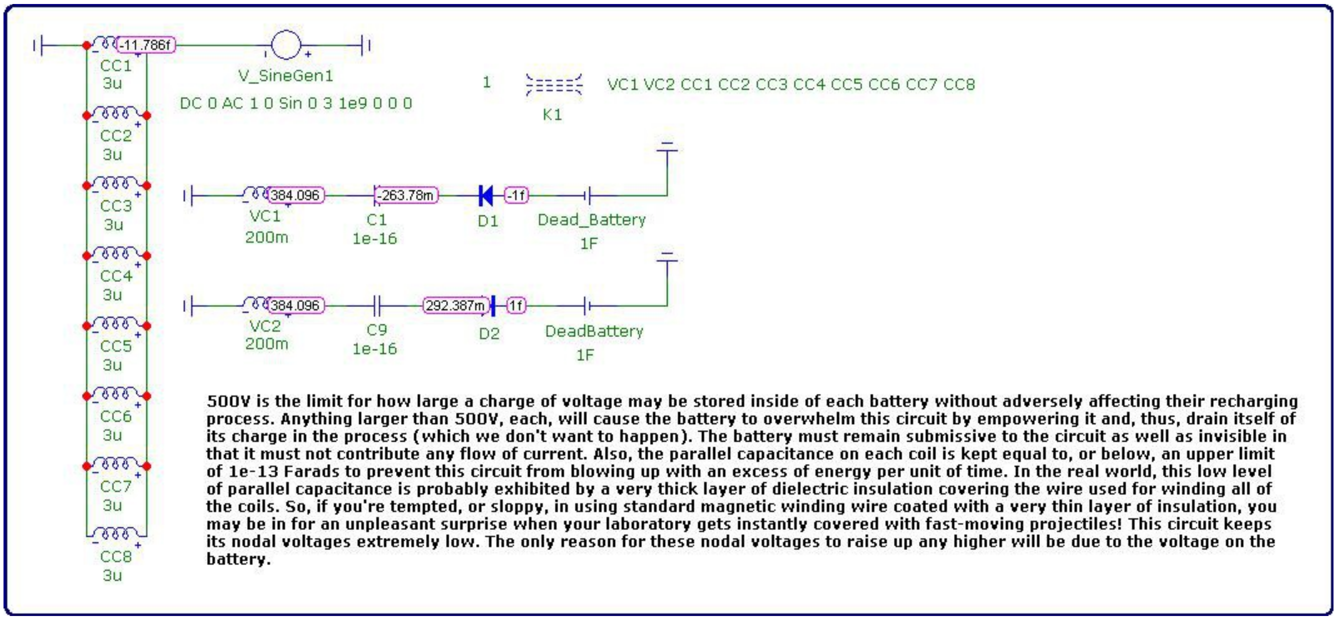

See what a difference a little extra padding of insulation can make? Enough to make the head spin...

These details are merely a few examples of pitfalls awaiting the engineer who endeavors to exceed common sense. These failures could easily destroy what little confidence we have already – considering how much lethargy and resistance to new ideas is pandemic throughout our collective consciousness.

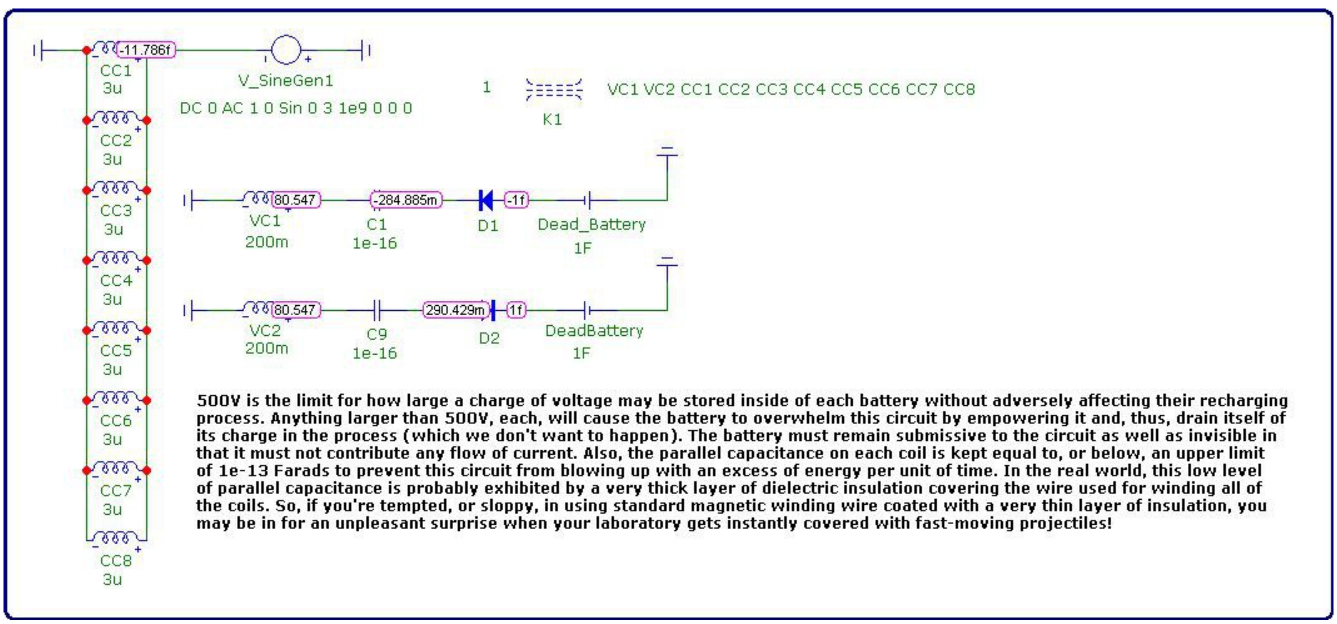
In the next image, I've attempted to duplicate this problem in Micro-Cap (of using wire whose insulation is not thick enough to insure success) with similar results...



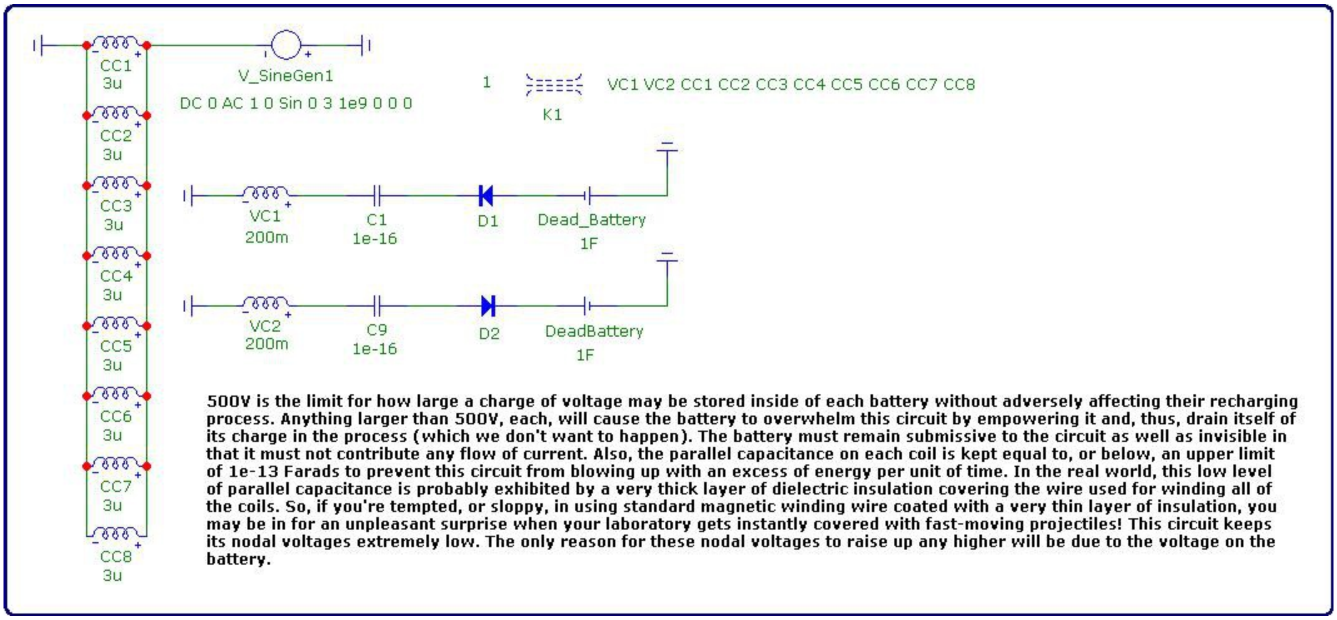
Here are the nodal voltages when the parallel capacitance is 1pF...




Here are the nodal voltages when parallel capacitance is *not* included...



And here is the schematic without displaying the nodal voltages...




I made the following adjustment to the stator coils by eliminating their multiple parallel instances in favor of merely one stator coil since only one is needed to amplify/exhibit voltage. Yet, I retained the numerous rotor coils. In fact, adding more rotor coils may make it possible to reduce the high input frequency (along with other adjustments required in response to this one adjustment) since each rotor coil adds current to this circuit's performance. This may be why Tesla Motors uses a multifilar winding on their rotor coil?

The next adjustment I made was to refer to the motor performance characteristics of a RAV4 EV from the $1^{st}$ generation era spanning the years between 1998 when they first came out and 2003 when Toyota terminated them. These parameters are available, online, from... http://evnut.com/

Then, I applied impedance and reactance formulae to compute a guess-estimate of how much inductance was being used by the RAV4EV's twin A/C motors so as to make my simulation more accurate...

$$Phase\ Voltage = Line\ Voltage \div 2$$

$$172.5\text{V} = 345\text{V} \div 2$$

$$Impedance = Phase\ Voltage \div Line\ Current$$

$$837\text{m}\Omega = 172.5\text{V} \div 206\text{V}$$

$$Impedance = \sqrt{Reactance^2 + Resistance^2}$$

$$Reactance = \sqrt{Impedance^2 - Resistance^2}$$

$$Reactance = \sqrt{Impedance^2 - Resistance^2}$$

$$4.35\text{k}\Omega \times \sqrt{-1} = \sqrt{837\text{m}\Omega^2 - 4.35\text{k}\Omega^2}$$

Since the contribution of the reactive component is so small, I get to ignore it and merely focus on the resistance. And since I don't know how to deal with imaginary parameters, I'll ignore that as well.

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It turns out that electric motors are largely inefficient due to their back EMF resulting from Lenz Law. As much as 80% of their voltage is wasted by its inversion of polarity.

So, if I take the fully charged, pack voltage of the RAV4EV's twenty-four 12V NiMH batteries of 288V and multiply by the reciprocal of 80%, namely: the factor of 1.25, then I get 360V as a maximum voltage (just as 288V is the maximum charge state for the RAV4EV's battery pack).

As I recall, the person who developed the motor controller for the General Motors EV1, Alan Cocconi, used an average of between 330V and 360V for his development of the hybrids' recharging system while cruising at 50-60mph on the highway delivering 50A to top off the battery pack of the 2001 RAV4EV and still have enough left over to power its motor while it cruised along. It could then use its full battery pack whenever it needed to accelerate. These are the stats which I use whenever I try to simulate energy saving solutions to the range limitations of battery-based EV's...

http://www.tzev.com/2001_rxt-g_library.html

So, I use an average of 345V, as my target/goal, along with the RAV4EV's full-throttle current of 206A to simulate the worst-case scenario of accelerating up a hill for prolonged periods of time.

Assuming a rotation speed of approximately 11k RPM for the RAV4 EV moving along at 100mph, I plug 180Hz into the following formula after swapping variables around a bit...

$$Reactance_{Inductive} = 2\pi \times Frequency \times Inductance$$

$$Inductance = \frac{Reactance_{Inductive}}{2\pi \times Frequency} \qquad \S 1$$

$$3.8458\text{H} = \frac{4.35\text{k}\Omega}{2\pi \times 180\text{Hz}}$$

All of this was based on my initial assumption of the stator coils being a combined total of 1.7H, or thereabouts.

So, the circuit's resistance, at R1 and R2 of 4.35kΩ, was due to this assumption.

But now, I get to me more accurate.

By reducing the number of stator coils to merely one coil (since only one is needed to accumulate a high-voltage and low-current characteristic within itself), and by running the simulation with this new parameter of the stator coil's inductance, I get a revised voltage different from my target of 345V. Then, I adjust the resistance at R1 and R2 to accommodate this alteration of output by multiplying a ratio against each resistor proportional to the multiplicative difference between my target and this newly revised output of voltage. Then, I plug the revised resistance into the formula, above at §1, and recompute the newly revised inductance all over again, and repeat these steps until I'm confident that I've converged upon a definitive answer of somewhat accuracy.

This is called a self-looping, iteration of approximations; a well-known mathematical process...

