

THE PETER DAVEY HEATER TEST RESULTS

INTRO:

Providing a report like this serves two purposes. Firstly it provides information about methods used in order to achieve a pre determined objective. This information can be used by others to either follow or build upon if they do not agree with the results obtained. After all Edison found 1000 ways of how not to make a light bulb. Secondly it also opens the researcher to abuse and ridicule if the test methodology does not meet exacting standards. Be this is it may I hope that the former is true and that although I have come to the realization that the Davey heater is nothing special, there are others who may miraculously hit upon an idea that proves me wrong. I certainly hope so.

PURPOSE: The purpose of the explanation given below is to try and remain true to the concept of networking information and ideas through forums like www.energeticforum.com and www.overunity.com as well as many others. I learnt earlier in my life that there is no such thing as a unique idea. Every inventor that has been blessed with an innovative brainwave fails to realize that their piece of the puzzle would not have been possible without prior works or that these are merely snippets of information emanating from a global consciousness or from GOD with the sole purpose of benefiting mankind rather than their own personal agendas or bank balances.

Unfortunately the arrogance of man and his transgression for greed blinds him to the fact that he is not so great after all and without the work of others before him, his great discovery would never have become a reality.

There are literally millions of patents circulating the world, many of them offering humanity brilliant advances in science and technology that could to a great extent level the playing fields between the ultra rich who comprise only 1% of the world population and the other 99% of which a large percentile live below the poverty line. Most of these are never put into production. The reason for this is quite simple, money and delusions of grandeur. Money plays a vital role in getting a project off the ground. Many inventors try and go it themselves rather than earning a 100% of nothing than 6% of a million dollar empire. The next reason is that many inventors' brains work as academics without any marketing or sales skills. The key to the retail market is marketing. One only knows of the millions of products in the retail sector that are utter rubbish, poor quality or bad for your health, but they sell because marketers know which buttons to push. The next reason is political and powerful interests. And the last reason is that a patent is worthless unless it works. There are too many patents that have key aspects missing in order to avoid replication. A note to the wise don't believe that a patent can protect your "brilliant invention" there are too many poor countries in the world that could knock up a replication in days, manufacture millions of units, sell them and close the company before you could bat an eyelid, and then operate from elsewhere. This is going on right now. So unless you have millions in lawyer's fees, just put it out there so all can benefit.

BACKGROUND:

As an avid follower of potential over-unity devices, the Peter Davey heater caught my attention for numerous reasons. It was simple yet made bold statements of excessive COP's. It would prove beneficial to millions of people who do not have electricity or hot water. The inventor had taken the trouble to patent it and it reeked of "protective interests" conspiracy. It also looked easy enough to reproduce, there was a bundle of resource information to tap into and as a Keely fan I felt the claim of sound enhanced energy was worth pursuing with optimistic scepticism

THE CLAIM:

The invention is quite simple. There are two sphere shaped "bells" one slightly larger than the other. The smaller of the two would sit inside the larger one but be non conductive to each other. The live current would then travel to the smaller dome and the neutral would be connected to the larger bell. Current would flow once the unit was immersed in water, across the short gap of between 3-6mm. The inventor makes claims that the fundamental frequency of the mains power supply of 50Hz resonates with a finally tuned bell with a harmonic of 50Hz, that allows for rapid boiling of water. Peter Davy a sax player has integral knowledge of sound and its ability to resonate other objects of resonating frequencies.

THE INFORMATION:

Peter Davey who piloted / navigated during the 2nd world war said he noticed that the drone of the engines heated up the cockpit area as the frequency of the engines vibrated within the dome shaped area of the cockpit creating heat. This gave him the idea of his invention which he patented in 1947.

My personal opinion to this is nonsense. If that was the case then the heavy insulated flight jackets worn by flight personnel would not have been necessary as well as the fact that tens of thousands of other combatants did not draw similar conclusions.

