Gregory Hodowanec:
Magnetic Resonance Amplifier Experiments

(1) Cosmology Note (1-30-95)

Dear Colleague: This may be of interest to you.

I. Speculations on the Magnetic Resonance Amplifier (MRA) ~

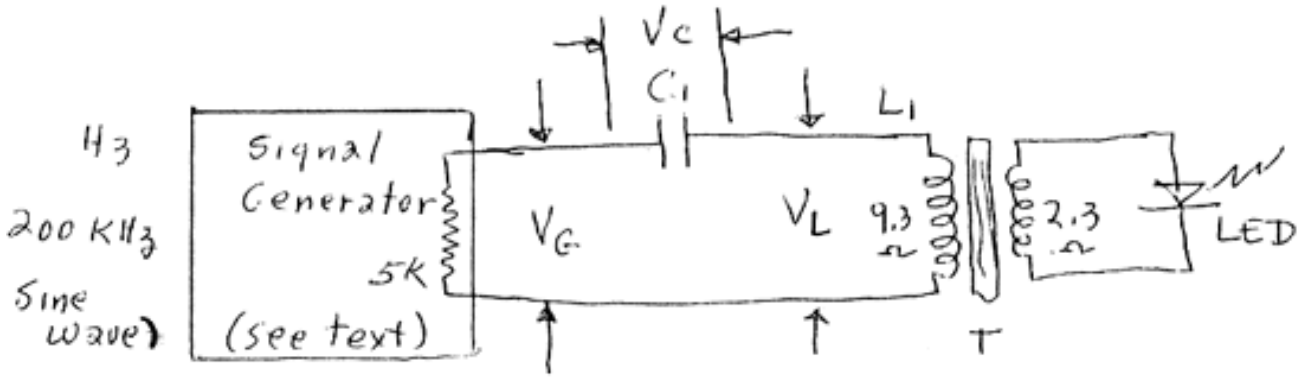
The operation of this circuit recently was described by McClain and Wootan on the Keelynet BBS and in the January 1995 issue of *New Energy News*. Basically, the circuit consists of a low-level sine wave generator operating in the order of 20 KHz to 40 KHz driving a specially wound 1:1 ratio transformer using a barium ferrite magnet as a core. The input and output coils had about 150 turns of magnet wire. The driving source was coupled to the transformer through a large barium titanate (?) piezo element making this in fact a series resonant circuit. The output coil was coupled to a bridge rectifier to develop a DC output power across an external resistive load. You are referred to the original releases for more data on this circuit. The important factor here is that in the original test the apparent real input power may have been only about 0.7 watts, but the DC output power developed in the load was about 2.75 watts! If these measurements were realm then there was about a 4 times power gain developed here! Where did this extra power come from?

II. Crude Test of an MRA-Type Circuit ~

While I did not have the actual circuit elements as used by McClain and Wootan, I felt that this circuit was but a specialized application of a typical series resonant circuit consisting of a capacitance and an inductance having some unavoidable series resistance. I had available an old tube-style signal generator which ranged from 20 Hz to about 200 KHz which could develop only about 4 mW of real power across its

5 KOhms internal output load (at 100 KHz). The unloaded voltage output was about 4.5 volts (AC rms) and they short-circuit rms current was about 0.9 ma. I had plenty of capacitors (including some 'piezo' type ceramics) to test in this circuit. For the transformer, I had some small potted transformers in which the coils were wound on a ferrite core (unmagnetized) having a 1/4" diameter and a length of 3/4". The primary winding appeared to have in the order of 500 turns of about #30 magnet wire, while the secondary may have had 1/5 of this number of turns. The original purpose for these units was unknown, but the units were marked as 5.0 mH and a 5:1 ratio. Since the possible output was expected to be low-level, the load in the output was made an LED device rated at 10 ma at 1.85 volts DC. The test circuit was thus as follows:

Figure 1: MRA-Type Circuit



Before I give some test results, lets briefly review some basics of series resonant circuits. The current 'flow' in a capacitor leads the voltage by 90° in phase, while the current 'flow' in an inductor lags the voltage by 90° in phase. Thus in a series resonant circuit the voltages across the C and L are 180° out of phase but the currents are equal and remain in phase. At resonance, the inductive reactance and the capacitive reactance are equal and thus cancel out, leaving the current to be determined by the driving source and the resistance which remains. However, above resonance the capacitive reactance decreases and the inductive reactance increases, while the opposite conditions prevail below resonance. At resonance, the voltages across the elements are greater than the source voltage and depend upon the element Q's. Moreover, when energy is being 'stored' in the inductor's H-field, energy is being returned to the circuit from the capacitor's E-field, and vice versa. The power available is 'lossless' power or a purely reactive power in ideal reactances, but practical reactances always have some loss mechanisms, primarily of a resistive nature. Under such conditions we should use the term impedance rather than reactance. The reactive power of an inductor can be 'impedance matched' to useful real load power by the use of transformer action. At the high frequencies, the cores of these transformers are generally made of ferrite-type materials for reduced 'eddy current' losses and also good response to the high frequency changes.

III. Optimization of MRA-Type Circuits ~

To maintain a high reactive power, the reactance of the circuit element must be high compared to any resistive or other loss mechanisms. This will be expressed in the

quality factor, or Q, of that element. Thus, high Q is most desirable in series resonant circuits. This will result in 'sharp' resonant frequencies and 'high' circulating currents at resonance. Since reactive power is equal to i^2X, high Q generally will also mean high reactive powers. Also, the voltage across either the inductor or capacitor will be equal to QV_g where V_g is the voltage of the source generator. Thus, the voltage across the reactances can be many times the source voltage at resonant conditions.
So far, we have considered normally accepted reactance and transformer theory. In this particular test, the following additional observations may also be made. During resonance, the capacitor and the inductor are continually being 'charged' and 'discharged' at the rate of the resonant frequency, which in the case of Figure (1) was in the order off 90 KHz. Now in terms of my Rhysmonic theory, the particular reactive elements used there can also 'interact' with space energy during these cycles. It is believed that the prime source of space energy in this case may be that of the earth's gravity field, although there are probably many other sources out there in space. I have used capacitors and inductors as 'detection' elements in many of my GW (Gravity Wave) detectors and gravimeters and have made much of the early data on these aspects available to interested researchers.
To emphasize these interactions with space energy, e.g., the earth's g-field, the capacitors and inductors should be fairly large size and of high Q. The choice for the capacitor probably should be planar type piezo elements, and the various coil construction probably should contain ferrite-type cores. My past experience has been that capacitors are effective in GW detectors where high circuit gains make the small signals which appear in such capacitors useful, but cols may be more effective in terms of power extraction from the latent space energy (Ref. 2). For this very reason it was observed that the circuit of Figure (1) had higher power gains (more efficiency) when the circuit was operated somewhat above resonance, or about 100 KHz! Here, X_C was reduced and X_L was increased. Also, the real current being drawn from the source drops sharply. Thus, the real power being drawn from the driving source is greatly reduced, but the reactive power in coil L_1 is increased more than what had been obtained there at peak resonance. That reactive power present in coil L_1 can then be 'impedance matched' efficiently to a resistive load, e.g., the LED, across the secondary coil, L_2, by the use of transformer action, where it becomes useful power output.