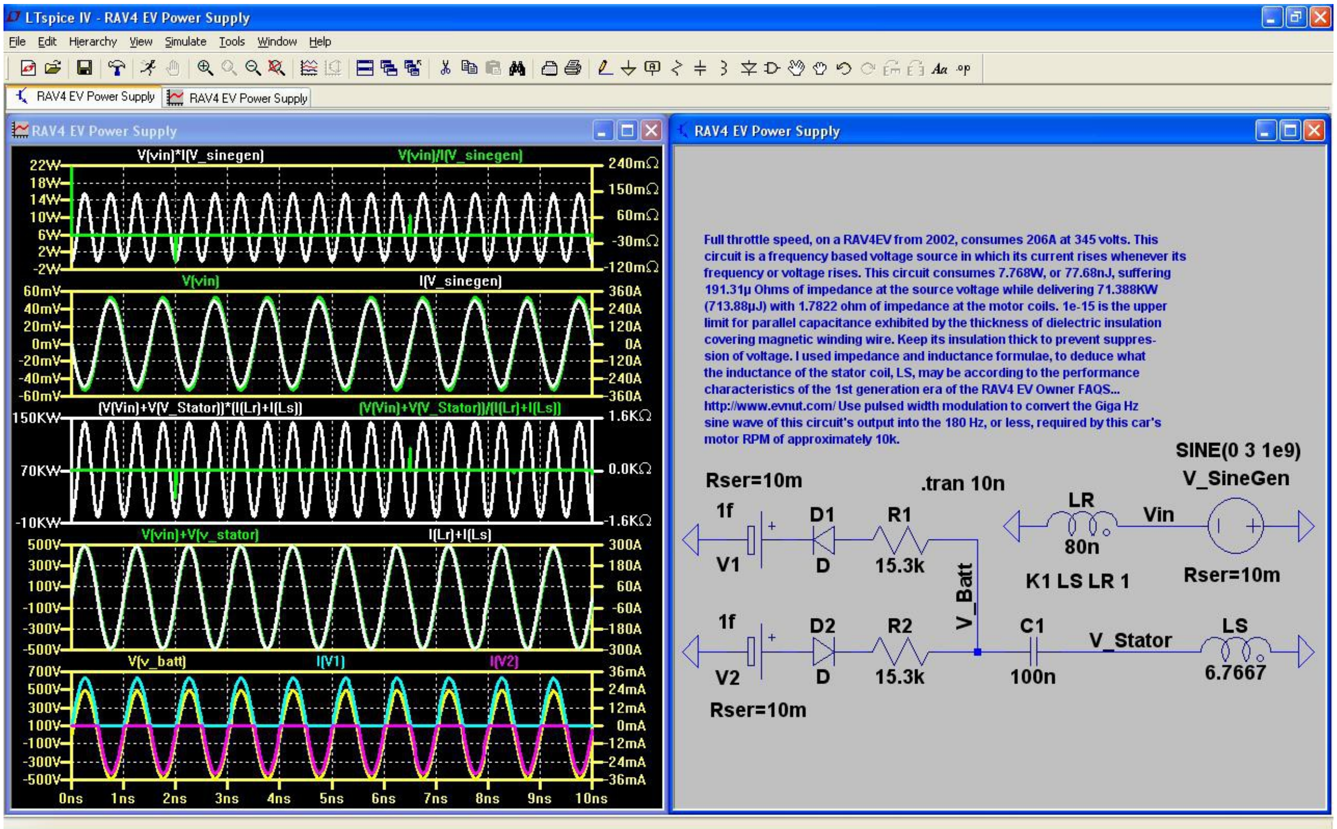
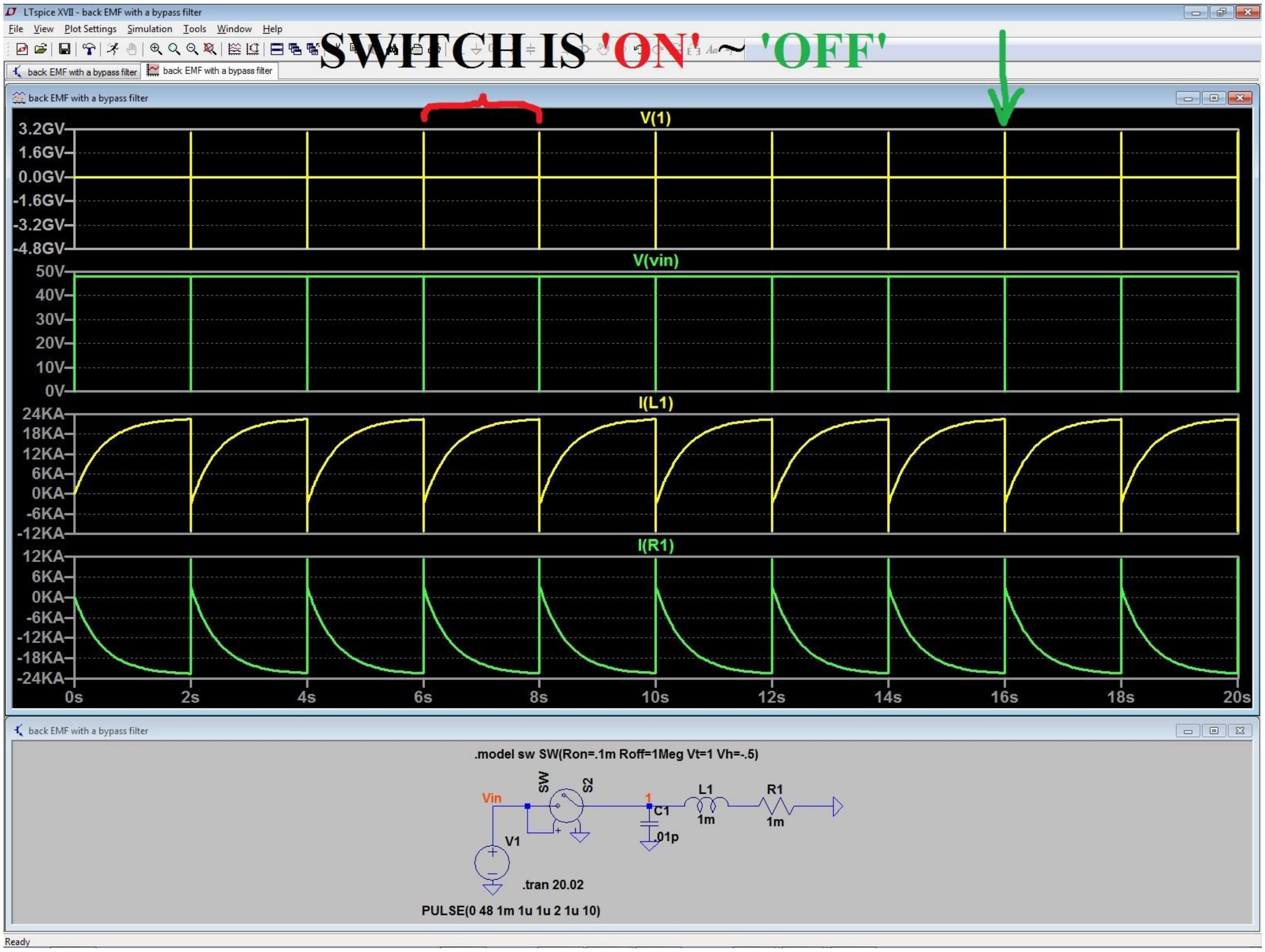



*Illustration 12: A combined resistance of 7.65Ω at R1 and R2 with an inductance at LS of 6.667H.* <u>Parallel resistances are summed by taking their reciprocals and then reciprocating their summation.</u>

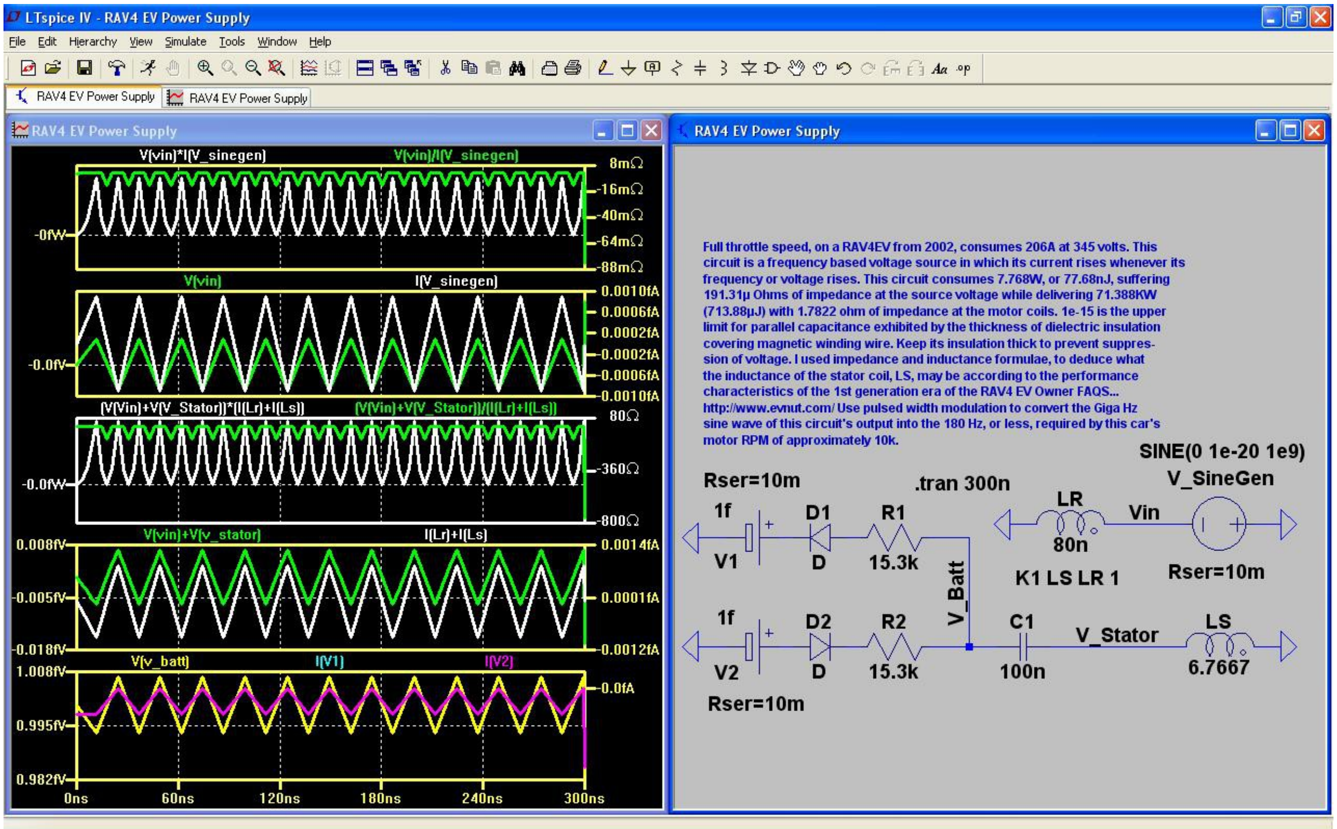
## *Referring to pages one and two of this document...*

There is something else occurring in addition to what has been described so far. Besides the tendency for the infinite release of current from a finite potential across an almost non-existent resistance simply embodied and exampled by the following test-case...



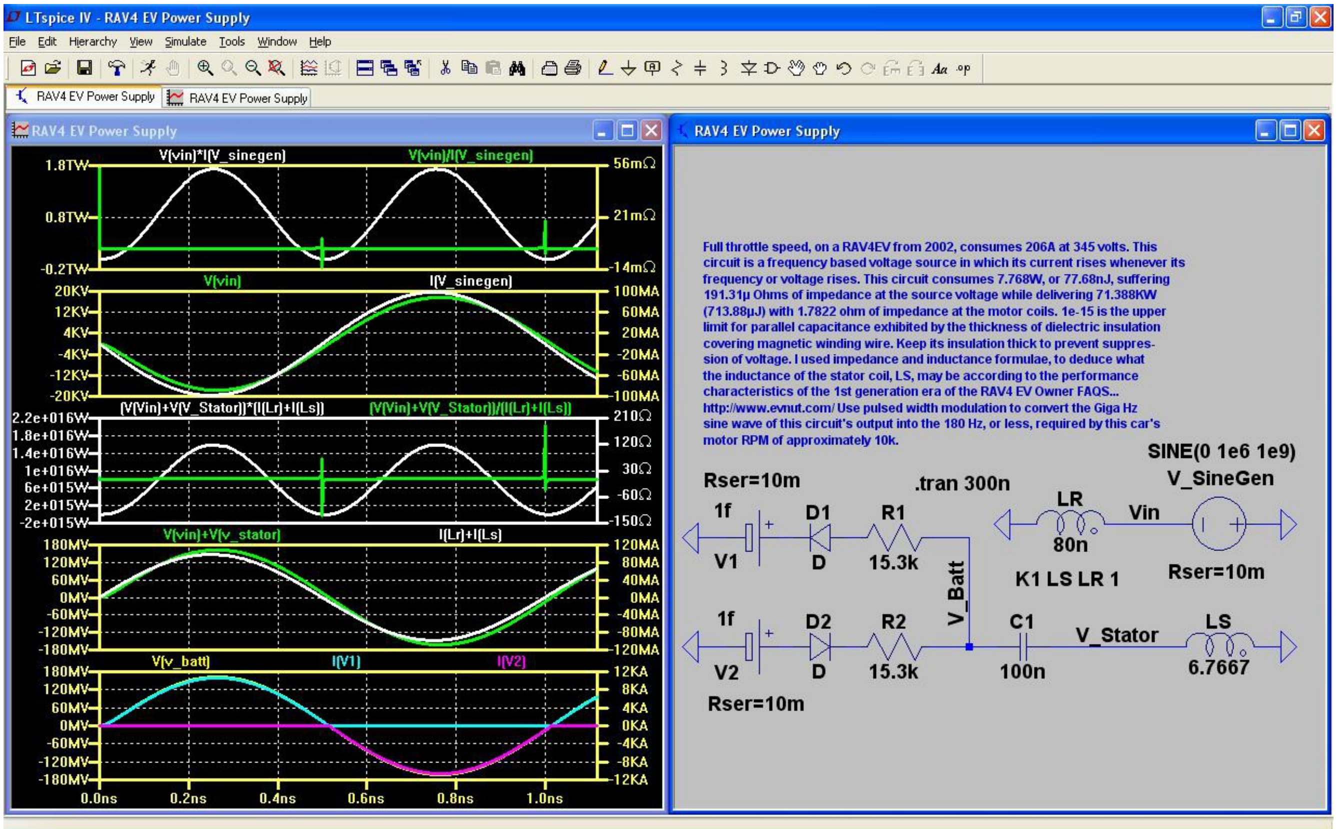

I tried decreasing the voltage input at V_SineGen expecting the output to take off towards infinite oblivion. It didn't...