The patent has similar fundamentals to the workings of the current invention but looks nothing like the unit he has today. If it was such a great invention someone else would have picked up on it over the past 60 years.

Much information has come from a scientist Prof Dr Jan Pajak http://jan-pajak.com/tekst_1_4.htm

who has met Mr Davey twice, at least 10 years apart. The diagrams and explanations he describes about the Davey invention were from their first meeting. Subsequent to that meeting the design of the unit has changed, now showing a complete oval outer dome unit that hides the inner workings of the heater. We can thank Dr Pajak for much of the background info as well as the conspiracy theories attached to it. In hindsight it is quite astonishing that a unit of such scientific importance was never tested by Mr Pajak even to the point of taking some simple measurements that could have been easily memorised. For example tap water temp is approx 15 deg. Time taken to boil the water 30 sec. The amperage he saw was 2A, the voltage was 220v. The volume of water approximately 250ml. someone with his scientific background could have quickly worked out a general COP, or perhaps this is exactly what he did and realized a COP of 5+. But there is a problem which I will explain shortly.

Conspiracy theories by the authorities not permitting Davey to make his unit commercially available suggested power companies protecting their interests, however in neighbouring Australia a similar invention got the go ahead. It was said that the Davey heater could be potentially dangerous. I must agree here. Although you have no direct contact with the live connection, once immersed in water the current is looking for a way out which it is travelling through the outer dome. Should you touch it part of that current is going to look for earth through your body. This may trip the earth leakage of which you only need 30mA to do so, but it can have serious consequences if this fails.

The visual information speaks the loudest. The interview done by local New Zealand reporters showing Davey using some converted light stand with his ball shaped unit almost instantly boiling water makes for compulsive viewing, after all the eyes don't deceive... Yes they do!. I believe that this TV programme in conjunction with Dr Pajak's information set in motion a quest by many free energy enthusiasts to find the Holy Grail. Instead we find clever trickery and that is probably the main reason why this heater never made it into production.

So how did I come to this conclusion? Simply I did the tests. It is unfortunate that there are too many people on these forums that simply add their 2 cents worth but never actually get down to doing the hard work of recreating these inventions, while others simply stay in the background offering nothing back in terms of valuable information. The role of the scientist is not always to prove something right but also to prove it wrong. It has to stand up to scrutiny.

The conclusion follows after the tests.

EQUIPMENT USED for Stainless steel bells

1. SS dome shaped sphere sizes are detailed below.
2. The domes had to be hand made by a metal spinner as proper dome shaped units are almost impossible to come by any more as most items of this nature are now made in China.
3. The 1st bells used were stainless steel, the initial measurements detailed below.
4. The fundamental frequency of each bell was sampled using a programme called SPECTRUM LAV v2.7 b20 and a microphone called PLANTRONICS.
5. Both the microphone and sound software were checked against a piano G chord as well as a tone generator (WAVE TOOLS v1.0) to ascertain accuracy.
6. The digital voltmeter used was UNI-T UT600 Series and the digital clamp amp meter used was UNI-T UT200 Series
7. A threaded rod made from Nylon was used to fix both bells to the rod with nylon nuts and washers to provide separation.
8. Three core 15A wire was used to connect the bells
9. The live wire was attached to the inner bell by the way of a small screw attached directly to the bell. The neutral wire was attached the outer bell and the earth was attached about 5 cm above the bell units on the nylon rod.
10. The length of cable was +- 1.5 meters and affixed with a 3 prong 15A plug. A section of the outer protective plastic was removed just prior to the plug exposing the 3 coloured wires so an amp meter could be attached.
11. A clear Perspex water jug was used to hold the water.
12. The water was measured using a digital SOEHNLE scale.
13. A digital temperature gauge GENERIC DIGITAL TEMP PROBE was used to measure the starting and end temperatures.
14. A cell phone (Samsung) stop watch.
15. The calculation used was to determine COP was $((4186 \times \text{Water in Litres} \times (\text{End Temp} - \text{Start Temp}) / 3600000)) / ((\text{Amp} \times \text{Volt}) / 1000) / 3600 \times \text{time}$