IV. Experimental Results ~

By carefully adjusting the frequency of the driving source in the circuit of Figure (1), it was possible to brightly light the LED device used as a load. The brightness was roughly equivalent to that seen when the LED was operated at a DC level of 1.85 volts and a current of 10 ma, or about 18.5 mW DC power level. It was only possible to light the LED directly by the signal source only very dimly at 100 KHz. Checked against a DC level, that brightness was found to be equivalent to 1.85 volts at 1 ma or about 1.85 mW of DC power! The real power being expended by the driving source was about 4.53 volts (AC rms) at 0.41 ma (rms) and thus the driving source was also in the order of 1.84 mW. Thus my digital meter here was fairly close in rms readings. It can only be concluded here that the MRA-type test performed here

seems to indicate a real power gain of about 10 times!! This power is believed to be coming from the aether in a process somewhat as expressed here.
Similar type performance was also seen in a test circuit where the transformer coils were salvaged from a 120 V to 25 VAC transformer. The coils had about a 3/4" square opening into which I inserted two barium ferrite magnets which I obtained from Radio Shack as part # 64-1877.

V. Conclusions ~

While this was but a crude test using some materials which I had available, it does tend to support the claims of McClain and Wootan as reported in their MRA releases on the Internet. However, here I have tried to offer some other speculative insights into the nature of this circuit and the source of the additional energy 'seen' with this circuit. Perhaps some of you can help to develop this approach further and thus also help to establish the reality of the extraction of some of the vast latent energy present in all of space! Possibly, winding coils on the ferrite forms found in many AM radios (used as antennae) could be a good place to start? In any event, good luck with your tests.

References ~

(1) Contact: Rex Research, PO Box 19250, Jean, NV 89019 ~ www.rexresearch.com
(2) *New Energy News* 2(9): 5-6 (January 1995)

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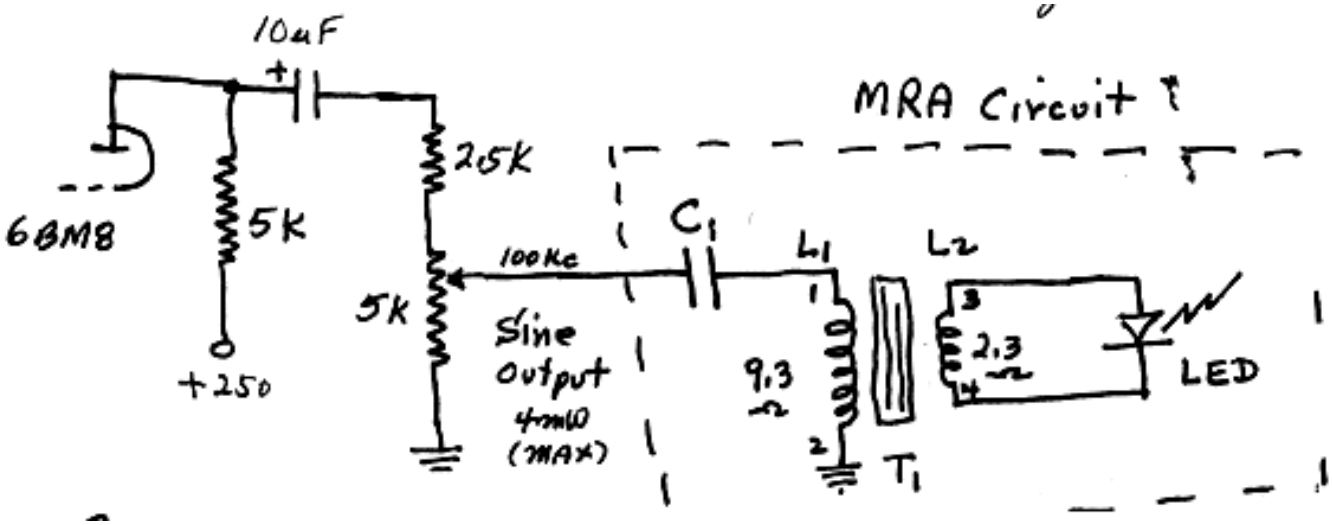
(2) Cosmology Note (2-5-95)

Dear Colleague: This may be of interest to you.

I. Some Additional Notes Applying to the Cosmology Note of 1-30-95

A. The tube-type signal generator used in this test may be somewhat different than most recent solid-state units. Since this might be a factor in this test, a simplified schematic of the setup in the test of 1-30-95 is given:

Figure 1 ~



B. Since the tube-type generator was capable of less than 4 mW of sine wave power at 100 KHz, this test was necessarily low-level. The generator in this case was purely resistive and thus this may have been a factor in the operation of this particular MRA-type circuit.

II. Conclusion ~

As seen above, this is an extremely simple test, but yet it appears to show appreciable power gains. The secret to this MRA device may be determined here. It is believed to be an interaction of the fields from the capacitor and inductance with external scalar-type fields of high energy!