See what happens when it's powered with 1e-20V for 300ns...



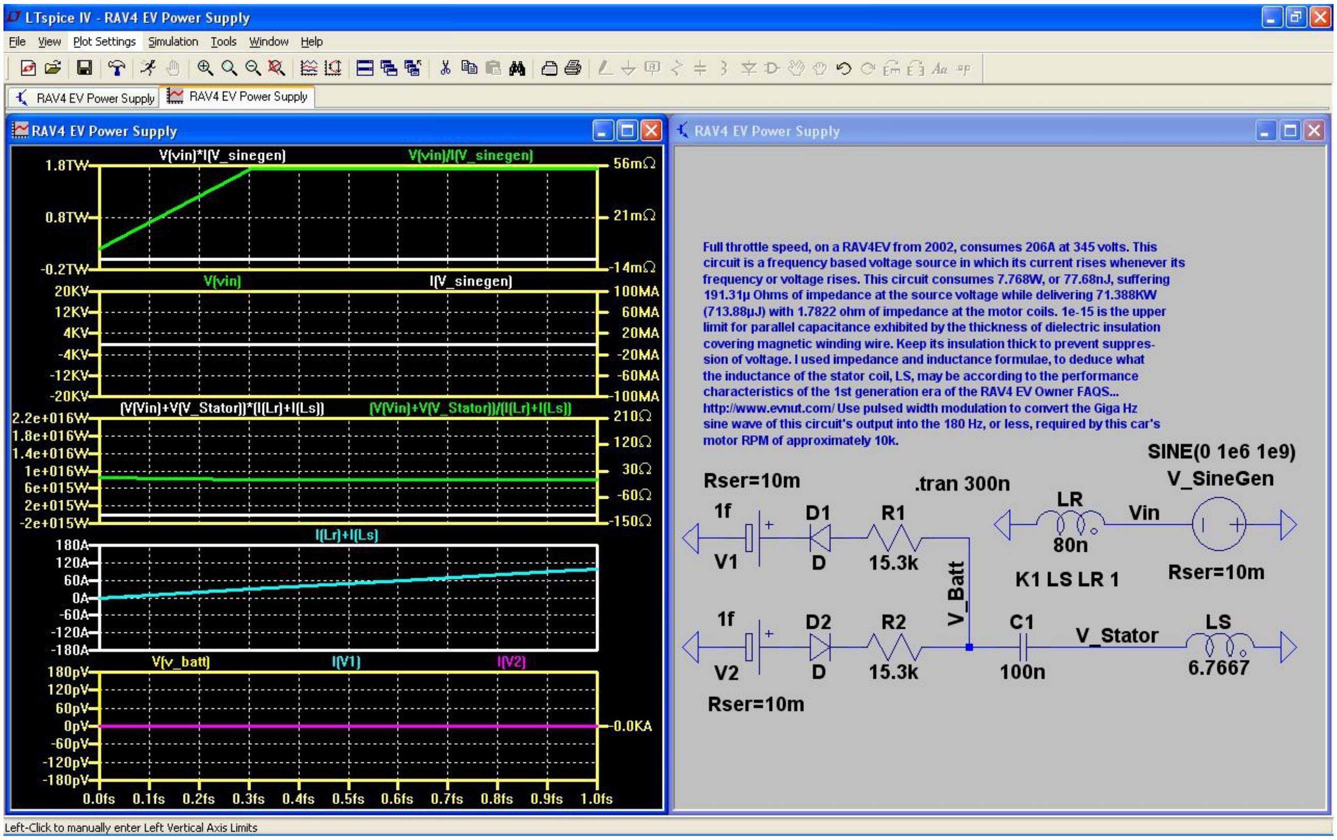

It makes triangular waveforms, instead of sine waves at both the source and the load's current and voltage fragments of power. Only the input and output wattages exhibit sine waves and merely as half-waves indicating a diodic-like nature – as if a switching action was indeed occurring?

Then I tried increasing it beyond 3V and a funny thing happened...it took longer to trace out each sine wave!




Granted, each sine wave had a greater amplitude while possessing the same frequency as before (a 1 nano second wavelength conforming to the input frequency of 1 Giga Hz). Yet, why should it take longer to trace out each wave unless another frequency is also occurring – within each line – causing a thickening of each line and a protracted duration to sketch it?

If there is a higher frequency embedded within each sine wave, then this may be the source for its enhanced amplitude?




I'm mistaken... By shrinking the duration of simulation down to a femto second, it becomes obvious that whatever additional frequency the sine waves, or triangular waves, are riding on top of, it is not your usual wave which shakes up and down like any other alternating waveform which we are familiar with.

My guess is that this other wave form is shaking side-to-side. If this is truly what is happening to prolong its virtual tracing across the computer's screen, then this would indicate a longitudinal wave... something Eric Dollard has talked about whenever referring to Tesla's telluric transmission of communications and power from Wardenclyffe. Or, his own experiments at Santa Barbara to replicate this form of transmission through solid bedrock (at 58 minutes into that YouTube video linked, above).

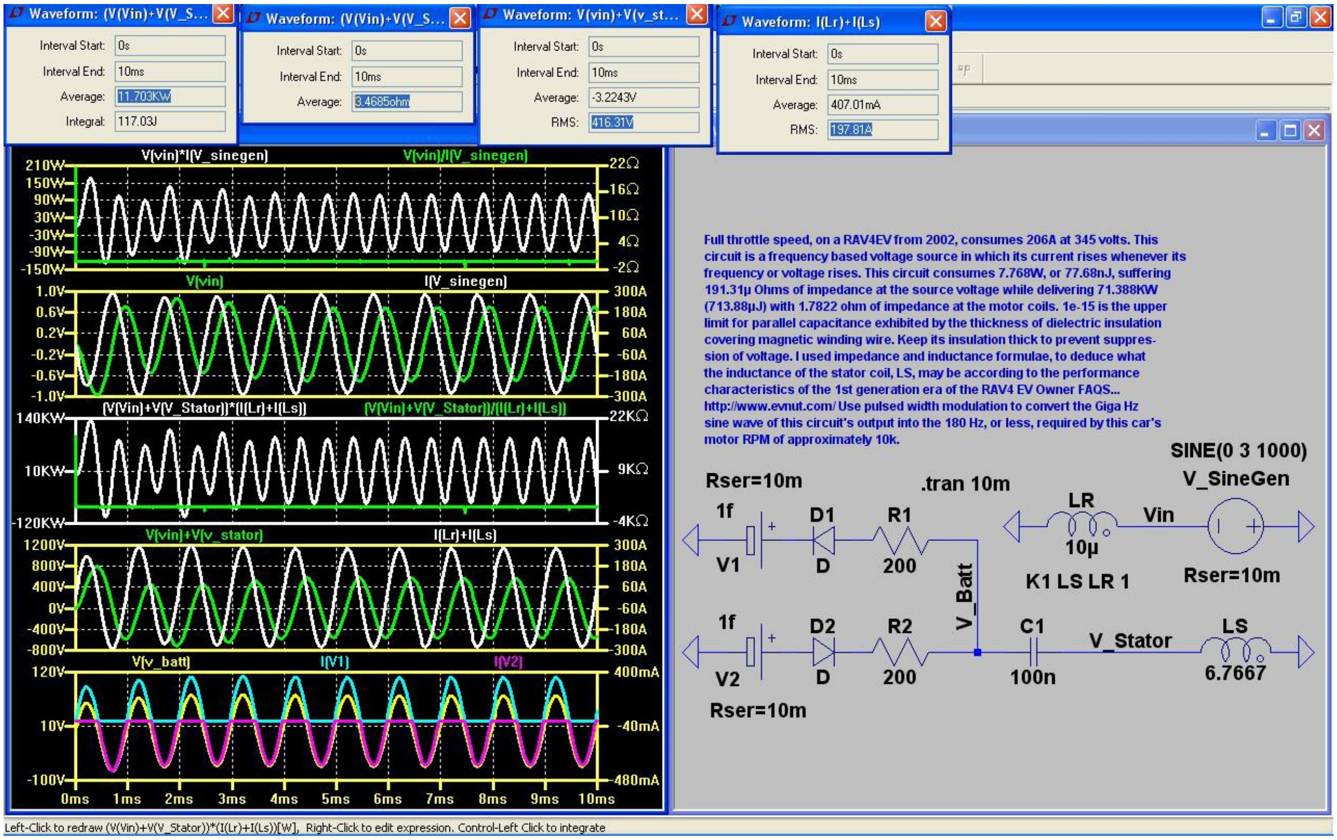
This longitudinal wave must be arising from the magnetic coupling between the rotor and the stator coils? Their large difference of inductance between them, plus their unity coupling, are a juxtaposition of two extremes which must be the foundation upon which this circuit's overunity is predicated?

---

I am mistaken...

The power for this circuit comes, partly, from its high power factor of unity since, at high frequencies of input voltage, the sine waves line up on top of each other.

In the following screenshot, the voltage output is slightly excessive while the current output is right on the mark. Yet, the output wattage is deficient by one-fifth, or so... what gives? Power Factor!



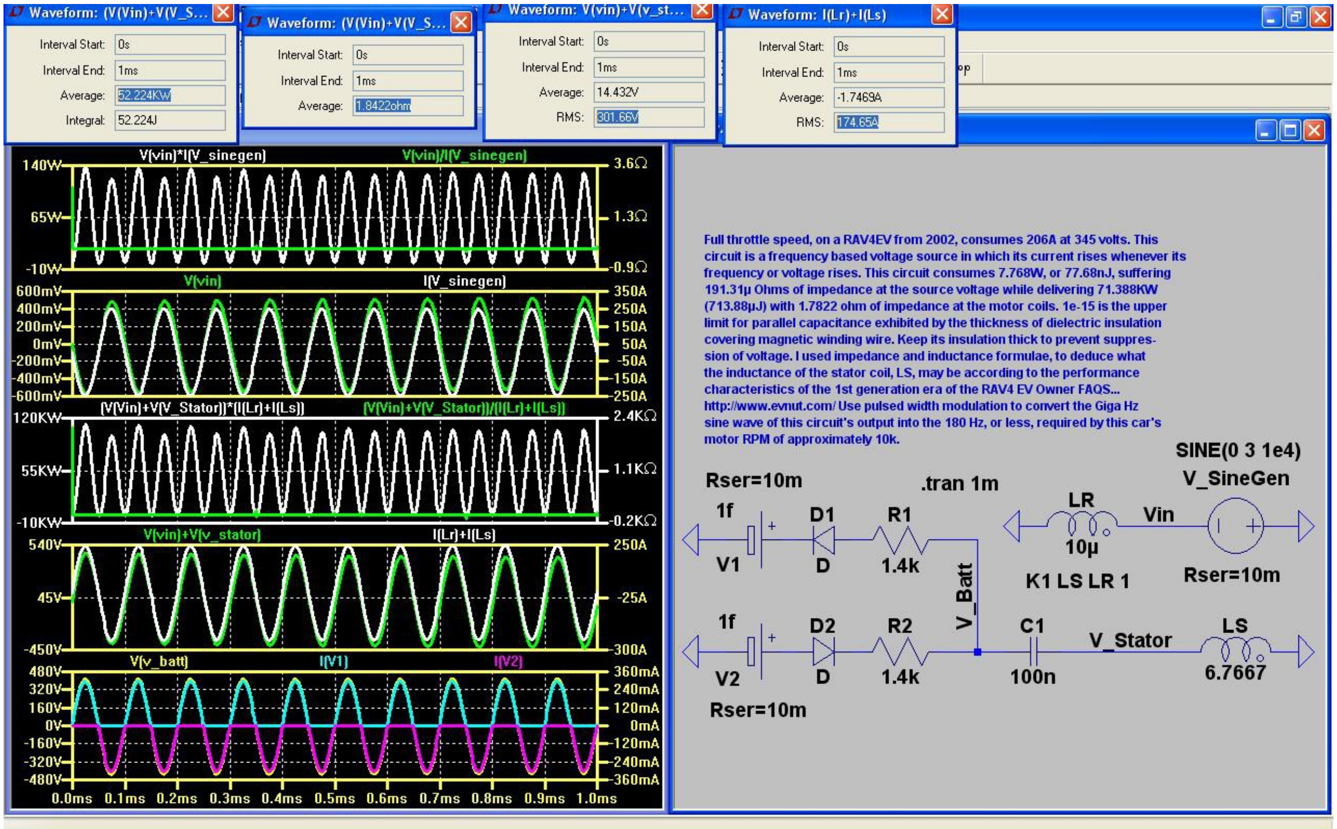

Notice how the current and the voltage waveforms are off by 90° in which the current lags the voltage by that amount of phase shift? This is considered to be standard behavior for a coil of wire to exhibit this thermodynamic loss of efficiency.