Size and Frequency of Bells

BELL	DIAMETER	HEIGHT	Hz1	Hz2
1	72	20	876	910
2	72	21	840	871
3	68	32	697	715
4	68	33	719	730
5	93	35	402	417
6	92	36	390	403
7	100	32	392	407
8	100	32	401	415

PROCEDURE:

1. The jug was placed on the scale until a measurement was achieved. This measure was then zeroed. Water directly from the tap was placed in the container until the scale showed 1.5kg denoting 1.5 litres of water.
2. The temperature gauge was placed in the container and stirred the water and took a temperature reading over the next minute.
3. A voltage measurement was taken across the two bells before immersion
4. The amp meter was hung around the live wire.
5. The unit was immersed by hand in the water and the switch turned on and the stop watch set to run.
6. With one hand holding the heater unit the other holding the temperature probe constantly stirring the water to discourage thermal layers.
7. Once 80 degrees was reached, the mains switch was turned off, the unit removed and the stop watch stopped.
8. A quick stir of the water with the temp probe to ensure final temp accuracy.
9. Many tests were run with different size and shape bells as well as varying harmonic frequencies of 50Hz see further details below. In addition the gap between the bells was also altered.

PROBLEMS WITH EQUIPMENT AND PROCEDURE:

1. The SS dome bells were of a odd shape more like a onion domes rather than spheres.
2. The thickness of the SS was about 1.5mm
3. Many of the experiments had to be done over and over as the bells touched each other creating an earth leakage.
4. The amp meter was not suitable as the amperages would vary greatly depending on the heat of the water, the flow of the bubbles etc... A watt meter was needed.
5. The bell frequency had more than one tone. This could be attributable to the quality of the SS or this could be a characteristic of bells.
6. The temp probe is not 100% accurate
7. The mains power supply had a varying voltage.
8. The cell phone stop watch was awkward to handle.
9. Perhaps the biggest problem was the varying amperage due to conditions created by the induction of the heater.

TUNING BELLS:

Each bell was affixed to a metal rod which allowed for easy handling against metal sand paper affixed to a high speed hand drill. Small amounts of the bell were sanded and checked against the SPECTRUM LAV v2.7 b20 audio software making slight and steady grindings until a harmonic of 50Hz was achieved. If a bell had a frequency of 319Hz it was tuned to 350Hz and a test run. Then tuned again to 400Hz and so on, until the bell had almost no size or shape left.

All bell units were tested at the starting frequencies and then after each temperature reading they were "tuned" to harmonics of 50Hz ranging between 400Hz up to 950 Hz. Due to the thickness and size/shape of the bells the frequencies could not be tuned to higher values.

CONCLUSION:

Although the equipment used was not of scientific standing the aim of the exercise was not to provide highly accurate COP readings unless they showed exceptional values over COP+2. Although COP readings varied from 1.05 to 0.87 these could all be between 5-10% inaccurate due to the equipment and procedural flaws. No matter what the frequency was, nor the gap distance the overall results or improvements were negligible.

I felt further investigation was needed primarily to address the problem the bell shape and material as well as the amp meter problem. Perhaps there was a sweet spot that need to be achieved.