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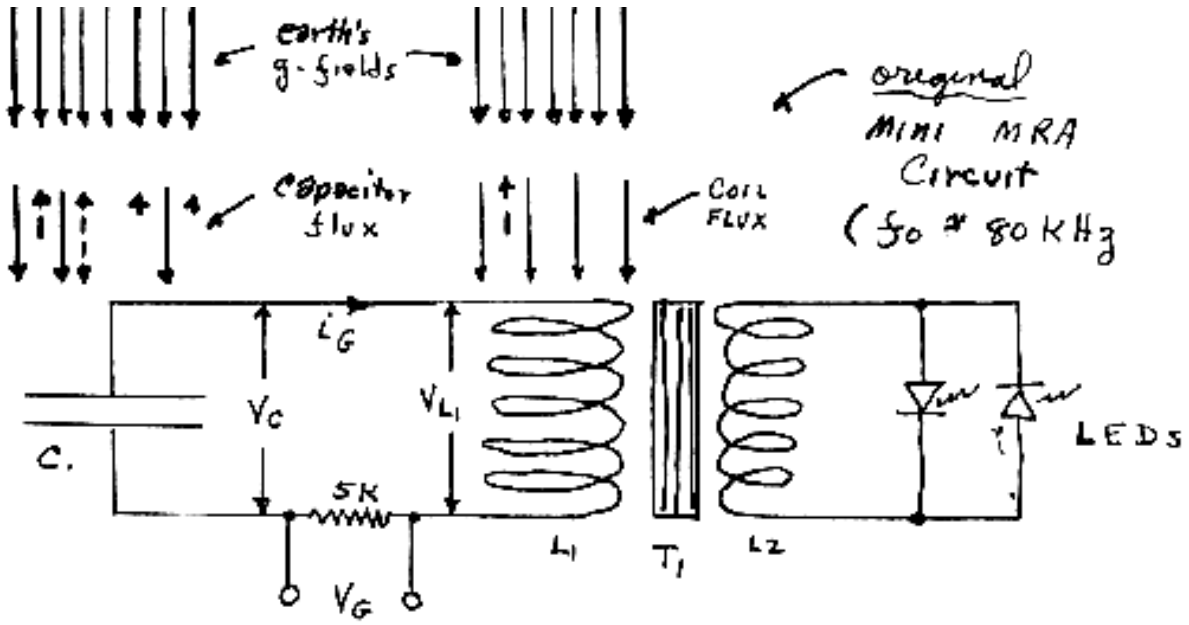
(3) Cosmology Note (8-29-95)

I. More on the Mini-MRA ~

Here are some additional speculations on the operation of the MRA (and the Mini-MRA in particular) from the Rhysmonic Cosmology viewpoint. Shown in Figure (1) is a simplified and idealized depiction of the original Mini-MRA test. The sketch has been arranged so as to emphasize the possible 'interactions' between the MRA scalar fields and the earth's scalar gravity field. These interactions are believed to be the source of the 'extra power' seen with this device. For these 'space energy' interactions to be most effective, it is believed that the capacitor must be of the stacked layer type, and the inductor must be of the open 'flux circuit' type. To emphasize the interactions with the earth's gravity field, the sketch was arranged to show the possible orientations needed for maximum effect.

Figure 1:



The MRA is basically a series resonant circuit which is 'excited' by a low level sine wave signal generator of some sort. It is believed that the signal generator should be

primarily resistive in nature for maximum performance. In essence, the MRA is a parametric or 'reactance' type of power amplifier. Each 'pole' or reactance is a source and a sink of scalar type field as indicated in Figure (1). It is speculated that the returning flux fields in each reactance will 'extract' some additional energy from the earth's g-field in a simple superposition of scalar fields, and thus sum their amplitudes. Using only a very small amount of energy from the local signal source (at resonance) the circuit will develop high reactive powers which will be 'exchanged' between the capacitor and inductor. For example, when energy is being stored in the capacitor electric scalar field, energy will be returning to the circuit from the inductor's scalar magnetic field, and vice versa. This is normally considered electronic theory. Rhysmonic theory, however, also infers that the returning flux to both the capacitor and the inductor will be 'augmented' at least two to four times (and even more in some special cases) in the scalar interaction with the earth's scalar field) or possible some other universe scalar fields?). This means that the reactive 'circulating' current in the series resonant circuit would also be at least two to four times the real current being drawn from the local generator source. Thus, the reactive powers could be increased by the current squared, or at least four to sixteen times! This has been verified in some of my past coil experiments. The reason for this is that, circuit-wise, the reactances of the capacitor and inductor are 180° out of phase and thus would 'cancel out', leaving only the residual resistance in the series circuit to determine the real current level. However, since each reactive voltage is 90° out of phase with the reactive current, the reactive powers are essentially non-dissipative (or lossless), assuming low loss components are used. Thus, the real powers, as a function of EI cos Ø, are essentially zero, but the reactive powers, as a function of EI sin Ø, are at their highest levels! The reactive powers continue to exist at resonance --- they are not cancelled out --- and the high reactive voltages can be measured across each reactance! The MRA makes use of the high reactive power developed across inductor L_1 of Figure (1) available to a real load across L_2 through the use of transformer action. Some of these reactions and other data are summarized also in Figure (1) for your convenience.

II. Some Additional Comments ~

(1) At resonance, in a properly working Mini-MRA circuit, all waveforms are essentially sinusoidal and quite similar. Thus, most true RMS reading meters can be used to make relative power gain measurements, even somewhat outside of their normally calibrated ranges!

(2) At slightly off-resonance conditions, some additional waveforms may be seen superimposed upon the generator-induced waveforms. These were recognized by the writer as quite similar to those 'seen' with his gravity wave detector units, which are known to interact with cosmic induced 'modulations' on the earth's gravity field. While the gravity detectors generally have only one active pole, the presence of two active poles in the MRA can and does at times complicate these interactions. However, the effect seems to increase the parametric or reactive amplification --- thus the output powers here would be best determined with rectifications and thus as a DC power.

(3) In general, the real power developed in the resistive load across the secondary,

L_2, is a clean sinusoidal even under off-resonance conditions.

III. Some Final Remarks ~

The writer feels that the MRA is for real and a potential new energy source for mankind. It is free from pollution effects and uses a universal energy source which cannot be depleted!

It is also speculated that the 60 Hz energy source experiments using ferrites and coils (per Sweet) are possibly 'tapping' into the 50-60 Hz power grids which range over this earth. The long wavelengths of the 60 Hz transmission lines essentially generate scalar type fields which can 'excite' the universe (or possibly only the earth-ionosphere complex). However, this energy is normally returned to the power grids --- except for that which may be 'tapped' in this manner.

It may be hard to convince academia on all this, but you 'hands on' experimenters should be able to run these types of simple experiments and determine for yourself if this is real or not --- go for it!