So, I'm boasting... why must it be standard? Surely, these simulations decry otherwise? That what is standard should really be considered to be substandard?

So, we're going to have to use pulsed width modulation of this circuit's ouptut to fake a slower frequency for the sake of rotating the motor's shaft. There's no other way around it that I can think of....

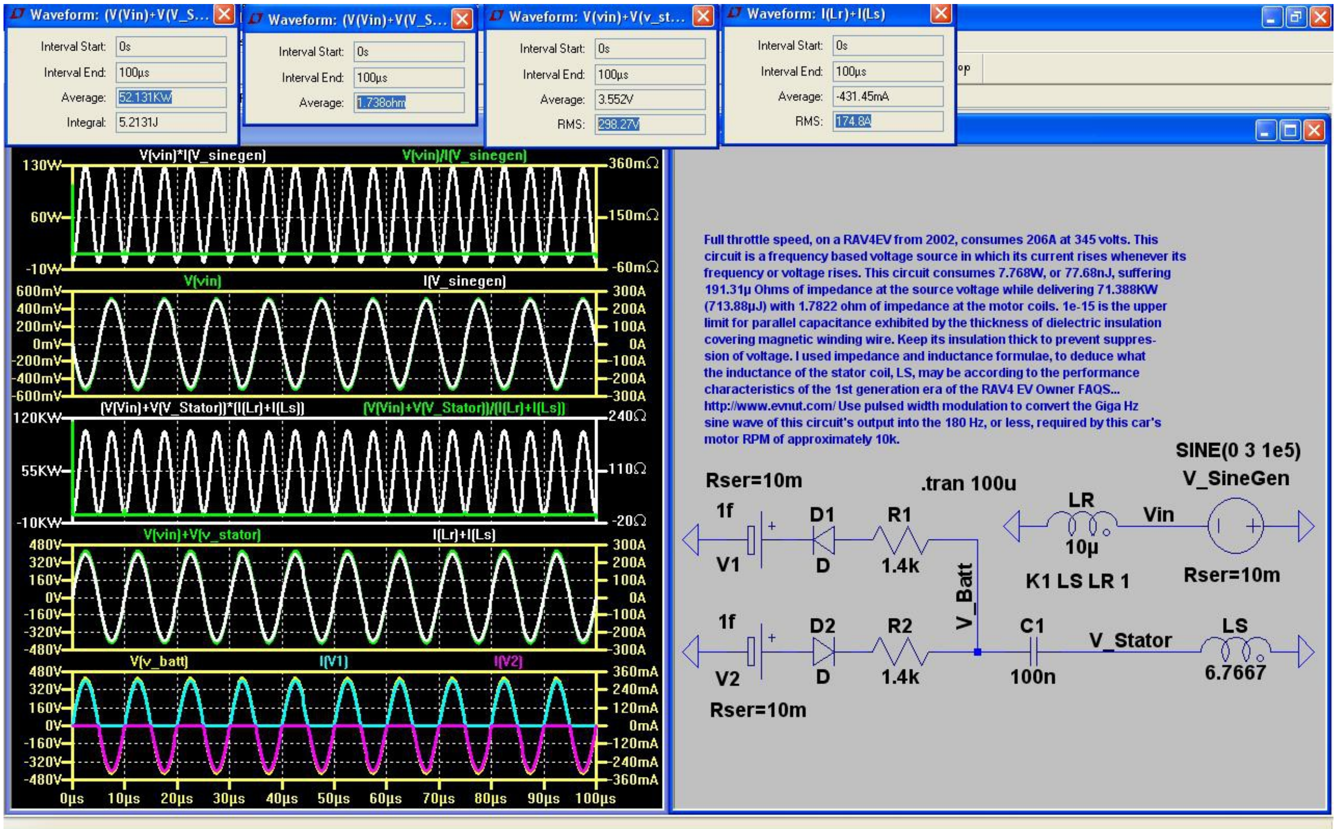
BTW, I left out the data (from this latest screenshot, above) demonstrating how the input wattage is also elevated due to this same phenomenon affecting itself, namely: poor power factor efficiency.

So, in this state of depravity, this circuit is wasting power by consuming too much and exhibiting too little in comparison to what would happen if the frequency were to be raised upwards to around 10kHz?...



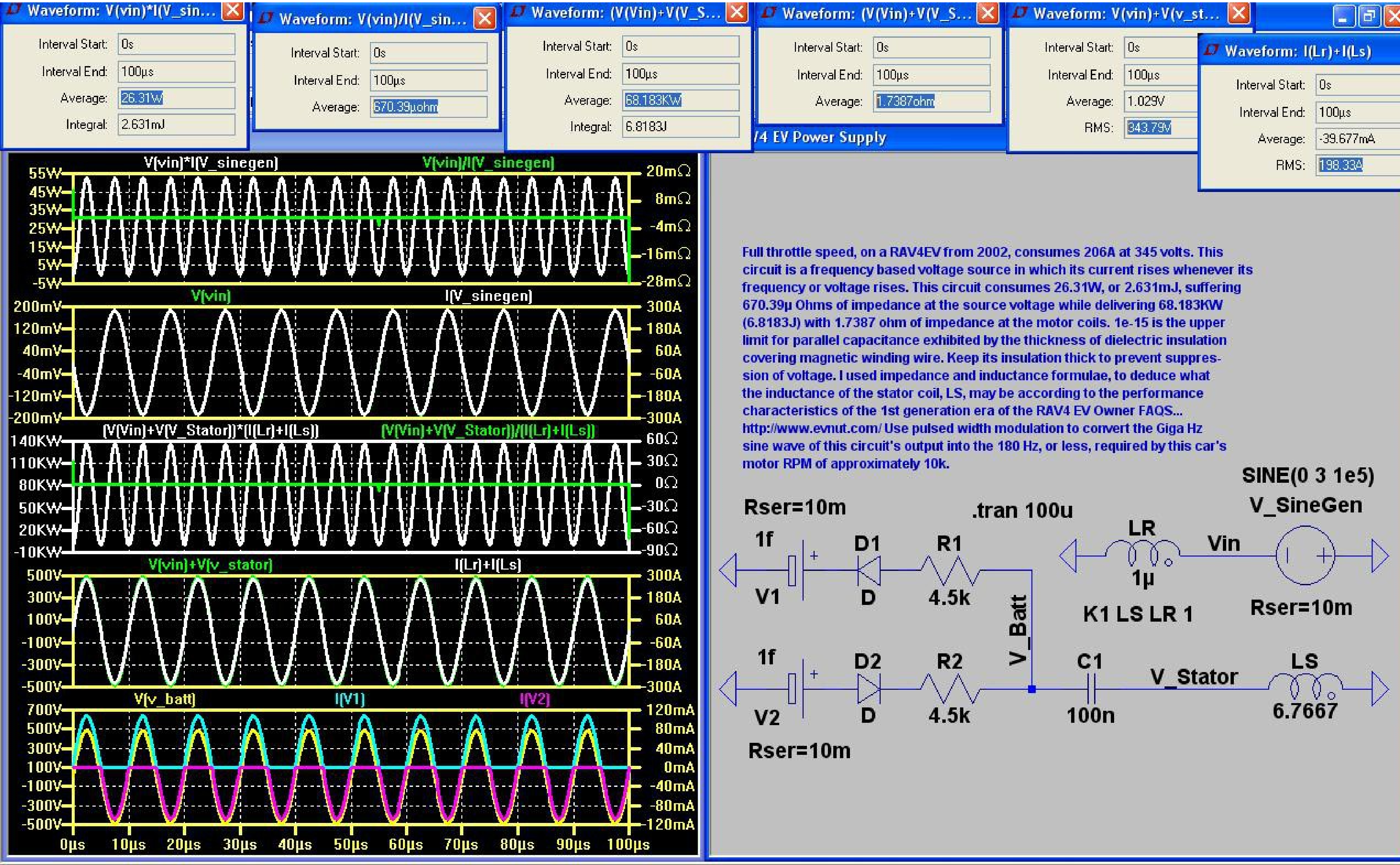

Notice how there is still some lagging of current behind voltage? Not much; but enough to keep the efficiency (its coeffiency of performance) down.

Here, in the following example, the input frequency has been raised to 100kHz. I think this should be taken to be the minimum requirement for maximizing efficiency...




Now, all that has to happen is to raise the overall power level since the impedance is at my target of about 1.7 Ohms, yet the output remains short of my target of approximately 70kW.

So, I think the rotor's inductance has to be reduced, somewhat...?...since the relationship between the rotor and the stator is reminiscent of a step-up transformer?...



Waveform: V(vin)*I(V_sin...
Interval Start: 0s
Interval End: 100µs
Average: 26.31W
Integral: 2.631mJ
Waveform: V(vin)/I(V_sin...
Interval Start: 0s
Interval End: 100µs
Average: 670.39µohm
Waveform: (V(Vin)+V(V_S...
Interval Start: 0s
Interval End: 100µs
Average: 68.183KW
Integral: 6.8183J
Waveform: (V(Vin)+V(V_S...
Interval Start: 0s
Interval End: 100µs
Average: 1.7387ohm
/4 EV Power Supply
Waveform: V(vin)+V(v_st...
Interval Start: 0s
Interval End: 100µs
Average: 1.029V
RMS: 343.79V
Waveform: I(Lr)+I(Ls)
Interval Start: 0s
Interval End: 100µs
Average: -39.677mA
RMS: 198.33A
V(vin)*I(V_sinegen)
V(vin)/I(V_sinegen)
V(vin)
I(V_sinegen)
(V(Vin)+V(V_Stator))*(I(Lr)+I(Ls))
(V(Vin)+V(V_Stator))/(I(Lr)+I(Ls))
V(vin)+V(v_stator)
I(Lr)+I(Ls)
V(v_batt)
I(V1)
I(V2)
0µs 10µs 20µs 30µs 40µs 50µs 60µs 70µs 80µs 90µs 100µs
Full throttle speed, on a RAV4EV from 2002, consumes 206A at 345 volts. This circuit is a frequency based voltage source in which its current rises whenever its frequency or voltage rises. This circuit consumes 26.31W, or 2.631mJ, suffering 670.39µ Ohms of impedance at the source voltage while delivering 68.183KW (6.8183J) with 1.7387 ohm of impedance at the motor coils. 1e-15 is the upper limit for parallel capacitance exhibited by the thickness of dielectric insulation covering magnetic winding wire. Keep its insulation thick to prevent suppression of voltage. I used impedance and inductance formulae, to deduce what the inductance of the stator coil, LS, may be according to the performance characteristics of the 1st generation era of the RAV4 EV Owner FAQS... http://www.evnut.com/ Use pulsed width modulation to convert the Giga Hz sine wave of this circuit's output into the 180 Hz, or less, required by this car's motor RPM of approximately 10k.
SINE(0 3 1e5)
V_SineGen
Rser=10m
.tran 100u
1f
V1
D1
D
R1
4.5k
LR
1µ
Vin
K1 LS LR 1
Rser=10m
V_Batt
1f
V2
D2
D
R2
4.5k
C1
100n
V_Stator
LS
6.7667
Rser=10m

## *It's not that a magnetic coupling coefficience of unity is unattainable, so much as it's not useful that is its most telling feature...*

...due to how we achieve it.

We emulate Oliver Heaviside's condition which serves as a mathematical solution to the trans-Atlantic, telegraph cable problem of the late 1800s by surrounding a copper cable with an iron wrapping to induce magnetic remanence. This is called: a Krarup cable, named in honor of its inventor: a Danish engineer, by the name of: Carl Emil Krarup. This is equivalent to saying that the iron wrapping grabs hold of the magnetic field surrounding the copper wire with a tight grip and doesn't let go. The iron wrapping remembers the magnetic field and reminds the copper wire not to forget it. This is one way to keep both the magnetic and the dielectric fields (surrounding a copper wire) in phase with each other as they traverse great distances, or *through large inductances within overunity circuits* [;-) without loss of integrity, ie. without loss of synchronous phase relation.

The other way to do this would have been to do what the utility companies presently do: they space large banks of capacitors every hundred miles along a transmission line to retard the dielectric potential so that it doesn't get ahead of the magnetic wave dragging along behind it. *[Remember? Current always lags behind voltage in an inductor of low frequency (as we've seen, above), as well as within a conductor (since a conductor is an unwrapped inductor stretching out for miles in some cases).]*

Loads are, by their nature, thermodynamic in as much as a load *must* dissipate its energy or risk losing its status of being a useful appliance.

So, the Heaviside solution to the telegraph problem of his era will give us a unity, or nearly unity, magnetic coupling coefficience. But it will also give us no output until we make allowance for its disturbance by unwrapping some of the iron surrounding a copper conductor to encourage it to dissipate its kinetic energy!

This is verified by an experiment made popular 90 years ago (although he was not its inventor) by Edward Leedskalnin, called: a Perpetual Motion Holder.

Now... Before you get all upset over thinking that I am going to start talking about a perpetual motion machine, pause and take due notice of my warning.....such is not the case.

A perpetual motion holder is a simple experiment any school child can perform to exhibit the properties of magnetic remanence. This property was commercially put to good use inside of the permanent memory banks of computers of the era spanning the years between 1955 and 1975.

A ferrite ring had two copper strands of wire passing through it. Many of these rings were arranged in a grid pattern wherein the intersection of many horizontal and vertically oriented strands of copper wire criss-crossed. And where ever they crossed was where a ring was placed surrounding that intersection.