2nd SET OF TESTS

EQUIPMENT USED for Brass bells

1. As most bells are made from Brass or Bronze as well as the sound vibration from brass would be more suitable acoustically.
2. The domes were hand made by a metal spinner.
3. The measurements are detailed below.
4. The fundamental frequency of each bell was sampled using a programme called SPECTRUM LAV v2.7 b20 and a microphone called PLANTRONICS.
5. Both the microphone and sound software were checked against a piano G chord as well as a tone generator (WAVE TOOLS v1.0) to ascertain accuracy.
6. A watt meter VOLT CRAFT PLUS ENERGY 3000 digital monitor was used to measure volts, amps and an accurate digital W/hr reading.
7. A threaded rod made from stainless steel and heat shrink wrapped with rubber except for the end which made contact with the inner bell. The outer bell was affixed to a copper tube and by silver welding. The bells were separated by a 6mm nut covered in rubber shielding.
8. Three core 15A wire was used to connect the bells
9. The live wire was attached to the inner bell by wrapping the wire around the steel rod. The neutral wire was attached the outer bell by wrapping the wire around the copper tube. No earth was attached. The copper tube and wiring was insulated with electrical tape which held the wires in place and provided an area that was safe to hold by hand.
10. The length of cable was +- 1.5 meters and affixed with a 3 prong 15A plug.
11. A clear Perspex water jug was used to hold the water.
12. The water was measured using a digital SOEHNLE scale.
13. A digital temperature gauge GENERIC DIGITAL TEMP PROBE was used to measure the starting and end temperatures.
14. A professional AIM Multichron lap timer for a stop watch.

Size and initial Frequency of Bells

BELL	DIAMETER	HEIGHT	Hz1	Hz2
1	43	27	675	1515
2	43	27	735	1752
3	33		1125	2915
4	33		1235	3187

PROCEDURE:

1. The jug was placed on the scale until a measurement was achieved. This measure was then zeroed. Water directly from the tap was placed in the container until the scaled showed 1.0kg denoting 1.0 litres of water.
2. The temperature gauge was placed in the container and the water stirred and took a temperature reading over the next minute.
3. The unit was positioned on a stand so that immersion was steady near the bottom of the container.
4. The unit was plugged into the watt meter but not switched on.
5. The unit was immersed in the water and the switch turned on and the stop watch set to run.
6. A preset time of 3 min was chosen whereby the unit would be switched off and removed from the water quickly.
7. A quick stir of the water to ensure thermal layers mixed and temp taken over the next minute.
8. Many tests were run with different size and shape bells as well as varying harmonic frequencies of 50Hz see further details below. The gap between the bells was not altered.

PROBLEMS WITH EQUIPMENT AND PROCEDURE:

9. Unlike the SS tests the procedure and equipment were far more suitable to obtain a general accurate readings than before. The bells were a better shape ensuring a better more even gap between them.
10. The thickness of the Brass was 0.7mm
11. The watt meter was excellent.
12. The bell frequency still had more than one tone. This could be attributable to the quality of the brass or this could be a characteristic of bells. More likely a bell phenomenon.
13. The temp probe is still not 100% accurate but is at least 95-98% accurate.
14. Although the mains power supply has a varying voltage the accuracy of the readings was compensated by the watt meter.

TUNING BELLS:

Each bell was affixed to a metal rod which allowed for easy handling against metal sand paper affixed to a high speed hand drill.. Small amounts of the bell were sanded and checked against the SPECTRUM LAV v2.7 b20 audio software and the PLANTRONICS microphone making slight and steady grindings until a harmonic of 50Hz has achieved. If a bell had a frequency of 675Hz it was tuned to 700Hz and a test run. Then tuned again to 750Hz and so on until the bell had almost no size nor shape left. All bell units were tested at the starting frequencies and then after each temperature reading they were "tuned" to harmonics of 50Hz ranging between 700Hz up to 1600 Hz. Due to the size of the bells the frequencies could not be tuned to higher values.

CONCLUSION:

Although the equipment used was better than SS tests the results were overall more accurate but for all intense purposes I never once experienced over unity. Almost all readings were in the COP of 0.91 range. No matter what the frequency was the overall results or improvements were negligible. Tests were done with both rigid fixed bells and loosened inner bells.