Regards,

Greg Hodowanec

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(4) Cosmology Note (6-27-96)

I. Updated Tests on the Original Mini-MRA ~

A new breadboard of the original Mini-MRA was put together, using all new parts. The test circuit is shown in Figure (1). A 620 pF silver mica capacitor was used as C1, since the 680 pF was no longer available. Thus the resonance frequency was a bit higher. Previous testing had shown that if the current sensing resistor (R_S) was placed between the two reactances of this series circuit, it was possible to directly measure the enhanced circulating current in the system. At resonance, the ordinary line current is generally determined by the DC resistance in the line since reactances are generally cancelled out. This does not mean that reactive voltages and currents are not present --- they are! Since the reactive voltages and currents are now 90° out-of-phase, there is no power dissipation. Both reactive voltages are reactive currents are 180° out-of-phase, thus they do not appear in the line RMS measurements, per se. However, the high reactance voltages can be measured across each reactance and the high reactive current is possible being measured across R_S (in scope measurements).

The present circuit and test results are given in Figure (1) and Tables (1) and (2). The data is self-explanatory.

II. Conclusions ~

Tests of the original Mini-MRA continue to indicate that these results are real and there is better than 10X power gains in these circuits (depending upon operating conditions). It would be nice if those of you who have received the pulse transformer (or your equivalent) to try these tests. One caution: you must use reactive sources

and loads!

Figure 1: Circuit Used ~

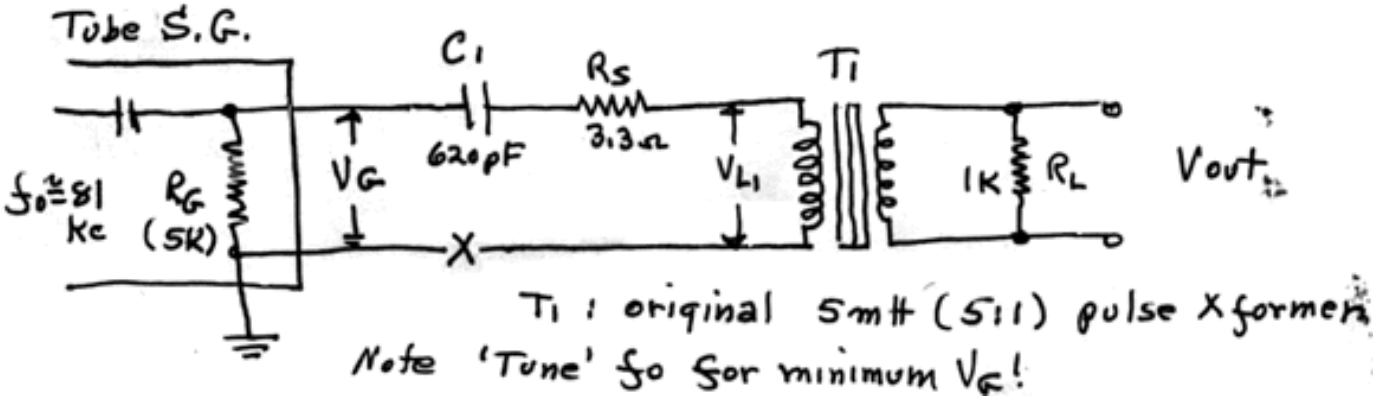

Table 1: Philips Model PM 3214 Scope ~

Scope Tests:

V_G = 4V (pk-pk) ≅ 2.8 V (rms)

$I_G = V_G / R_G \cong 2.8 / 5 \times 10^3 \cong 0.56$ mW (rms)

$P_{in} \cong 2.8$ c 0.56 ≅ 1.57 mW (rms)

V_{out} = 5.8 V (pk-pk) ~ 4.1 V (rms)

$i_{out} = V_{out} / R_L$ ~ 4/1 / 4.1 ~ 16.8 mW (rms)

P_{out} ~ 4.1 x 4.1 ~ 16.8 mW (rms)

P.G. = Pout / P_{in} ≅ 16.8 / 1.57 ≅ 10.7 X

Also:

V_{C1} = 28 V (pk-pk) ~ 19.8 V (rms)

V_{L1} = 30 V (pk=pk) ~ 21.2 V (rms)

$i_{circ} = V_{RS}$ / RS ~ 27 mV (pk-pk) / 3.3 Ohms ~ 19.1 mV (rms) / 3.3 ~ 5.8 mA (rms)

i_{circ} / i_G ~ 5.8 / .056 ~ 10.4 X (Same order as P.G.!)

Note: All waveforms are good sinusoidals!

Table 2: RMS Digital Voltmeter Tests ~

Parameter	Fluke 87	Micronta 22-198U	Micronta 22-191
V_G	1.6 V	1.61 V	1.35 V
i_G	0.32 mA	0.32 mA	0.27 mA
P_{in}	0.52 mW	0.52 mW	0.36 mW
i_{line}	0.32 mA	< 0.5 mA	< 0.5 mA
R_{sense}	1.5 Ohm	1 Ohm	1 Ohm
V_{out}	2.3 V	2.3 V	1.93 V

i_{out}	2.3 mA	2.3 mA	1.93 mA
P_{out}	5.3 mW	5.3 mW	3.7 mW
P.G.	10.2 X	10.2 X	10.3 X

Note: V_G is 'tuned' by f_o for minimum.

Remarks ~

(1) $i_G = V_G / R_G = V_G / 5 \times 10^3$

(2) i_{line} is read at point X using the mA range of the DVM (with R_{sense} as shown)

(3) R_L was made 1 Kohm to enable an i_{out} reading directly related to V_{out}.

(4) While the Fluke 87 and Micronta 22-198U meters read rather closely, the Micronta 220191 reads somewhat lower. However, all power gains (P.G.) are close. This again confirms that power gains determined using most DVMs outside of their calibrated ranges probably are valid provided that resistive sources and loads are used with good sinusoidal waveforms.

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(5) Cosmology Note (6-27-96)

Dear Colleague: This may be of interest to you.