That ferrite ring remembered whatever one or zero state of information that was stored in that ring for eternity. Not until a new arrangement of energized wires could change that energy-state did anything change inside that ferrite ring. As Sir Isaac Newton once proclaimed, “Energy in motion tends to stay in motion until acted upon by a contrary motion.”

So, Oliver Heaviside was putting Newton's Law of Motion to good use. And so were computer scientists of a bygone era. In modern radio technological terminology, we call this solution a “loading coil” or a loaded inductor. Wrapping insulated copper wire with Mu-metal, or Permalloy tape, has been used to great advantage.

Well....We may choose to do, likewise, if we should want to achieve a nearly unity magnetic coupling among inductors. This is what Nathan Stubblefield did as described in his Electric Battery patent, so why don't we?

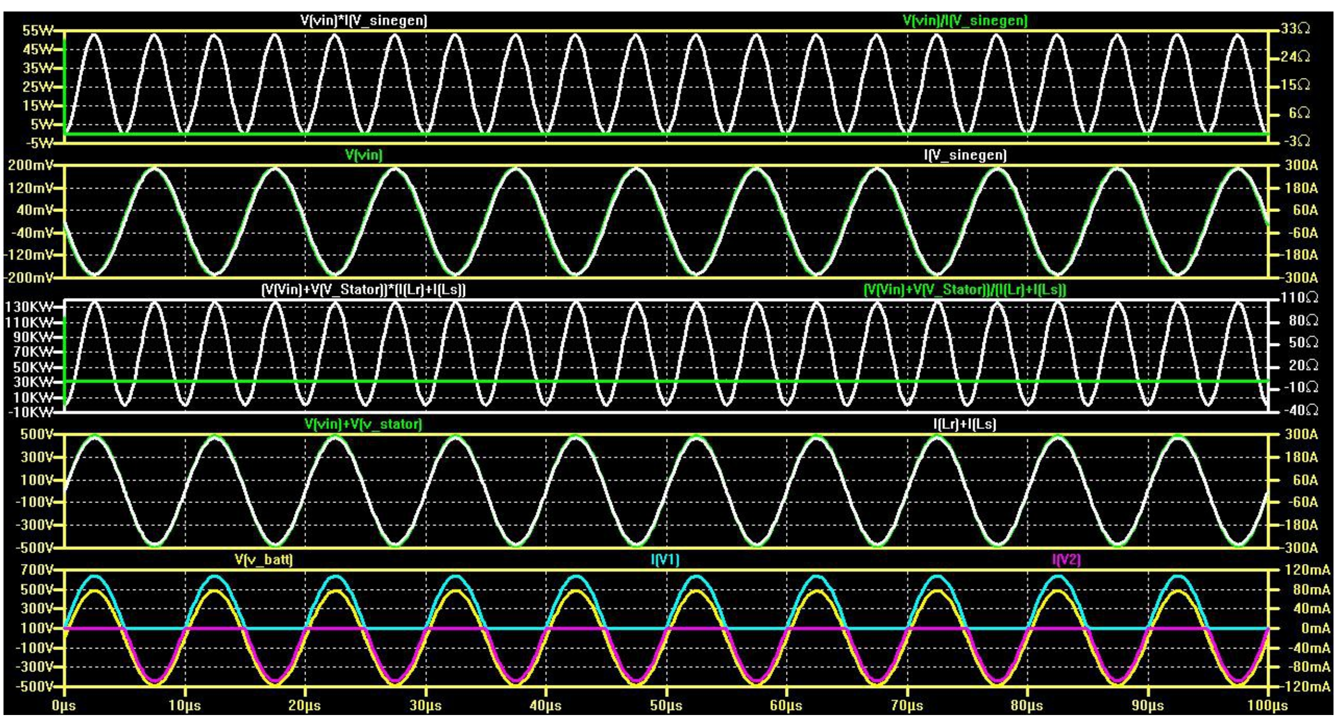
It was discovered some years after Oliver's solution was put into effect that it was advantageous to taper the thickness of the bare of iron wrapping at both ends of the transmission cable for several miles adjacent to each terminus of that cable.

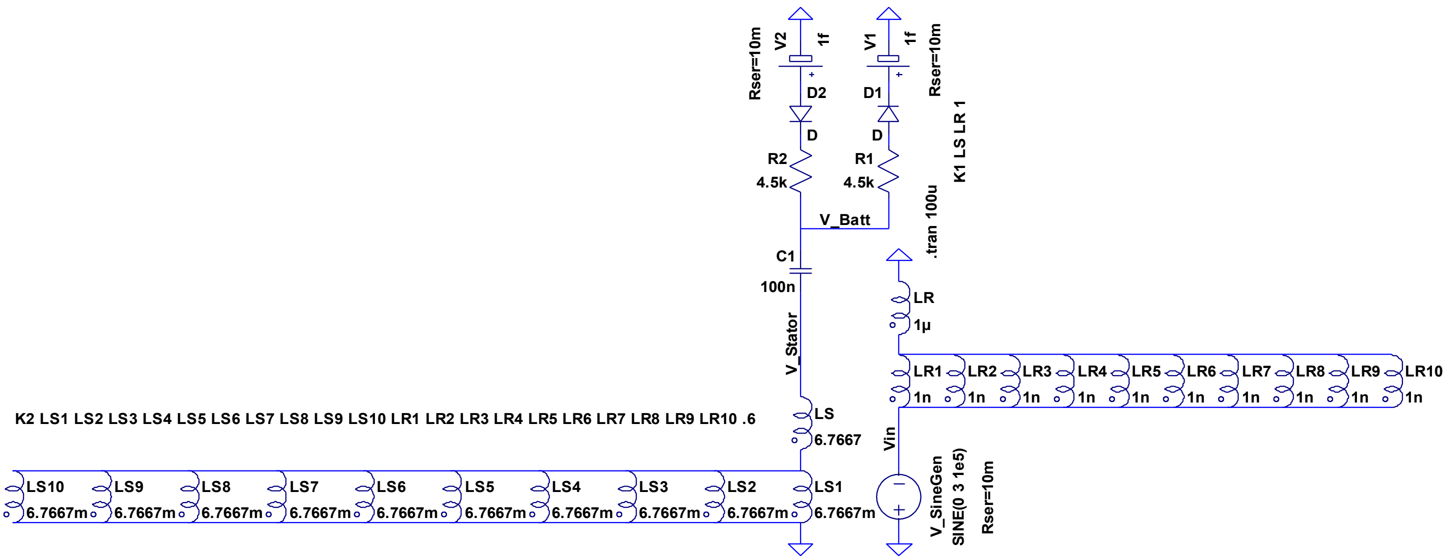
So, that is what I am proposing in the LTSPICE simulation, below, is an incremental-styled tapering by dividing up the coils into two parts: one part, the main part, has the high coupling coefficience which shall be represented (ie., built) with an extensive use of iron wrapping each strand of copper winding surrounding a transformer core. A smaller portion the circuit's total inductance shall be composed of an additional set of rotor and stator inductances, yet, only this time, this smaller pair of inductances shall not be of a unity magnetic coupling, but shall be more similar to a single-phase induction motor of an average of 60% (spanning a high of 70% and a low of 50% representing the separation in space, the gap existing, between the rotor and its associated stator).

This gap is what is needed to make it possible for the rotor to spin. For without this gap, the rotor would continue to be fused with its stator and tightly cowound with it on the same core and, thus, unable to rotate. It's separation from the stator makes its rotation possible, but also has the consequence of reducing its magnetic coupling to a value which is below unity of coefficience

---

By placing a duplicate set of rotor and stator coils connected in series with each in which the second set of coils is one thousandth times smaller in its inductance, and multiplying the quantity of these smaller coils by a factor of 10 (as a partial test case; 1,000 would have been the correct quantity), and connecting all of these smaller coils to each other in parallel with each other, but in series with the parent coil which spawned them, and magnetically coupling all of these 20 coils together using a coefficience of 60%, I am able to maintain a close approximation of performance (by comparison to not adding any of these additional coils) with a mere increase of wattage by a factor of 0.044%.



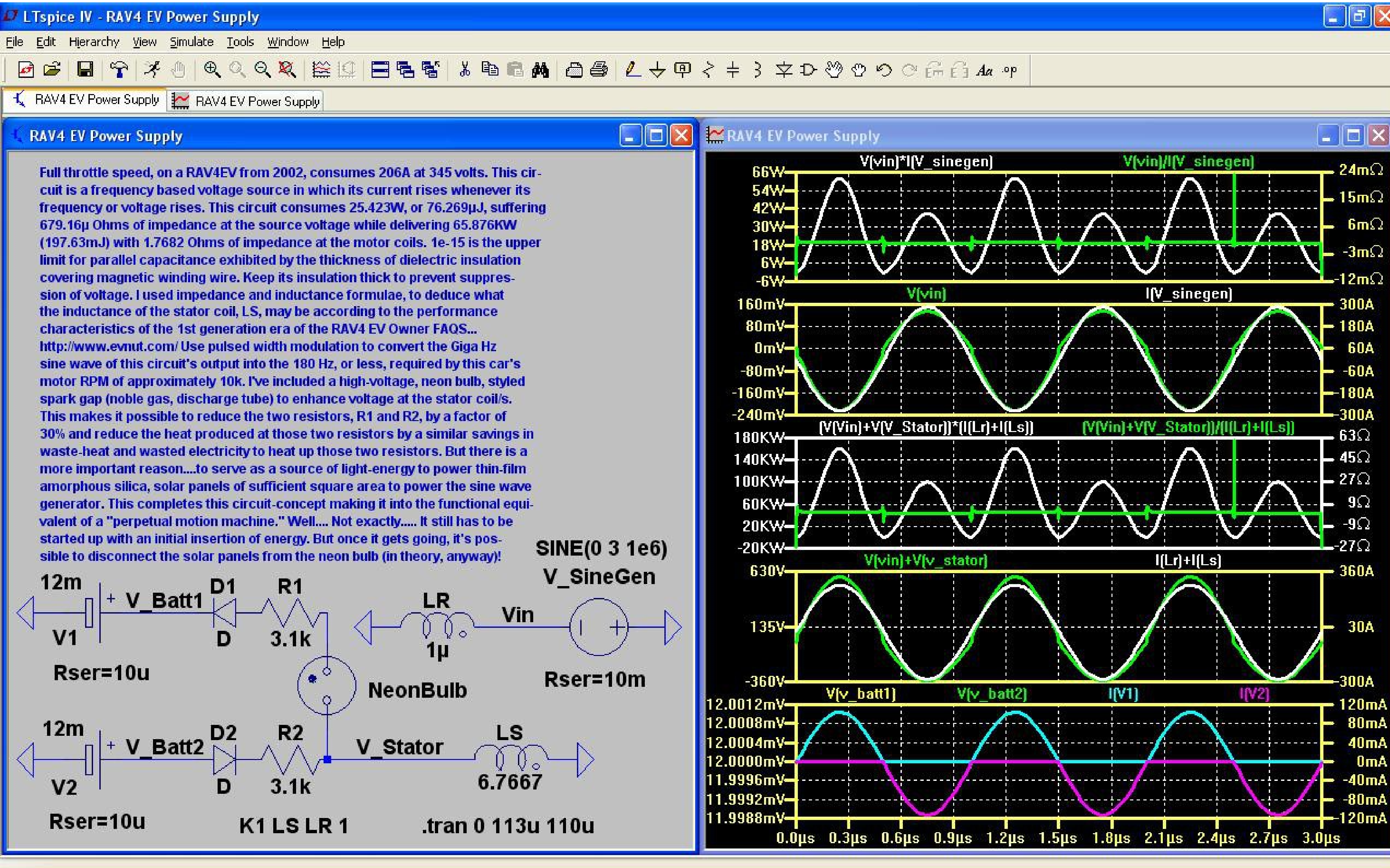



***How do we make this circuit concept a self-perpetuating, self-looping phenomenon?***

~~By adding a noble gas, discharge bulb filled with something like: helium, or neon, or argon, etc., and use it to illuminate a thin-film, amorphous silica, solar panel sufficiently large enough in square area to power this circuit's sine wave generator.~~