CHANGE OF CONFIGURATIONS:

Using new bells that had not been "tuned" and were 735Hz & 1280Hz respectively I ran some more tests but altered the rod. As the rod has a thread, by loosening the nut on the inside bell only allows lateral movement. This time I sanded the thread away except for the very end (to attach the nut) this smoother surface would allow both lateral and vertical movement. The thought process was that once the water started to boil inside the chamber the bubbling action may produce a shock wave effect and if the bell was allowed to move up and down this shock wave motion may enhance the energy output. The result was no different. COP of between 0.93 & 0.90. I then drilled 4x 2mm holes at the top of the outer sphere, the result was the same. I then drilled 4 more holes now totalling 8 and the efficiency dropped slightly been still within the same range. The efficiency drop was most likely caused by the boiling steam being emitted and over a 3 minute period I lost 10ml of water due to vapour. My next step is to "tune the bells to the closest harmonic of 50Hz.

The outer bell was tuned to 750Hz and the inner to 1250 Hz. The COP was 0.93 still no improved performance.

VISUAL EXAMINATION

When there are no holes for the water to escape through, there is a noticeable audio mains hum. One can see a thermo dynamic effect taking place at the bottom of the spheres as the heated water is moving out. One can also hear a slight bubbling action once the water temp increases but there are no visual bubbles being emitted from the base. This in essence is a true induction heater effect. Once holes are made in the outer sphere then the bubbling action is very noticeable but efficiency is no different. The closer the bell gap is the quicker the water boils and the higher the amperage. Once water starts heating the amperage drops. With no escape holes in the outer bell I had amp reading from 2.8 down to 0.9 and with holes the amperage jumped to 4A and once the water started heating

this would drop down to 2.6A. At the end of the tests it did not matter whether the Amp reading was high or low because the overall energy efficiency always compensated by either taking longer or heating less.

Final Conclusion:

The Peter Davey water heater is nothing more than an induction heater with a dazzling effect of instant water heating. I can now fully understand why no one ever thought of buying his invention. The visual effect of rapid boiling is nothing but a party trick to give the appearance that the containers entire contents are boiled almost instantly. I have been able to reproduce this effect quite easily and with water at 18 deg the longest it took to start “boiling” was 7 sec. If the temperature of the water was 30 deg then it boiled in about 3 sec. but this is only an effect as the rest of the container does not reach boiling point that quickly.

From the video, one has no idea what the temperature of the water was or the gap space between the two spheres. The distance of the two spheres plays a major role in the boiling effect. The closer these two are the quicker the water will boil and the more amperage there will be. The further apart the amp draw is less but the boiling effect takes slightly longer. Watch the video how he inserts the unit into the glass. He keeps it near the surface and puts it in at an angle. This allows a small and even amount of water to enter the base of the unit and creep up the sides between the inner and outer sphere. The water heats up and boils instantly but the remainder of the container does not.