I. Some Recent Updated Tests of the Original Mini-MRA ~

A fresh breadboard was assembled for these tests as shown in Figure (1). One change is that the circulating current sensing resistor R_S was placed between the two reactances. Since strong scalar-type fields are believed to be generated by this circuitry, this position could be more balanced. At resonance, the generator line current would normally be determined by the remaining resistance in the line, since the line reactances are essentially cancelled out. This does not means that the reactive voltages and currents are not present --- they are! However, since the reactive voltages and currents are 90° out-of-phase, there is essentially no power losses (dissipation) in this line. Moreover, the reactive currents in a series circuit are in-phase and thus should appear as the circulatory current in the line. This could be directly measured by the sampling resistance R_S, or also calculated from the measured voltage across, say resistance L_i; e.g.,

$I_{circ} = V_{L1} / X_{L1} = V_{L1} / 2?fL_1 \simeq 21.2 / 2545 \simeq 8.3$ mA

For the test of Table (1). The i_{circ} as determined by the sampling resistor R_S was about 5.8 mA as given in Table (1). The difference seen here might be due to the sensitivity of the scope probe to other scalar components present here. With a calculated line current (i_G) of about 0.56 mA, it is seen that the circulating line current is more than 10X the generator current. Where does this excess current come from? It is my belief that the scalar-type flux being generated by the capacitance and inductor of this circuit may be 'interacting' with the aether (or some other aether-related fields) and thus, in effect, 'extracting' this additional flux energy. The

generator is a source of the voltage (potential) to drive this series circuit, and thus the 'drive power' would be determined by the power dissipated in the generator resistive source impedance of about 5 KOhms, i.e., $P_{in} = V_G \times i_G$. Again, remember that there are no real losses in the series circuit line due to the 90° phase difference between the reactive terms. However, the reactive power (or VAR) exists and it is of high magnitude. In this simple circuit, the high reactive voltage (potential) developed in L_1 is transformed (and stepped down) in the secondary winding, L_2. This stepped down voltage will now drive a real current in the 1 KOhm load resistance, R_L, and thus real power is developed at the output. The use of resistive sources and loads in this circuitry will enable the calculation of true RMS powers since the voltages and currents are in-phase under such conditions.

II. Conclusions ~

The tests as given here continue to indicate real power gains for the Mini-MRA, even with calibrated oscilloscope tests. The use of digital-type meters (outside of their calibrated ranges in these tests) will not measure true RMS voltages and currents, but the power gains determined could be valid provided the waveforms are truly sinusoidal. Thus, these types of tests could be made by researchers with limited equipment and means. However, it must be emphasized that if phase-shift complications are to be avoided, the source and load must be resistive and the waveforms sinusoidal.

Finally, while the enclosed tests are believed to be valid, only more independent testing (possibly using other components) will really settle the issue of over-unity operation for MA-type devices. In the long run a 'stand-alone' operation will make any measurement questions moot! While my efforts are still quite limited, I will continue with that quest as time permits.

Meanwhile, good experimenting to all!

Greg Hodowanec

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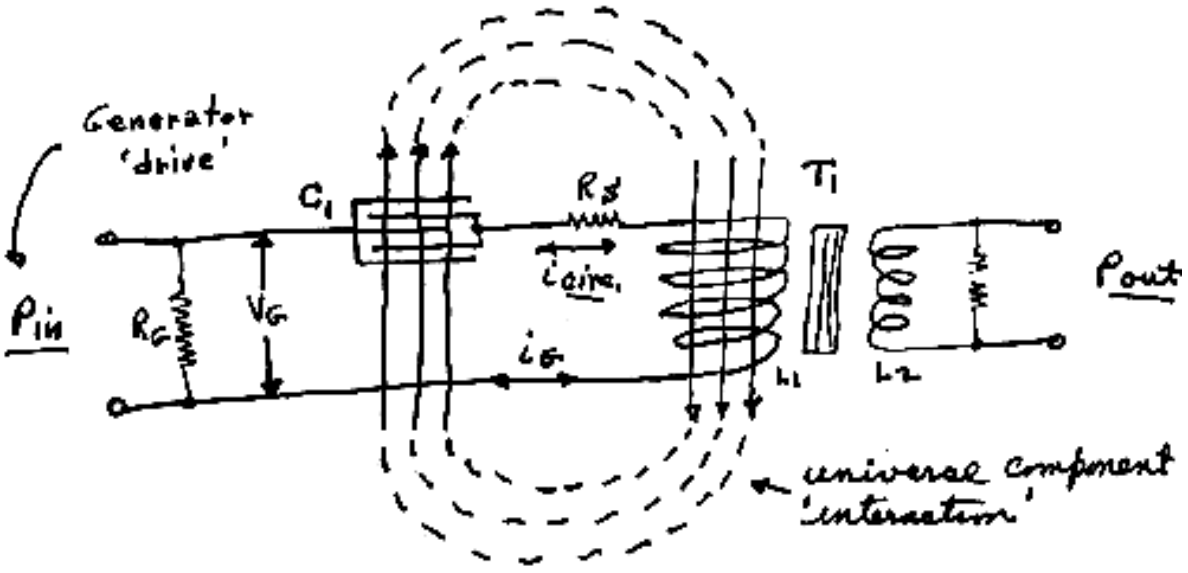
(6) Cosmology Note (7-22-96)

Dear Colleague: This may be of interest to you.

I. Some More Speculations on the Mini-MRA ~

Even though I was only able to apply very limited effort on the Mini-MRA device, I have released to you many thoughts and experiments, some of which could be quite significant for an understanding of the operation of this device. The viewpoints are from Rhysmonic Cosmology and those of you who are quite familiar with some of its premises should be able to understand the following discussions:

Figure 1:



A. Simplified Sketch of the Mini-MRA ~

Shown above is a very simple depiction of the peak one-half cycle of the 'flow' of scalar flux in the Mini-MRA. In normal theory, one considers that when energy is being 'stored' in the capacitor's 'field', energy is being 'returned' from the inductor's 'field'. Rhysmonic Theory goes well beyond that simple statement and speculates that the capacitor 'flux' is 'exciting' the universe (or some component of it) and that the inductor 'flux' is also 'exciting' the universe. That this is so has been reported to you in many simple experiments and some Notes and papers in the past. However, as depicted above, these two flux components are 180° out-of-phase and also a function of the resonant frequency. It is also emphasized that good sinusoidal waveforms and resistive loads are necessary for this circuit to work!

B. Further Remarks on This Operation ~

(1) While the intrinsic rhysmonic flux of the universe s 'instantaneous' and 'omni-directional', there are also many other 'directed' fluxes due to various universe and terrestrial factors. A few common terrestrial factors are the earth's G-field, E-field, magnetic field, as well as the many components in the ionosphere and near-earth, due to emissions from the sun, and possible other cosmic emissions. Thus, the universe is a vast source of energy, both intrinsic and also 'converted'. The converted energies are presently being utilized, much of it being rapidly exhausted and much of it polluting the earth.