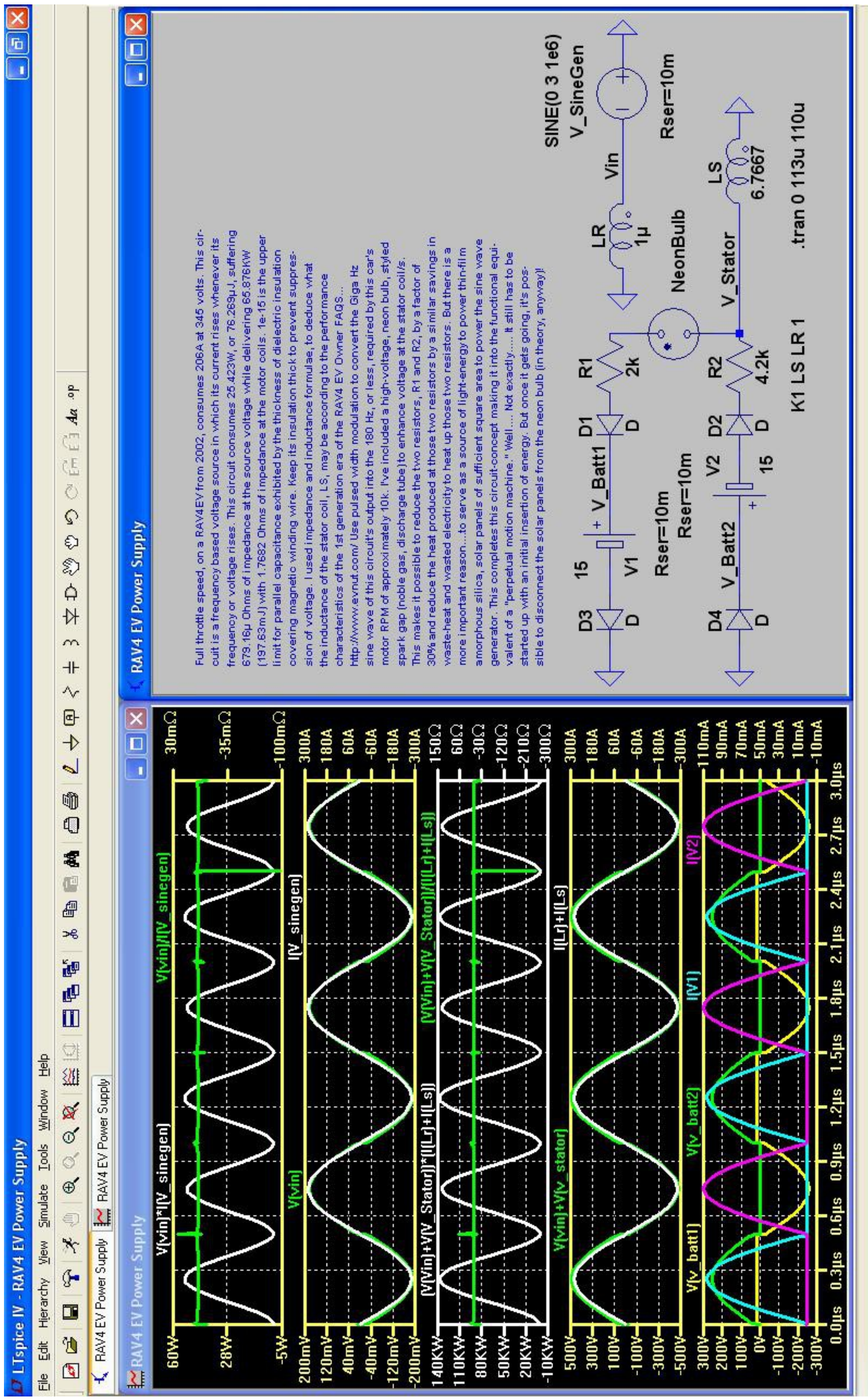
Or, by using the output from a small, A/C motor wired backwards to produce a sine wave from its rotary motion. Under simulation, any other option does not work! This A/C motor would, initially, be mechanically powered by a D/C motor to start-up from a cold-start followed by a belt-drive coming from the EV's motor once the car is in motion. This tiny A/C motor would be rewound with wire suitable for tolerating high amperages bombarding it from outside itself (coming from the overall circuit) on the order of 300 amps, peak to peak; yet, would merely be required to output voltage on the order of less than 200 millivolts RMS.

~~I could have hoisted a heavy cable up to a height of 500 feet, or so, to acquire a voltage difference with the ground's potential of 12V, but I'd rather come up with something more self-contained and self-reliant.~~ ~~*{9V is enough to power a digital sine wave generator; but, 12V gives a cleaner, crisper signal shape.}*~~

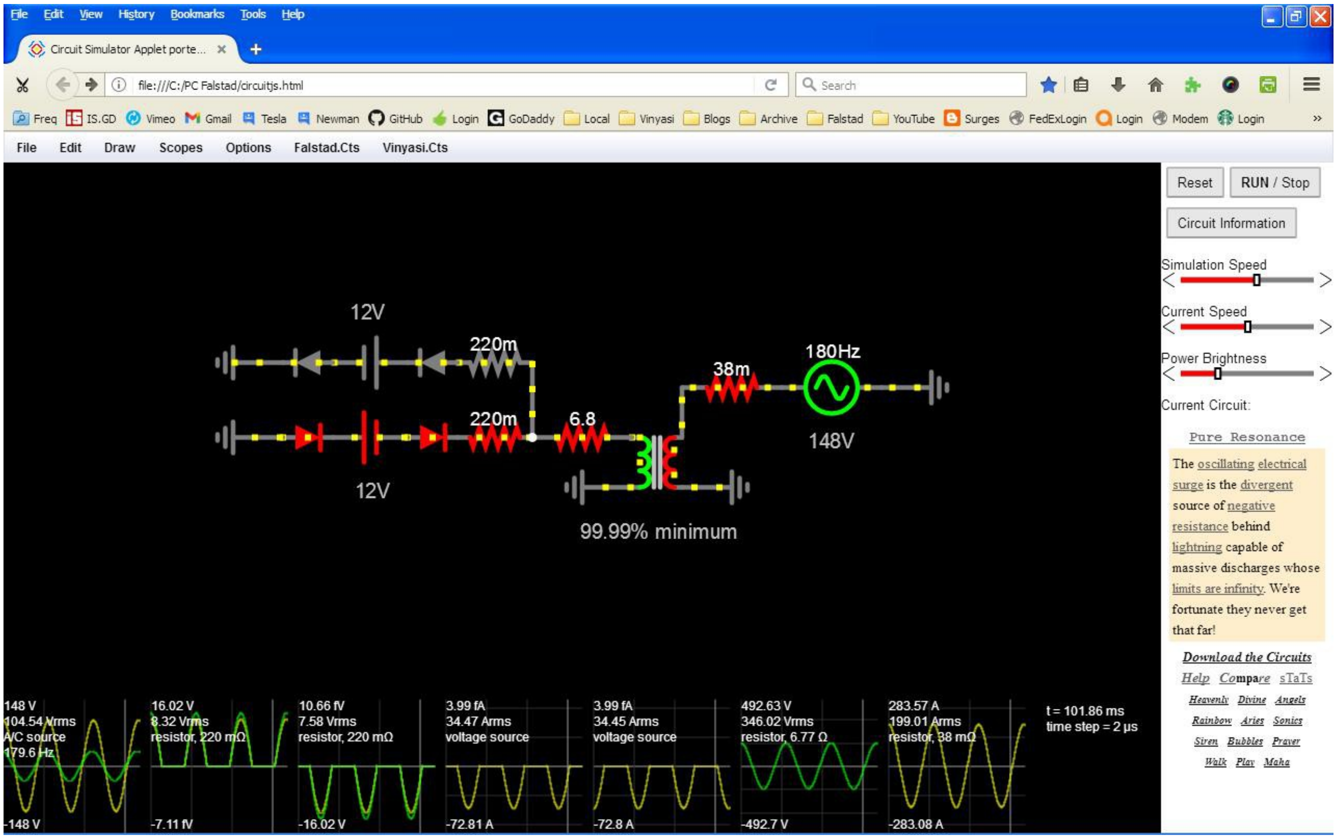


LTspice IV - RAV4 EV Power Supply
File Edit Hierarchy View Simulate Tools Window Help
RAV4 EV Power Supply
RAV4 EV Power Supply
RAV4 EV Power Supply
Full throttle speed, on a RAV4EV from 2002, consumes 206A at 345 volts. This circuit is a frequency based voltage source in which its current rises whenever its frequency or voltage rises. This circuit consumes 25.423W, or 76.269µJ, suffering 679.16µ Ohms of impedance at the source voltage while delivering 65.876KW (197.63mJ) with 1.7682 Ohms of impedance at the motor coils. 1e-15 is the upper limit for parallel capacitance exhibited by the thickness of dielectric insulation covering magnetic winding wire. Keep its insulation thick to prevent suppression of voltage. I used impedance and inductance formulae, to deduce what the inductance of the stator coil, LS, may be according to the performance characteristics of the 1st generation era of the RAV4 EV Owner FAQS... http://www.evnut.com/ Use pulsed width modulation to convert the Giga Hz sine wave of this circuit's output into the 180 Hz, or less, required by this car's motor RPM of approximately 10k. I've included a high-voltage, neon bulb, styled spark gap (noble gas, discharge tube) to enhance voltage at the stator coil/s. This makes it possible to reduce the two resistors, R1 and R2, by a factor of 30% and reduce the heat produced at those two resistors by a similar savings in waste-heat and wasted electricity to heat up those two resistors. But there is a more important reason....to serve as a source of light-energy to power thin-film amorphous silica, solar panels of sufficient square area to power the sine wave generator. This completes this circuit-concept making it into the functional equivalent of a "perpetual motion machine." Well.... Not exactly..... It still has to be started up with an initial insertion of energy. But once it gets going, it's possible to disconnect the solar panels from the neon bulb (in theory, anyway)!
12m
V1
V_Batt1
Rser=10u
D1
D
R1
3.1k
12m
V2
V_Batt2
Rser=10u
D2
D
R2
3.1k
NeonBulb
LR
1µ
Vin
SINE(0 3 1e6)
V_SineGen
Rser=10m
V_Stator
LS
6.7667
K1 LS LR 1
.tran 0 113u 110u
V(vin)*I(V_sinegen)
V(vin)/I(V_sinegen)
66W
54W
42W
30W
18W
6W
-6W
24mΩ
15mΩ
6mΩ
-3mΩ
-12mΩ
V(vin)
I(V_sinegen)
160mV
80mV
0mV
-80mV
-160mV
-240mV
300A
180A
60A
-60A
-180A
-300A
(V(Vin)+V(V_Stator))*(I(Lr)+I(Ls))
(V(Vin)+V(V_Stator))/(I(Lr)+I(Ls))
180KW
140KW
100KW
60KW
20KW
-20KW
63Ω
45Ω
27Ω
9Ω
-9Ω
-27Ω
V(vin)+V(v_stator)
I(Lr)+I(Ls)
630V
135V
-360V
360A
30A
-300A
V(v_batt1)
V(v_batt2)
I(V1)
I(V2)
12.0012mV
12.0008mV
12.0004mV
12.0000mV
11.9996mV
11.9992mV
11.9988mV
120mA
80mA
40mA
0mA
-40mA
-80mA
-120mA
0.0µs 0.3µs 0.6µs 0.9µs 1.2µs 1.5µs 1.8µs 2.1µs 2.4µs 2.7µs 3.0µs

Notice how the wattage output is wobbly? Each alternate peak is higher than its neighboring peaks which come before and afterwards. This is due to the neon bulb's placement causing one branch of the two batteries to be different than the other. So, an adjustment has to be made by making one resistance greater than the other at R1 and R2...



## *I wanted to see what Paul Falstad's simulator demonstrates for comparison...*




...and I discovered that I only gain the halving of the line voltage by comparison to what the RAV4 EV normally feeds its twin A/C motors. Instead of a 24 pack of 12V batteries (exhibiting a total of 288V), I find this simulation is requiring an input of 148V close to twelve batteries which is standard for homespun, do-it-yourself EV conversions.

Oddly, by comparison to Berkeley SPICE, Paul Falstad's simulator does not promote a high input frequency. Quite the opposite, it encourages a low frequency in order to reduce the phase separation between voltage and current to zero degrees of separation.

So, this bypasses the need for a pulse width modulation of the output, but also does not improve the situation a whole lot.

## *I have to rename this invention, the "Shorted Motor/Transformer," since...*

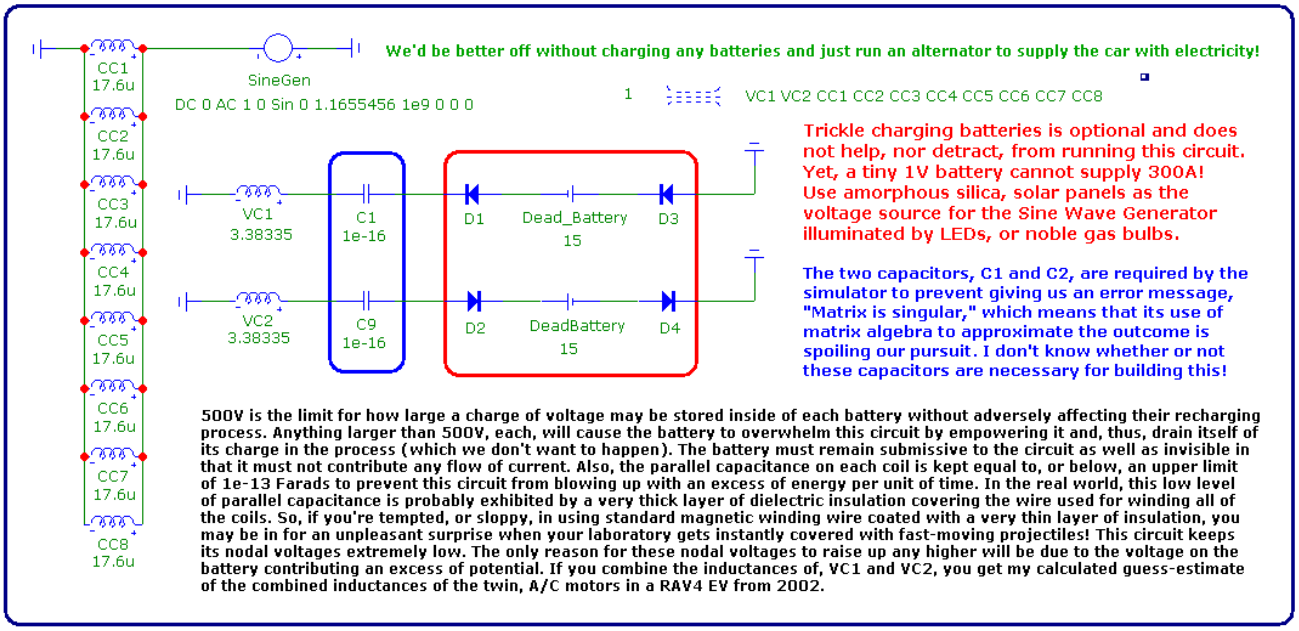
...recharging batteries is a waste of time! Batteries are not necessary to power this circuit.