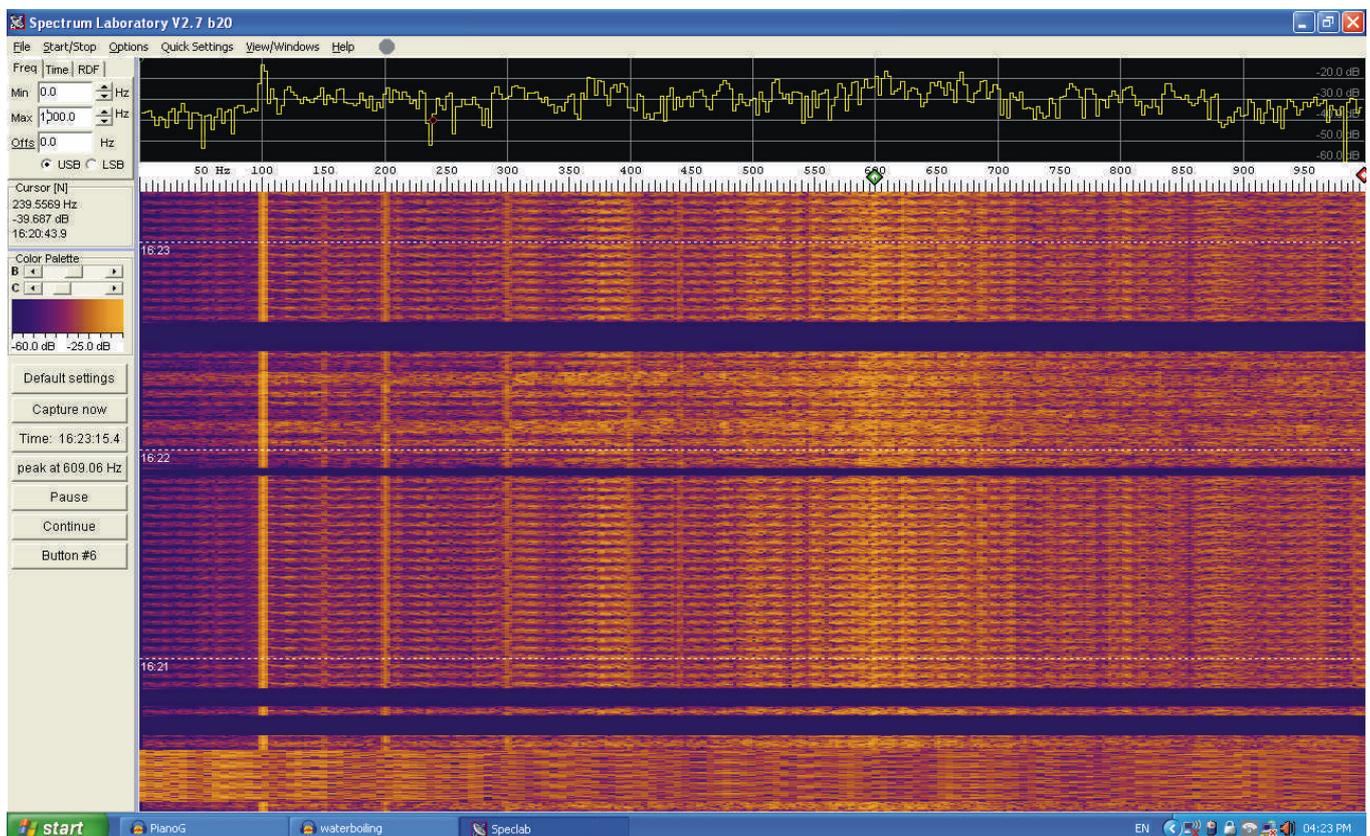
This water heater may work faster than say a small element but the efficiency is similar. The only way this unit will save electricity is by not wasting electricity boiling in excess of what one needs to make a cup of tea/coffee.