(2) The scalar-type 'flux' being developed by the reactances through the action of the driving source, i.e., the generator, will be as shown by the solid lines in the depiction above, while the interactions possible in the universe will be simply depicted by the dotted lines while the orientation of the reactances possibly could be directed for enhanced interactions (say, with the earth's G- or E-fields), the positioning, in general, will be immaterial, since there always will be a substantial component of rhysmonic flux in any direction. The 'driven' reactances will 'pump' the universe (or some component of it). Many past rhysmonic experiments have shown this to be the case and such 'pumping' was found to 'magnify' the energy levels in possible 'resonance' in these interactions. The higher the drive level of the 'pump', i.e., the drive, the higher the level of interactions. Also, the longer the 'pump' acts, the greater the level of interaction up to some limiting level. This has also been proven in other

simple rhysmonic experiments, many of which have been released in the past, and some of which were not! Since most of these experiments are so simple, one only needs to perform them (which I find many are reluctant to do so since they are so unconventional!).

(3) Due to the nature of some of the 'directed' rhysmonic fluxes, the performance of the Mini-MRA could vary with the rotation of the earth, i.e., the time of day; but in general, the interaction is found to be relatively constant. The interaction is essentially between parallel scalar-field components and thus one of simple superposition of fields (potential) and thus only simple algebraic addition of flux is required. While certain 'resonant' frequencies could enhance the interaction with certain directed flux components, the long time constant of these circuits compared to the very high basic rhysmonic (intrinsic) frequencies will ensure at least a measure of interaction at all the frequencies of operation (provided resonance occurs).

(4) The flux interaction in the universe (depicted by the dotted lines in the sketch) is repetitive at the resonant frequency and thus should also complete the reactive circuit (perhaps no line return may be needed?). Therefore, the sensing resistor, R_S, could directly determine this reactive 'circulating' current. With the proper design of the reactive elements and a proper frequency of operation, this reactive current could be made many, many times greater than the generator line current needed to sustain this mode of operation. The reactive voltage across L_1 would be $i_{circ} \times X_{L1}$, and could be vary large. However, due to the 90° phase difference between the reactive voltages and reactive currents, no appreciable dissipation losses will be sustained in this reactive 'circulating loop'. The high reactive voltage in L_1 can be transformer-coupled to L_2, where this high voltage could now drive a large real current (in phase with the voltage) and thus develop large real power in the load, R_L. This has been confirmed in many Mini-MRA tests, but again I must caution you that solid state sources can react to the scalar fluxes being developed here and thus distort the drive input and even destroy the source!

II. Conclusions ~

As usual, the above speculative remarks on the possible operation of the Mini-MRA are primarily aimed at getting more of you more actively involved in these simple tests. All indications are that the MRA is for real and possibly a great new source of space energy which will be both inexhaustible and also non-polluting. While these exploratory tests are yet at low levels, there is every reason to believe that very high levels will be achieved with this technique. Witness the Swiss M-L, which to me appears to be but a Super MRA device!

Rhysmonic Cosmology is basically used in these discussions --- it is a real science --- and many experiments have shown it to be so. Much has been released to you in past Notes and papers, both published and unpublished. Also, there is much that has not yet been released --- to use the Swiss M-L group's phrase, "Mankind may not be ready for it yet". In any case, I wish you all well and continued good experimenting.

My best regards,

Greg Hodowanec

(7) Cosmology Note (6-23-01)

Dear Colleague: This may be of interest to you.

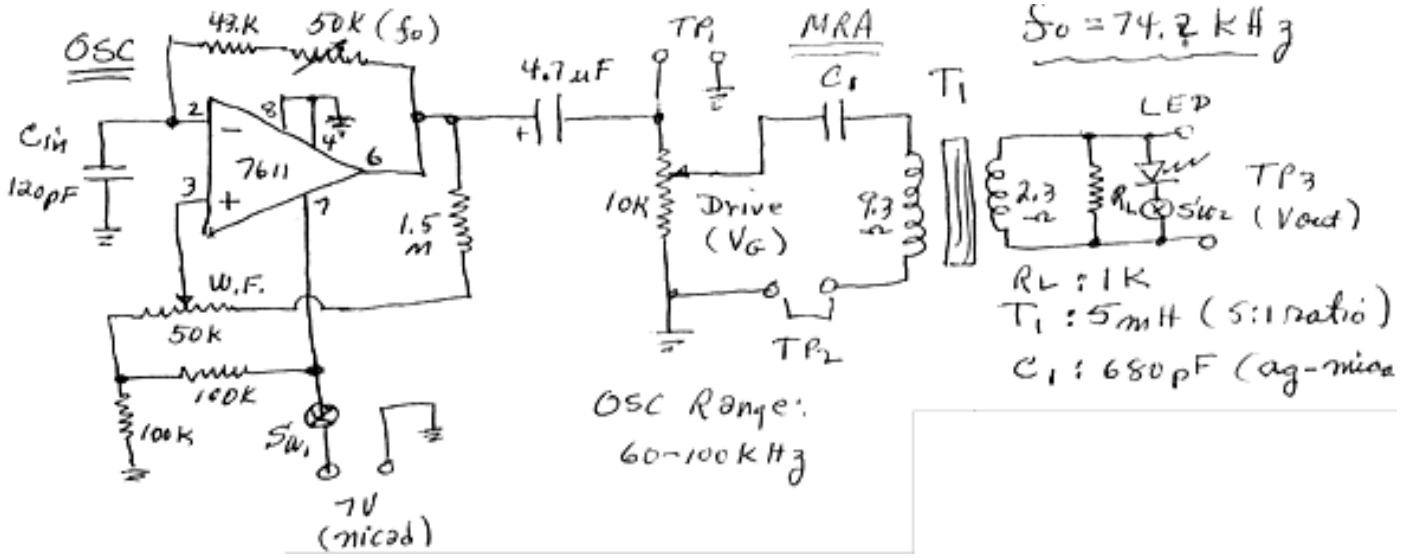
I. Mini-MRA Circuit #FE-6B Revisited as Ckt. FE-6C

A. Background ~

This circuit was featured in the July-September 1995 issue of *Extraordinary Science Magazine*. The circuit was originally intended as a Demo Unit. It was sent to McClain and Wootan, who modified it somewhat to limit performance range and then had it sent to three independent labs in the Georgia area for evaluation. All three labs confirmed power gains in the order of 10-21 times! It was eventually returned to me and I verified their data. I have now restored the original circuitry and made some tests using a 25 MHz scope rather than digital voltmeters.