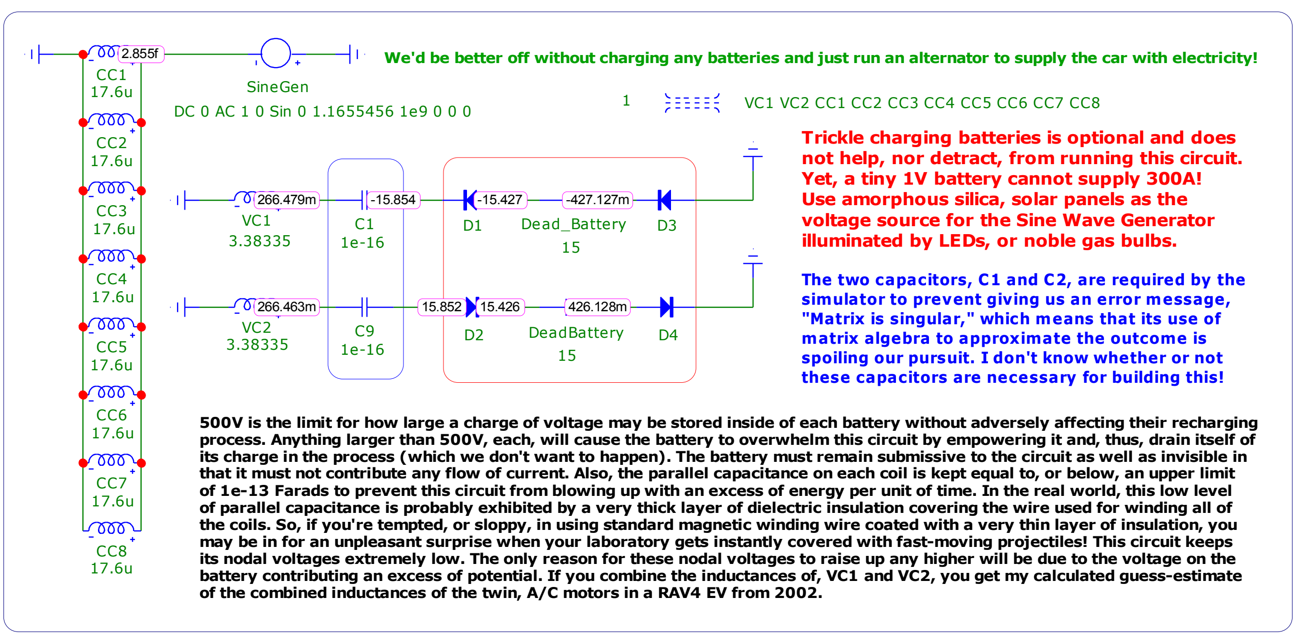
All that is needed is thin film, amorphous silica, solar panels lit by high-efficiency light bulbs[1] (LED stadium flood lights) to generate the D/C necessary to power the sine wave subcircuit. Batteries would blow up since this circuit is demanding an amperage draw of 300 amperes, peak to peak.

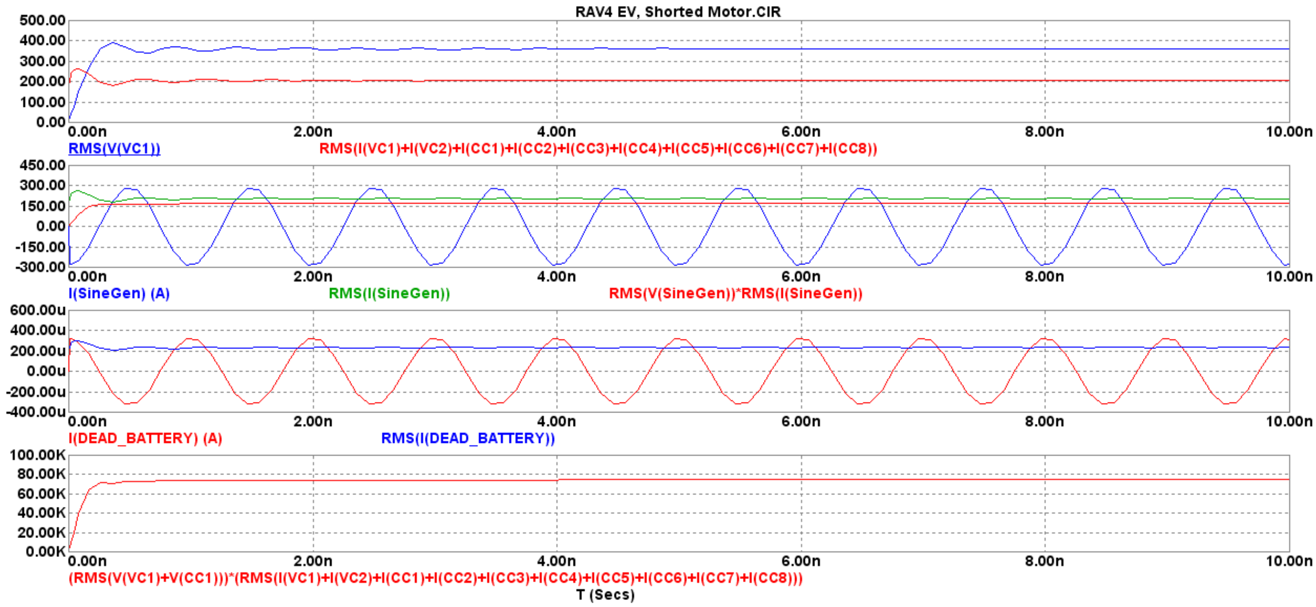
An alternator would probably be a good idea, rather than a D/C to D/C converter normally used in

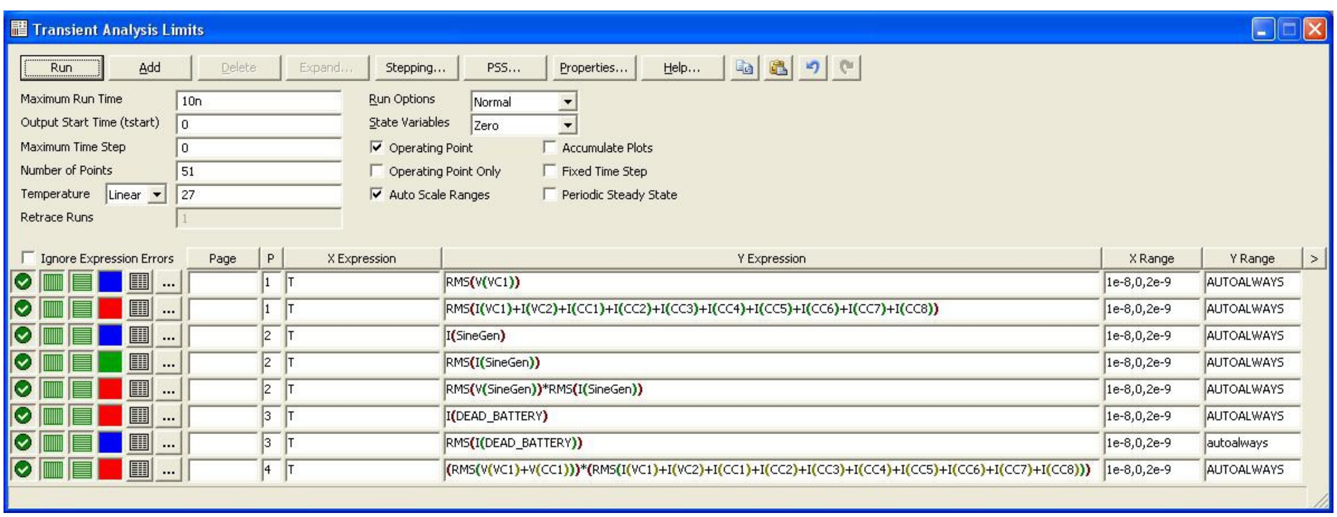
1 *"6 Brightest Headlights 2021: LED, HID, & Halogen"* → https://bestheadlightbulbs.com/brightest-headlights/ = https://is.gd/ozigir → Xenon Pro LED Headlight Kit *and* SNGL Super Bright LED Headlight Conversion Kit (top picks)

EVs, since these converters have a tendency of frying the car's auxiliary battery. *{As if to suggest a conspiracy existing among car makers and battery suppliers!}*




RAV4 EV, Shorted Motor.CIR
RMS(V(VC1))
RMS(I(VC1)+I(VC2)+I(CC1)+I(CC2)+I(CC3)+I(CC4)+I(CC5)+I(CC6)+I(CC7)+I(CC8))
I(SineGen) (A)
RMS(I(SineGen))
RMS(V(SineGen))*RMS(I(SineGen))
I(DEAD_BATTERY) (A)
RMS(I(DEAD_BATTERY))
(RMS(V(VC1)+V(CC1)))*(RMS(I(VC1)+I(VC2)+I(CC1)+I(CC2)+I(CC3)+I(CC4)+I(CC5)+I(CC6)+I(CC7)+I(CC8)))
T (Secs)


Transient Analysis Limits
Run
Add
Delete
Expand...
Stepping...
PSS...
Properties...
Help...
Maximum Run Time 10n
Output Start Time (tstart) 0
Maximum Time Step 0
Number of Points 51
Temperature Linear 27
Retrace Runs 1
Run Options Normal
State Variables Zero
Operating Point
Operating Point Only
Auto Scale Ranges
Accumulate Plots
Fixed Time Step
Periodic Steady State
Ignore Expression Errors
Page
P
X Expression
Y Expression
X Range
Y Range
1 T RMS(V(VC1)) 1e-8,0,2e-9 AUTOALWAYS
1 T RMS(I(VC1)+I(VC2)+I(CC1)+I(CC2)+I(CC3)+I(CC4)+I(CC5)+I(CC6)+I(CC7)+I(CC8)) 1e-8,0,2e-9 AUTOALWAYS
2 T I(SineGen) 1e-8,0,2e-9 AUTOALWAYS
2 T RMS(I(SineGen)) 1e-8,0,2e-9 AUTOALWAYS
2 T RMS(V(SineGen))*RMS(I(SineGen)) 1e-8,0,2e-9 AUTOALWAYS
3 T I(DEAD_BATTERY) 1e-8,0,2e-9 AUTOALWAYS
3 T RMS(I(DEAD_BATTERY)) 1e-8,0,2e-9 autoalways
4 T (RMS(V(VC1)+V(CC1)))*(RMS(I(VC1)+I(VC2)+I(CC1)+I(CC2)+I(CC3)+I(CC4)+I(CC5)+I(CC6)+I(CC7)+I(CC8))) 1e-8,0,2e-9 AUTOALWAYS

## *One of the interesting ways of generating pseudo-sine waves is...*

...to connect in series a number of voltage sources. Each one creates a square wave, but is offset from the others by a phase angle of a duty cycle.

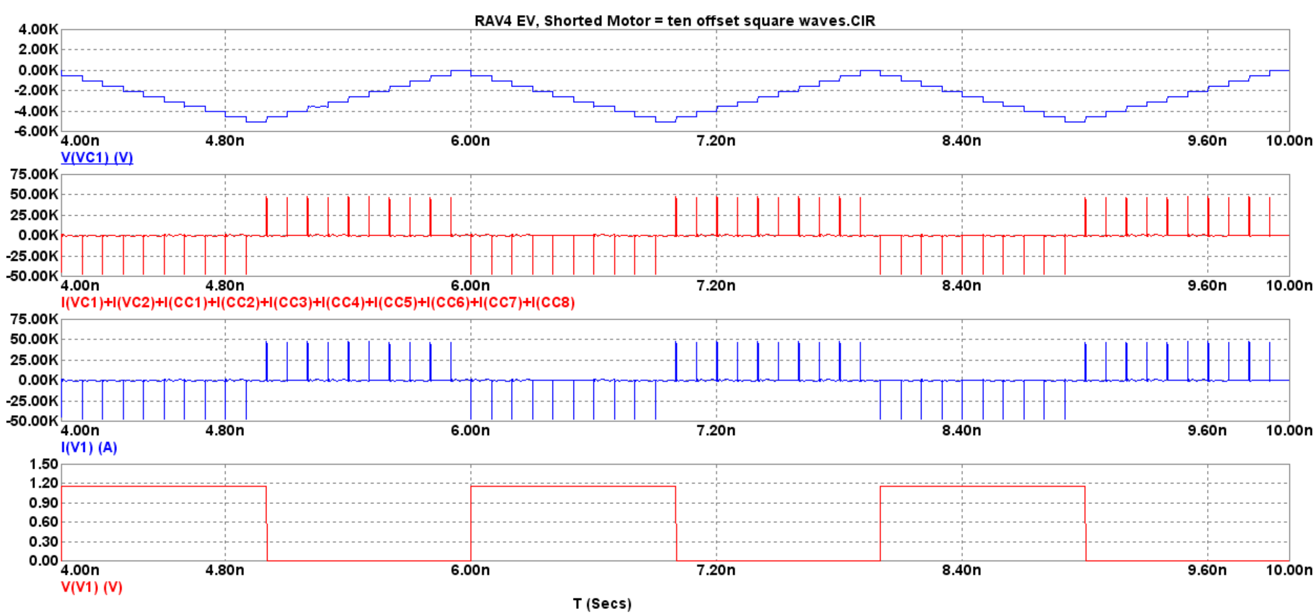
So, if I divide up a duty cycle into ten divisions, then each square wave generator out of the ten will be generating the exact same frequency, but offset by a phase relation of ten degrees from its neighbor.