FUTURE INVESTIGATIONS NEEDED

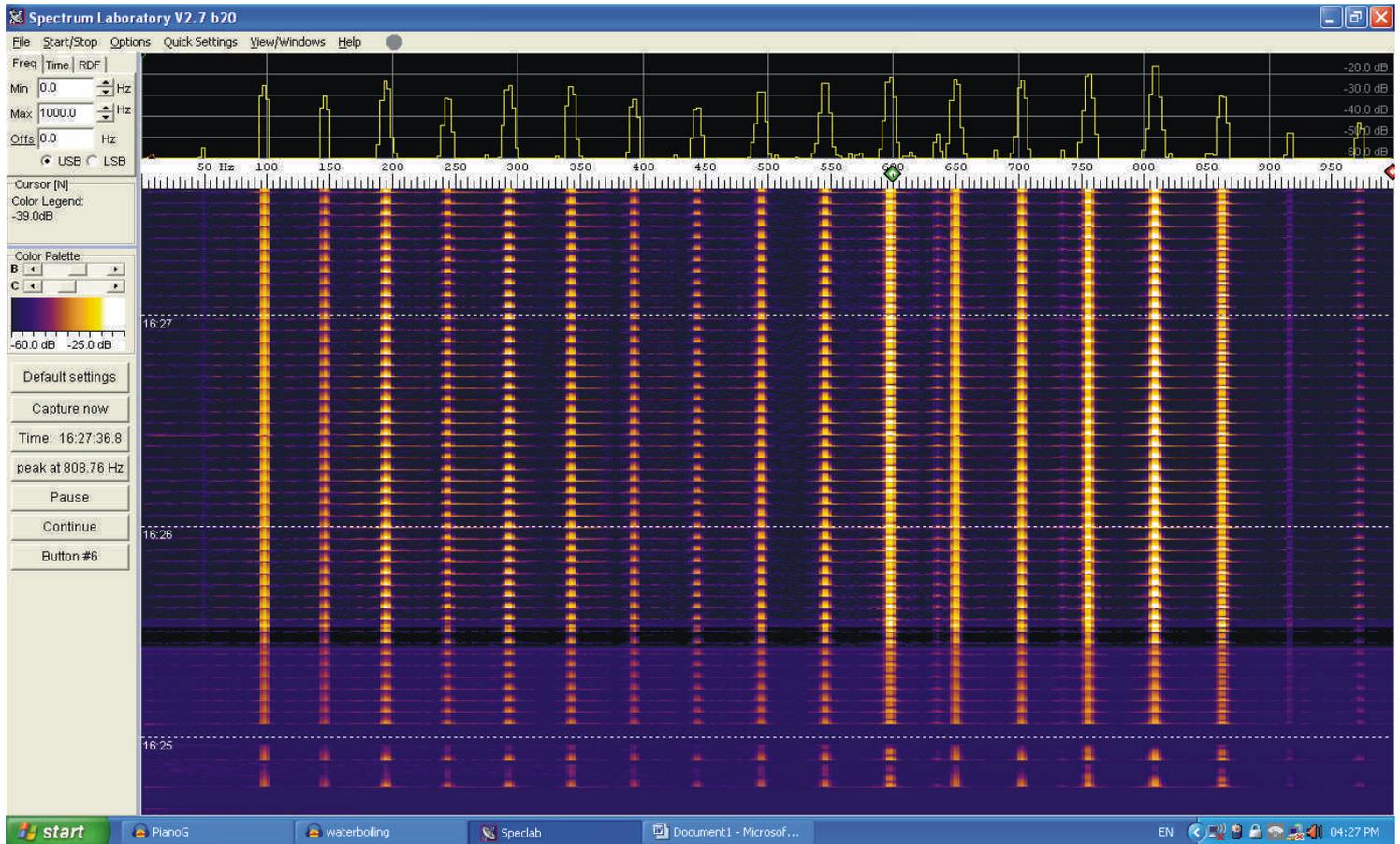
I for one don't believe that the sympathetic harmonic effect by tuned bells will provide excess COP of over 1, however I may be wrong and this opens the field for others to follow.

Due to the varying amperage one must have a proper digital watt meter which calculates in real time the voltage and the amperage which jumps all over the place. Taking an average using a clamp amp meter is okay until you starts getting a COP in excess of 1, then you need more accurate readings

The main difficulty I experienced was producing a bell with an accurate frequency. If I tapped any of the bells there was for example a tone at 352Hz but also a tone at 1647 and 3861 Hz. I believe that this is a bell phenomena as the bell shape in essence creates nodes as the spheres circumference gets smaller. There are times when tuning the bell that you get a tone for eg. 839 and another at 855. I determined to use the tone that had the higher more pronounced reading. So for future researches try and see if you can find a bell that does not have this anomaly. I also believe that one needs a professional who could tune a bell to resonate at 50Hz, but by feel only, without the use of electronic equipment. This could be a long an arduous undertaking for those not proficient in this field. However there is a way of transforming the mains Hz to match that of the inner bell. This would also allow one to vary the power frequency to resonate with the gap cavity trying to enhance the dipole effect.



This is the sound emitted from the Davey heater. You will notice harmonics from 100Hz at intervals of 100Hz which start to dissipate at about 800Hz



Below is the harmonics of the G chord of a piano. Notice the 800 & 600Hz is the strongest