B. The Restored FE-6C Circuit ~

Figure (1) ~ Notes: Input LED was eliminated. Output LED was made switchable. Input waveforms were distorted due to the proximity of MRA scalar fields. Output waveform: good sinewaves. $P_{out} \simeq$ saturation?



C. Initial Test Results ~

$V_G \simeq$ 6 V (pk-pk) $\simeq$ 4.2 V (rms)

$i_G \sim V_G / R_G \simeq$ 4.2 / 10K $\simeq$ 0.42 mA (rms)

Real $P_{in} \simeq V_G$ x $i_G \simeq$ 4.2 x 4.2 $\simeq$ 1.8 mW (rms)

Vout $\simeq$ 10V (pk-pk) $\simeq$ 7.1V (rms)

$I_{out} \simeq V_{out} / R_L \simeq$ 7.1 / 1K $\simeq$ 7.1 mA (rms)

Real $P_{out} \simeq V_{out}$ x $i_{out} \simeq$ 7.1 x 7.1 $\simeq$ 50.4 mW (rms)

P.G. $\simeq P_{out} / P_{in} \simeq$ 50.4 / 1.8 $\simeq$ 28x $\simeq$ loaded circuit Q!

II. Conclusions ~

(1) Circuit FE-6C, except for some distortion in input waveform appears to yet work well (Will try to improve the waveform).

(2) Output LED (18 mW unit) is used only to set f_o for maximum P_{out}.

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(8) Cosmology Note (6-30-01)

I. The Mini-MRA Revisited ~

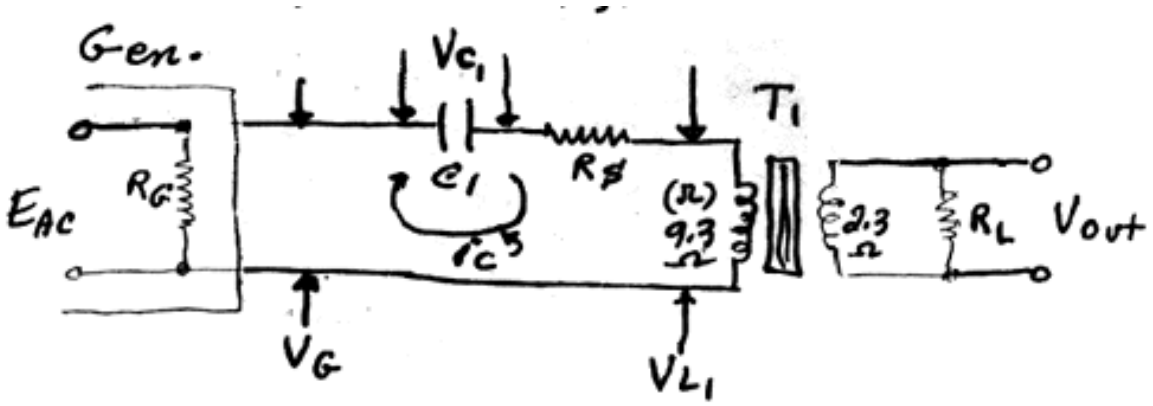
A. Background ~

In the past I have reported to you on many Mini-MRA (Magnetic Resonance Amplifier) tests which were instilled by the initial report by McClain and Wootan on this device published in the January 1995 issue of *New Energy News*. At that time I had tried a 'first look' at this circuit using some parts and equipment which I had on hand. This initial circuit has since proved to be very useful in trying to understand the operation of the MRA device (from the viewpoint of my Rhysmonic Cosmology). This Note will summarize my viewpoints from a position of hindsight at this time.

B. The Series Resonant Mini-MRA Circuit ~

This was out 'initial' look at this device but I will now summarize it anew. A simplified version of the circuit is shown below. A new unit was made on 6-23-01 and evaluated at that time. Tests were made with a 25 MHz scope and all waveforms were very good sinewaves. The signal source used was an old tube-type which was capable of only about 10 mW if output power I_{max}).

Figure 1:



T_1: 5 mH Red Pulse Xformer (5:1 ratio)

R_G: 2.5 K

R_L: 1 K

C_1: 680 of mica capacitor

R_A: 3.33 Ohms

F_o: 74.2 KHz (measured)

$V_{C1} \simeq V_{L1} \simeq$ 14.1 V (rms)

$V_G \simeq$ 1.7 V (rms)

$I_C \simeq i_G \simeq V_G / R_G \simeq 1.7 / 2.5$ K $\simeq$ 0.68 mA (rms)

Real $P_{in} \simeq V_G$ x $i_G \simeq 1.7$ x 0.68 $\simeq$ 1.16 mW (rms)

$V_{out} \simeq$ 3.1 V (rms)

$I_{out} \simeq V_{out} / R_L \simeq 3.1$ 1K $\simeq$ 3.1 mA (rms)

Real $P_{out} \simeq V_{out}$ x $i_{out} \simeq 3.12 \simeq$ 9.6 mW

Reactive Power L_1 = VAR $\simeq V_{L1}$ x $i_C \simeq 14.1$ x 0.68 $\simeq$ 9.6 mW also.

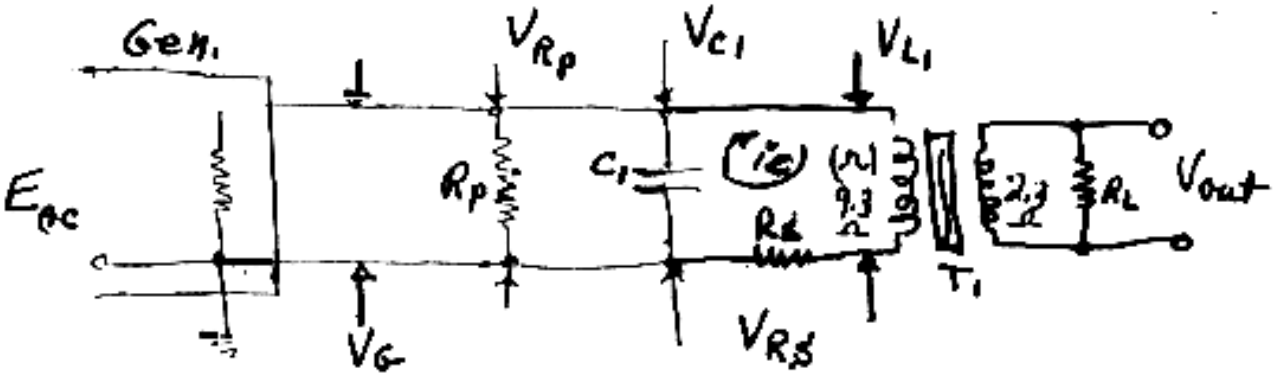
P.G $\simeq P_{out} / P_{in} \simeq 9.6 / 1.16 \simeq 8.3$ X

Also, P.G. = Voltage Gain $\simeq V_{L1} / V_G \simeq 141.1 / 1.7 \simeq 8.3$ X $\simeq$ loaded Q!