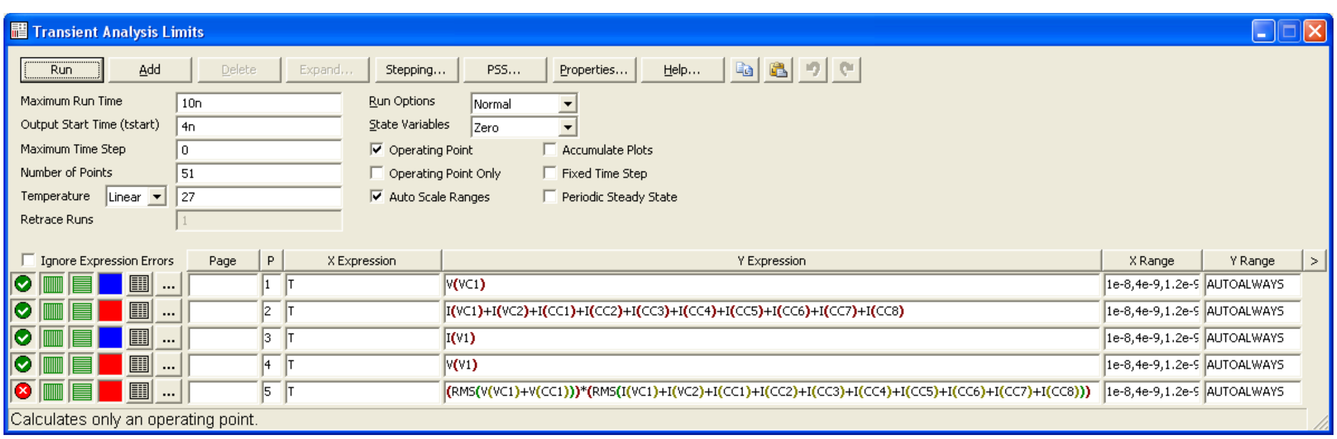
All of their voltages will add up to a total which is ten times the voltage of each generator.

But in the case of this circuit, their total current will not be a geometric increase. Despite the resistances within this circuit, the current will behave as if it had been shorted out across an infinitely tiny resistance! This will accelerate the current drawn from the voltage source at a phenomenal rate taxing the tolerance of the voltage source for exceeding its normal expectations for current loads and redefines what potential force drives current from a voltage source in the first place!

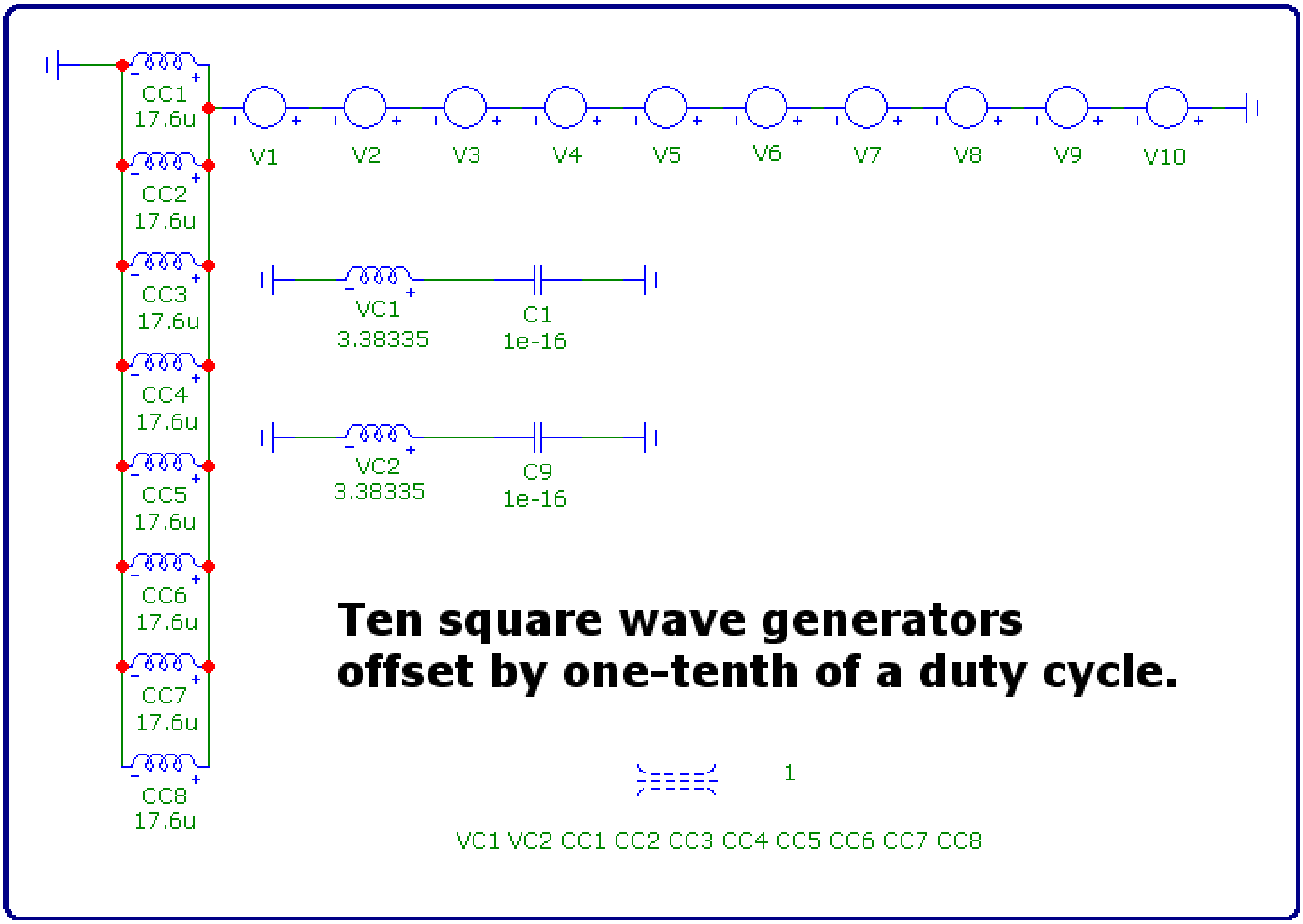
Is it strictly voltage, alone? Or, is it also frequency?

Voltage sources may appear to be simple, non-reactive, electronic components. But in the hands of a “free energy” enthusiast, voltage sources begin looking like they are sending out their current across lines of super-conduction! And at room temperatures!

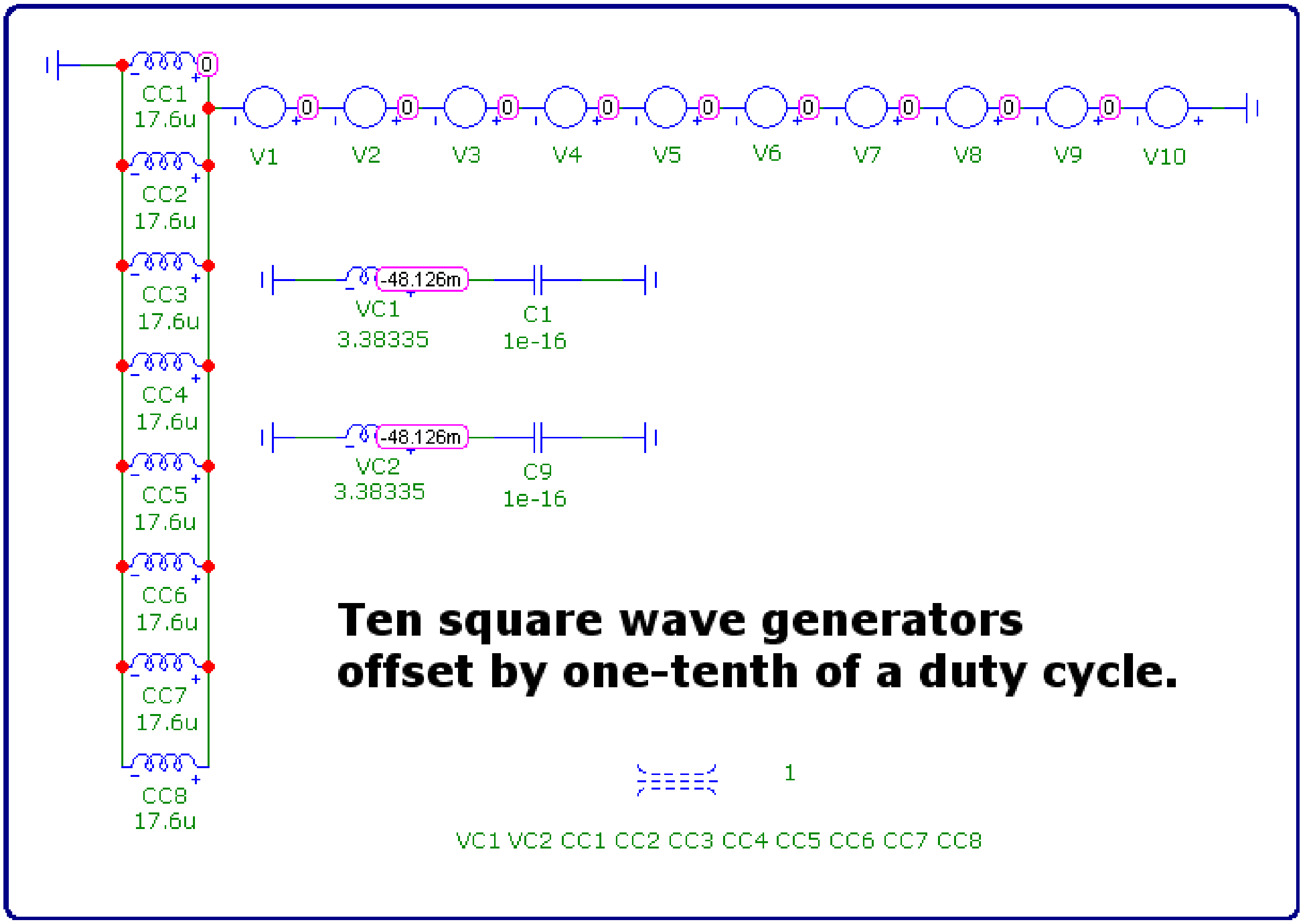


Schematic...


CC1
17.6u
CC2
17.6u
CC3
17.6u
CC4
17.6u
CC5
17.6u
CC6
17.6u
CC7
17.6u
CC8
17.6u
V1
V2
V3
V4
V5
V6
V7
V8
V9
V10
VC1
3.38335
C1
1e-16
VC2
3.38335
C9
1e-16
Ten square wave generators
offset by one-tenth of a duty cycle.
1
VC1 VC2 CC1 CC2 CC3 CC4 CC5 CC6 CC7 CC8

And its nodal voltages. Notice how small, or non-existent, they are!...




***We make a big mistake powering the main coil on a single phase induction motor treating it as if it were the primary coil on a transformer.***

This is an error of efficiency since the high resistance on that coil is impeding the flow of current on that coil making it difficult (inefficient) to create a magnetic field. How are we supposed to produce a magnetic field if we can't get much current to pass through all of that resistance/impedance?

Furthermore...

The starter coils are treated as if they were the secondary coils on a transformer. So, while we are powering up the main/primary coil, the secondary/starter coils are getting the “left-over” current from whatever magnetism managed to pass through the motor's armature to reach the secondary/starter coils.

This style of conventional reasoning is very contrary to the concept of a shorted motor/transformer.

When it comes to efficiency, Nikola Tesla was right on top of it!

The solution lies in applying line voltage to the starter coils; not to the main coils. Since they are already shorted out to themselves, all we have to do is short them out to each other (by connecting them, electrostatically, with an open path connection – a single connection) as well as retain their self-shorted condition and electrostatically connect them to the main coil and short that coil out to itself as well. Then, we'll have ourselves a triple-shorted motor/transformer!...

1. The starter coils are self-shorted.
2. The motor coil is self-shorted.
3. Both sets of coils are shorted to each other by an open path, single point connection. This prevents arcing between the coils.

This makes it possible to reduce the line voltage to ridiculously low levels and, thus, save a tremendous amount of amp-hours being drained from the battery.

But since we'll be surrounding this tiny battery with a tremendous quantity of amperage, it may be wise to replace it with a thin film, amorphous silica, solar panel?

It may also be advantageous to take advantage of one of Nikola Tesla's patents, entitled: “Adding A/C to D/C” (mentioned, above).

The title for his patent is a little elusive... Why go to so much trouble for what looks like an invention which lacks any intrinsic motivation for going to the trouble of patenting it if this patent were not also hiding some other, less obvious, intention of his?

I don't think its title is giving away any hints as to his intended use of that patent.

I think he was hiding his real motives for that patent is acting as a block diagram for arranging two D/C voltage sources (represented by his two batteries in that patent; analogous to our two D/C voltage sources which we will be using to power our two sine wave generators), plus two loads, and a third voltage source described by Nikky's patent as an *A/C source*. But we'll be replacing *that* with our reactive circuit which will automatically qualify it as an oscillator of A/C power.