B. Equivalent Parallel Resonant Circuit ~

The equivalent parallel resonant circuit should confirm the operation of the series version of C1, L1, and the loaded Q's remain equal. The simplified circuit is shown:

Figure 2:



All circuit values remain same as in series except for R_p, X_{L1}, and V_{RS}.

F_O = 74.2 KHz

$X_{L1} \simeq 2? f_O L_1 \simeq$ 2330 Ohms

$V_{RS} \simeq$ 18.8 mV (rms)

$V_G \simeq V_{RP} \simeq V_{C1} \simeq V_{L1} \simeq$ 1.7 V (rms)

$R_P \simeq$ transformed (r) $\simeq X_{L1}^2 / r \simeq (2330)^2 / 9.3 \simeq 0.6$ MOhm

$I_{line} \simeq V_G / R_P \simeq 1.7 / 0.6M \simeq 2.8$ uA (neglect!)

$I_G \simeq V_G / R_G \simeq 1.7 / 2.5$ R $\simeq 0.68$ mA (rms); $i_C \simeq V_{RS} / R_S \sim 18.8 / 3.33 \simeq 5.65$ mA (rms)

Real $P_{in} \simeq V_G$ x $i_G \simeq 1.7$ x $0.68 \simeq 1.16$ mW (rms)

Real $P_{out} \sim V_{out}$ x $i_{out} \simeq 3.12 \simeq 9.6$ mW (rms)

Reactive Power L_1 = VAR $\simeq V_{L1}$ x $i_C \simeq 1.7$ x $5.65 \simeq 9.6$ mW also.

Power Gain $\simeq V_{out} / P_{in} \simeq 9.6 / 1.16 \sim 8.3$X

Also: P.G. = current gain $\simeq 1_C / i_G \simeq 5.65 / 0.68 \simeq 8.3$X $\simeq$ loaded Q!

II. Conclusions ~

(1) The loaded Q in the parallel equivalent circuit is equal to the loaded Q in the series resonant circuit!

(2) The loaded Q's are also approximately equal to Power Gains (P.G.)!

(3) The reactive L_1 powers (VAR) in both modes are equal!

(4) Note also that f_o (74.2 KHz) is also a subharmonic of the Universal Rhysmonic (Planck) frequency 1.885×10^{-43} Hz.

(5) Tube-type generators are recommended for these tests as they are not sensitive to scalar fields as solid state sources seem to be!

(6) It is concluded that the MRA type devices (or more simple reactive systems) remain viable as a source of energy extracted from the Universal G-fields (i.e., aether). However, more effort by others is needed --- I have shown you the way and the many possibilities. Good Luck!

Greg Hodowanec

MRAFLUKE.ASC
14 Nov 1995
To: keelynet@ix.netcom.com
From: David Forbes
Subject: MRA

I found the Magnetic Resonance Amplifier to be an amusing if not wholly effective

Free Energy device. I showed the articles to my co-workers one at a time, and the first thing each of them said was, 'You can't measure AC power with a Fluke meter!'

I built Greg Hodowanec's Mini-MRA circuit (described in Jul-Aug-Sep '95 Extraordinary Science magazine) and found that it works at about 50% efficiency if the input current is measured with an oscilloscope. Then I saw that his measured input current was much lower than mine. I found that he used a Fluke 87 DMM to measure the input current but not the output current. He calculated output current from the load resistor, so his output current value was more or less correct.

I then called Fluke to ask about the frequency response of the AC current function of the model 87, and they said it's only accurate up to 2 KiloHertz. He was using it at 75 KHz! No wonder he measured such an efficient circuit... he was badly misusing the test equipment. And he was measunring in such a way that the bad reading increased the apparent efficiency.

The reason I built this circuit is that it is a textbook circuit that exists in millions of consumer electronic items with <100% efficiency. So I knew it was a bogus Free Energy device before I built it. I just built it to demonstrate to myself that I understood the author's error. Just in case you haven't realized this yet:

The file you got from Joel McClain about the Teledyne Ryan Aeronautical 'verification' is NOT a verification of over-unity operation of his MRA. It is simply a duplication of McClain's erroneous efficiency measurement. Note the wording of the following statements by TRA:

4) The input current was then calculated PER THE CUSTOMER as the voltage (rms) across R1 & R2 divided by the resistance of R1 + R2.

6) The output current through R3 was calculated PER THE CUSTOMER as the voltage (rms) across R3 divided by the resistance of R3.

7) The CUSTOMER DEFINES the MRA gain as the output voltage (rms) D to E times the output current through R3 divided by the input voltage (rms) A to B times the input current through R1 & R2.

The people at TRA did *not* analyze the circuit or the measurement techniques. They simply used McClain's techniques, as they stated above. That doesn't prove that the circuit works. It only serves to lend false authority to a flawed measurement --- one that was shown to be erroneous by both Puthoff and Frode.

So please change your MRA score to: 2 against, 1 irrelevant.

One thing to keep in mind about the MRA. The underlying principle of the whole thing as stated by Norm Wooten is that it taps the energy locked in a permanent magnet and an piezoelectric crystal. (I don't have the source handy, but he says this in his Extraordinary Science article of Jul-Aug-Sep '95.)

I don't know if you're familiar with the operation of a peizoelectric crystal, but it doesn't have any energy locked in it. It just has the ability to convert electrical energy into mechanical energy. That is, if you put in electrical power, you get out mechanical power, or vice-versa. Nothing magic in that. An electromagnet does the same thing. And they have both been shown to do this with less than 100% efficiency by thousands of researchers over the years.

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